



State of Nebraska, Department of Health
and Human Services (DHHS)

Proposal for a Cloud-Based Vital Records Management System

Proposal Submission

Solicitation No. RFP 120277 O3 REBID

December 5, 2025

Submitted Electronically via ShareFile To

**State of Nebraska, Department of Health and
Human Services (DHHS)**

ATTN: Bradley Murphy, Procurement Contact

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<https://nebraska.sharefile.com/r-r9f99eee6a2294af3a55996a267e03bdc>

Submitted By

**ManTech Advanced Systems
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December 5, 2025

State of Nebraska Department of Health and Human Services
301 Centennial Mall South, 5th Floor
Lincoln, NE 68509

Attention: Mr. Bradley Murphy, Procurement Contracts Officer

Subject: Mantech's Proposal in Response to Request for Proposals for the State of Nebraska (State), Department of Health and Human Services (DHHS) Cloud-Based Vital Records Management System

Reference: Solicitation Number 120277 O3 REBID and All Addendums

Dear Mr. Murphy,

ManTech Advanced Systems International, Inc. (Mantech) is pleased to submit its proposal in response to the Request for Proposal for the State of Nebraska (State), Department of Health and Human Services (DHHS) Cloud-Based Vital Records Management System (Solicitation Number 120277 O3 REBID).

Mantech's proposal, which is valid for 18 months from the date the Intent to Award is posted, is predicated upon all the terms and conditions of the Solicitation (page 1, paragraph 3). Mantech has identified in its proposal any exceptions taken to the terms and conditions within the Solicitation.

We look forward to the State's response to our proposal. If you have any questions related to Mantech's proposal, please contact Raymond Colgan, Senior Contracts Manager, either by email at Raymond.Colgan@ManTech.com or by phone at (703) 659-5404.

Sincerely,

Raymond Colgan
Senior Manager, Contracts Administration

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CORPORATE OVERVIEW [RFP SEC. VII.A.1]

1.a. Bidder Identification and Information

Company Name	ManTech Advanced Systems International, Inc.
Company Headquarters Address	2251 Corporate Park Drive Herndon, VA 20171
Entity Organization	Large Business, we are a corporation
State Incorporated	VA
First Year Organized to Do Business	1985
Has the Name and Form Changed Since First Organized	No, and no.

1.b. Financial Statements

Please see the separately submitted file titled “**RFP 120277 O3 REBID Financial Statements File 2 of 7**” for a copy of our financial statements.

Please see the separately submitted file titled “**RFP 120277 O3 REBID Bank Reference File 3 of 7**” for a copy of our Banking Reference. The contact information for the individual is below.

Banking Reference:

Steven Day

Senior Vice President | PNC Corporate Banking

Phone: (703) 442-2308

Email: steven.day@pnc.com

Mantech does not have any judgements, pending or expected litigation, or other real or potential financial reversals, which might materially affect the viability or stability of the organization.

1.c. Change of Ownership

Mantech Advanced Systems International, Inc. does not anticipate any change in ownership or change of control of the company during the twelve months following the solicitation response due date.

1.d. Office Location (Responsible for performance)

Mantech’s corporate office is located at 2251 Corporate Park Drive, Herndon, VA 20171. Mantech staff perform their work remotely in Florida, Virginia, Ohio, Kansas, and Michigan. Please see how this remote work enhances our continuity of operations plan in the **Develop a Staffing Management Plan** Section of this proposal.

1.e. Relationships with the State (Contracts over last 5 years)

Mantech confirms it does not have any dealings with the State of Nebraska over the previous 5 years.

1.f. Bidder's Employee Relations to State (Declare any relationships or "None") Employee of the State Within 24 Months

Mantech confirms it does not have any party named in our response who was an employee of the State of Nebraska within the past 24 months.

Previous State Employee

Mantech confirms it does not have any party named in our response who was a previous State of Nebraska employee.

1.g. Contract Performance (Termination for default/convenience)

Termination for Default

ManTech Advanced Systems International, Inc. (Mantech), confirms neither Mantech nor its proposed subcontractors have had any contracts terminated for default during the past five years.

1.h. Summary of Bidder's Corporate Experience**State of Kansas:**

KDHE Vital Records			
Customer Name:	Kansas Department of Health and Environment (KDHE)		
Contract Number:	Contract Number not referenced, KDHE uses the following: Latest Purchase Order: 26400-0000120395 GL Unit: 26400 Account: 524800 Fund: 2291 Department: 2642668 Program: 21681	Prime/Sub	Prime – majority of the work performed remotely. Work performed onsite was in Topeka, KS at the State offices.
Time Period of Project:	2002 - Present	Scheduled Completion Date	Contract was signed in 2002 for all modules (birth, death, fetal death, marriages, divorce, Induced Termination of Pregnancy), scheduled to go into production in 2005.
Budget:	Original: \$2,055,667 Actual: \$2,055,667	Actual Completion Date	Actual “completion” date when application went into production was Jan. 2005 with all modules going into production at the same time. Application is still in production with a current maintenance contract ending in 2028. During that time several major enhancements were completed to the application, all within the time and budget constraint for the work.
Name of the Point of Contact, Telephone Number, and Email			
Primary POC:			
Name:	Kay Haug		
Phone:	785-296-1419		
Email:	Kay.Haug@ks.gov		
Fax:	Not available		
Bidders Responsibilities			
From the customer: Births, Deaths, Stillbirths, Marriages, Divorces, and ITOPs are registered in the Mantech VRVcloud application. The VRVcloud application has been in production since 2005 and currently approximately 10,000 users utilize the application to register all vital events for the State. Six years ago, Mantech started hosting the application and have been key in identifying potential security threats. Size: Approximately 37,000 births and 27,000 deaths are registered annually in the application. Scope: All modules – Birth, Death, Stillbirth, Marriage, Divorce, and ITOP. All modules are in production electronically registering vital events for the State. Additionally, a Death Registration mobile app was developed and is available for authorized Physicians and Medical Examiners (ME) in the Apple Store for Apple devices, and the Google Play Store for Android Devices.			

KDHE Vital Records

Complexity: High complexity. In addition to the hosting, Mantech provides Statisticians access to the cloud to perform statistical analysis and for numerous automated transfers of data to various entities. Kansas is currently certified to transmit data to State and Territorial Exchange of Vital Events (STEVE)/ National Center for Health Statistics (NCHS) via Fast Healthcare Interoperability Resources (FHIR). Additionally, Mantech developed a FHIR interface with the State Medical Examiner software that has been in production for 2+ years.

Vendor Hosted or Web-based

The application is vendor hosted.

Relevancy to Solicitation

Direct relevancy to the modules the State is requesting. With Kansas being a border state, Nebraska has the advantage that a number of funeral directors are familiar with and/or using the Mantech application, meaning there should be less effort required to train users on a new system. Combined with our mobile app for death certifications, the State will be realizing a 21st century solution.

State of Washington

WHALES Vital Records			
Customer Name:	State of Washington Department of Health		
Contract Number:	PRV24799	Prime/Sub	Prime – majority of the work performed remotely. Work performed onsite was in Helena, WA at the State offices.
Time Period of Project:	2014 - Present	Scheduled Completion Date	Phased rollout started in June 2016
Budget:	Original: \$2,900,331 Actual: \$2,900,331	Actual Completion Date	Actual “completion” date when application went into production is Jan. 2017. Application is still in production with a current maintenance contract ending in 2030. During that time several major enhancements were completed to the application, all within the time and budget constraint for the work.
Name of the Point of Contact, Telephone Number, and Email			
Primary POC:			
Name:	Katie Hutchinson		
Phone:	360-870-6186		
Email:	Katie.hutchinson@doh.wa.gov		
Fax:	Not available		
Bidders Responsibilities			
From the customer: Mantech developed and supports the Washington Health and Life Events System (WHALES) that contains birth, death, marriage, divorce, fetal death and abortion Washington State data. The system also contains the point-of-sale system for vital records. The project which included full data conversion began in 2014. We signed a maintenance agreement in 2020 for 10 years. Size: Approximately 88,000 births and 55,000 deaths are registered annually in the application. Scope: All modules – Birth, Death, Stillbirth, Marriage, Divorce, ITOP, and Point of Sale (Customer Service). All modules are in production electronically registering vital events for the State. Complexity: High complexity. Washington is currently participating in the certification to transmit data to STEVE/NCHS via FHIR. Additionally, Mantech developed a FHIR interface with the State Medical Examiner software that was recently placed in production.			
Vendor Hosted or Web-based			
The application is web-based and hosted by the State.			
Relevancy to Solicitation			
Direct relevancy to the modules the State is requesting. Washington is a larger state than Nebraska, ensuring the application can be scaled up for future utilization. Washington has a complex point of sale module that integrates with the State and other third-party applications to capture electronic requests and payments.			

State of Tennessee

VRISM Vital Records			
Customer Name:	Tennessee Department of Health		
Contract Number:	Agency Tracking Number: 34320-11922	Prime/Sub	Prime – majority of the work performed remotely. Work performed onsite was in Nashville, TN at the State offices.
Time Period of Project:	2011 - Present	Scheduled Completion Date	Phased rollout started in Jan. 2013.
Budget:	Original: \$2,873,335 Actual: \$2,873,335	Actual Completion Date	Actual “completion” date when application went into production is Jan. 2015. Application is still in production with a current maintenance contract ending in 2029. During that time several major enhancements were completed to the application, all within the time and budget constraint for the work.
Name of the Point of Contact, Telephone Number, and Email			
Primary POC:			
Name:	Gray Bishop		
Phone:	615-532-2600		
Email:	Gray.bishop@TN.gov		
Fax:	Not available		
Bidders Responsibilities			
From the customer: <i>Implemented a project that consisted of six (6) electronic vital records registration systems (birth, death, fetal death, marriage, divorce, and Induced Termination of Pregnancy (ITOP)) as well as a point-of-sale module. Currently, Mantech is maintaining these registration systems as well as designing future data modernization enhancements that Tennessee is collaborating with the Centers for Disease Control and Prevention (CDC) Agency to implement through the project change request process.</i> Size: Approximately 82,000 births and 58,000 deaths are registered annually in the application. Scope: All modules – Birth, Death, Stillbirth, Marriage, Divorce, ITOP, and Point of Sale (Customer Service). All modules are in production electronically registering vital events for the State. Complexity: High complexity. Tennessee is currently participating in the certification to transmit data to STEVE/NCHS via FHIR. During the implementation phase of the project, the State went through numerous staff turnover, including eight State project managers, key vital records staff, and other staff. Although the turnover delayed the project, Mantech successfully delivered the application with no additional cost.			
Vendor Hosted or Web-based			
The application is web-based and hosted by the State.			
Relevancy to Solicitation			

VRISM Vital Records

Direct relevancy to the modules the State is requesting. Mantech demonstrated we can work with State staff as proven by continually working with Tennessee while they lost eight project managers and numerous staff in the first 1.5 years of the project.

1.i. SUMMARY OF BIDDERS PROPOSED PERSONNEL/MANAGEMENT APPROACH

Management Approach:

Mantech's project management approach draws heavily from the Project Management Institute's (PMI) Project Management Body of Knowledge (PMBOK). This includes the five standard phases of initiation, planning, execution, monitoring, and closing. Each of these phases is tailored to meet the State's requirements for project management. During the initiation phase Mantech and the State will define the project's goals, feasibility, and purpose, and gain approval to begin. For the planning phase, Mantech and the State will develop a detailed roadmap for how the project will be executed, including scope, schedule, budget, and resources. For the execution phase Mantech will carry out the project plan, manage the project team, and complete the project deliverables. During all phases, Mantech will provide monitoring and controlling to track progress, measure performance against the plan, and take corrective action as needed. Once the project is completed, Mantech and the State will perform the closure phase which will formally conclude the project by completing all activities, securing final acceptance, and documenting lessons learned.

Our project management approach will ensure the VRVcloud application will exceed the State's requirements. Mantech will review the functional and technical requirements with the State and further define them into a complete, detailed set of requirements that will be used as the baseline requirements. To further document and detail the functional and technical specifications, Mantech's project methodology uses an iterative, agile configuration cycle, in which prototypes of the VRVcloud application are reviewed early and often thus allowing the State to work with the application to ensure it meets their requirements. It is our experience working with vital records staff that they are much more adept at understanding how their requirements should be implemented in the application by viewing the implementation, than they are at reviewing requirements documentation. Therefore, our project management approach adjusts to emphasize hands on working prototype collaboration. By allowing early access this allows staff the ability to exercise functionality and provide feedback early in the process. There will not be any surprises as to how the requirement is implemented in the VRVcloud application. This is an added benefit to the State and will prove its value when users are able to view working functionality early and often, exercising the application through the project life cycle. While other vendors will require the State to "sign off" on a set of requirements documents prior to the State viewing the working functionality, Mantech will be demonstrating working functionality of the VRVcloud application for the State to then exercise their requirements, rather than looking at mockups and requirements documents.

To achieve this, Mantech will host a series of participatory design sessions (Joint Application Design/Development) using webinars and onsite visits to allow our business analysts to interact with the State's Subject Matter Experts (SME) to review and concur on configuration-related issues. Mantech conducts webinar meetings to facilitate remote attendance for viewing the application prototypes. With the ability to quickly prototype functionality, Mantech will demonstrate functionality via screens that will closely match the final application with the prototyping sessions. Mantech will also perform a detailed requirements analysis including the comparison of implementations from other states to review functionality, allowing the State to compare and contrast their vision of how they want specific functionality to work compared to other state

implementations. Then, in collaboration with Mantech, the State will make the decision on the best design to meet their requirements. As an added benefit Mantech will work with the State to take advantage of this opportunity to refine requirements that their old application may have met, but where a better method to meet the requirement may exist, while also implementing new functionality.

Mantech will also configure State user access to the cloud environment so they can view the latest prototype on their own and provide feedback at their convenience and not just during meetings. In cooperation with Mantech, states have also used the cloud environment to work with external users to view and comment on working functionality to allow the State an easy transition for acceptance by the external user community. For example, allowing a larger funeral home to do some testing of the application early on and provide feedback.

The results from the participatory design meetings are captured in functional requirements documents. These documents then become the basis for the acceptance testing. Our ability to quickly prototype functionality allows us to include screenshots that accurately capture the “look and feel” of the application in the design documentation. This can be compared to other vendors who may deliver a narrative waterfall requirement process where all the requirements are documented in a descriptive manner, possibly using wireframes and other methods that are not fully reflective of the final product. Mantech will produce the Final Design Document covering four primary functional requirement areas: Detailed Design, Workflow, Printed Output, and Import/Export. Together these artifacts will document “how” the State’s requirements will be met. The Detailed Design document includes details concerning every data entry screen element. The Workflow document includes every action on the vital record, including placement and removal of records from queues. The Printed Output document describes everything printed on each printed artifact, including all reports. The Import/Export document includes all data imported and exported in the application, including integrations. In addition to the Final Design Document, Mantech will deliver a requirements traceability matrix, ensuring the requirements of the Request for Proposal (RFP) are captured and documented in the Final Design Document.

Once the Final Design Document is completed and agreed upon, Mantech will deliver validation sessions to the State to walk through the document and ensure all requirements can be validated with a demonstration in the *VRVcloud* application, or if not possible, identify how the requirement was met.

The framework to complete the Birth, Death, Fetal Death, Marriage, Divorce, ITOP and Customer Service within the specified time frame is to move forward with one module independently, and when appropriate, to adjust and overlap module development. For example, Mantech’s experience with other state’s staff indicates the staff that work with Birth and Fetal Death are typically the same individuals, and Death is typically a different set of staff, with some redundancy. We understand most states have limited staff and that those staff still have their regular duties to perform. This approach will allow the project schedule to adjust for staff participation and allow for the State staff to continue to perform their regular duties and still participate in the process. For example, while the Death staff may be occupied, Birth staff may be available to participate in a demonstration or a requirement meeting. To implement all the modules effectively, Mantech will remain flexible on the module in development at any given time.

A key distinguishing feature of the *VRVcloud* application is the Dynamic Screen Engine (DSE). The DSE provides the ability through configuration, rather than coding, to instantly add, remove, and organize data entry fields, change screen labels, edit rules, and alter the data entry process. On day one, Mantech will demonstrate changes in the application using this feature. The State will be able to preview the solution much earlier than possible with other vendors. The State can put this to the test during the product demonstration portion of the evaluation to view the added

benefit and value of this capability. The State can ask vendors to demonstrate the capability of adding a field to a screen. For example, ask the vendor to add a check box to the birth entry screen under the date of birth. The check box should have the label “COVID Vaccinated”. Ask the vendor that if the box is checked, to enable a field beneath the check box for the user to enter the date of vaccination labeled ‘Date of Vaccination’. Ask the vendor to add an edit rule that if the Covid box is checked and the date of vaccination is blank to display a message such as “You must enter a date of vaccination if vaccination is selected. Either enter the date or return to the COVID Vaccinated field and uncheck the box.” Ask them to add another edit that if the date vaccinated is in the future to display “The date vaccinated may not be in the future”. Mantech can perform this activity in the VRVcloud application in about 10 minutes using the DSE with no developer involved at all. When completed, the fields will have been added to the database and will be available for the State to begin collecting COVID Vaccination results on the next birth record entered. Why is this a benefit and a value? When working with a vendor to design an application it is going to be of great benefit to see how the application works instead of viewing a requirements document. While other vendors are providing screen mock-ups Mantech will be showing the State working VRVcloud screens with the desired functionality. Other vendors will be discussing “what if” scenarios while Mantech is making screen changes for the State to view the “what if” scenario in the VRVcloud application. For example, in the COVID case described above, the State may determine that they do not want the COVID question under the date of birth and want to move it to another screen. Mantech will do that in minutes while other vendors will be making changes to their screen mockups for the State to review.

The value of the DSE is not only during the application implementation, but throughout the lifecycle of the application. For example, this capability was very useful in Missouri when they needed to add fields indicating the death was a mass casualty when the Joplin tornado devastated a part of the State. In less than a day, and at no cost the State added fields and edit rules that allowed the death record to capture that it was a death due to the tornado (along with other information), and the changes went into production with only guidance from Mantech. Today most vendors have preconfigured mass casualty fields, but the example shows the value of this capability to the State. Note the benefit of having business analysts adding and configuring fields versus other vendors who require developers to deploy a build to perform the same functionality. The cost savings using the DSE will be realized not only during implementation but for the entire time the VRVcloud application is in production.

Specific Professionals who will work on the project

Mantech has been providing vital records solutions for over 24 years. Our established team has more than 150 years of combined experience in the Vital Record solutions market. This allows us to hit the ground running, saving valuable time and cost. Millions of vital records are registered each year using our product. We have performed similar projects of similar size, with similar statements of work and related requirements for more than 3 States - Kansas, Oklahoma, Missouri, Arkansas, Massachusetts, Tennessee, Connecticut, Montana, and Washington, as well as the United Kingdom. These engagements have all resulted in production application still executing today. Mantech has never failed a VRVcloud implementation and has always met the requirements of the customer.

Mantech’s vital records staff is experienced from top to bottom and that allows us to hit the ground running. The chart below highlights some of our staff’s vital records experience with state-level vital statistics record management systems. *Specific Professionals who will work on the project:*

Staff	Title	Primary Work	Vital Records Experience
Joe Lopez	Program Manager	As part of the team leadership serves as the single point of contact for all matters regarding the implementation and maintenance of the vital records application. Also serves as the backup project manager. Responsible for ensuring transition to the support functions once the vital records application is in production.	25 Years
Rob Ferguson	Project Manager	As part of the team leadership serves as the single point of contact to represent and oversee the day-to-day activities of the project. Works directly with the State project manager and State staff to identify, document, and implement the vital records requirements.	18 Years
Dianna Lescalleet	Senior Business Analyst	Works with the project manager and State staff to identify, document, and implement the vital records requirements. Provides support functions.	21 Years
Igor Presnetsov	Technical Lead	As part of the team leadership works with the project manager and State staff to manage the infrastructure, deployment, and technical aspects of the project. Develops interfaces, imports and exports to exchange data with other systems. Provides support functions.	21 Years
Venkatesh Seelam	Senior Software Engineer	Works with the business analysts and technical lead to implement the requirements in the vital records application. Develops interfaces, imports and exports to exchange data with other systems. Provides support functions.	19 Years
Xitiz Bhatia	Senior Cloud Engineer	Responsible for the cloud architecture for the vital records application. Develops interfaces, imports and exports to exchange data with other systems. Provides support functions.	19 Years
Nirav Kanjia	Senior Software Engineer	Works with the business analysts and technical lead to implement the requirements in the vital records application. Develops interfaces, imports and exports to exchange data with other systems. Provides support functions.	19 Years
John Vann	Senior Business Analyst	Works with the project manager and State staff to identify, document, and implement the vital records requirements. Provides support functions.	17 Years
Robin Wolfe	Quality Assurance	In addition to working as business analyst, works to ensure the quality of the requirements documentation and implementation of the requirements in the vital records application. Provides support functions.	39 Years

Staff	Title	Primary Work	Vital Records Experience
Peter Gutowski	Senior Business Analyst	Works with the project manager and State staff to identify, document, and implement the vital records requirements. Provides support functions.	9 Years

Exhibit 1: Mantech Personnel's Vital Records Experience.

In addition to the proposed personnel, Mantech has over 9,800 employees in multiple disciplines, and if necessary, the vital records group has reach across Mantech for short- or long-term assistance to ensure successful performance. At this time, we do not anticipate the need for additional resources, but if the vital records group needed resources that we do not possess, we have ways to gain access to them. For example, if we needed a particular skill set for a database for which we are not familiar, we would first reach out to our Executive Director and/or the Portfolio Manager to determine whether we have any resources within the Health Division. If none were found, we would reach back further into other Mantech groups and sectors. We also have the option to subcontract a resource that we may not possess.

Mantech staff will interface with the State staff through in person meetings, webinars, and other methods outlined in the communication plan. As an added value, Mantech provides "vital records experienced" staff from top to bottom. When the State is talking to any of our staff, including developers, and they talk about delayed births our staff will know exactly what they are discussing. There is no need to explain to any of our staff vital records concepts because our staff will have implemented and supported delayed births in several states. All Mantech vital records staff are cross trained on our vital records implementations, ensuring experience in multiple implementations. Mantech believes in an open-door policy, where the State will be free to interact with any of our staff. All we ask is that the communication channels be respected to ensure proper staff are informed.

Leadership: Joe Lopez will serve as the Account Manager as single point of contact for matters concerning performance. Joe has more than 25 years of experience working on successful vital records implementations. Joe began as a developer on a client server Vital Records (VR) application and has worked different roles as he progressed to become the Account Manager. Joe brings this extensive and varied experience to ensure the success of the vital records project for the State of Nebraska. Under Joe's leadership, the vital records team has consistently grown and has garnered positive references from customers. As evidenced by the length of service of his staff, and his long-standing relationships with customers, Joe understands how to implement and maintain vital records projects. Joe also understands inter-agency relationships and cooperation opportunities and has worked with multiple state agencies ensuring interoperability for mutual benefit. Once the application is in production, Joe will transition the application's support functions to the support and maintenance team.

Rob Ferguson has more than 18 years of experience working on vital records implementations. As the Project Manager Rob will be a single point of contact to represent and oversee the day-to-day activities of the project. Under Rob's leadership the vital records team has consistently and successfully implemented vital records solutions. Rob's experience includes implementing six different state vital records applications into production as the project manager (CT, MA, MO, TN, WA, and the UK). Rob brings all this vital records experience and knowledge to the project, providing significant experience and risk reduction, along with a Project Management Professional (PMP) certification. He has worked with hospitals, funeral homes, doctors, local health

departments, and State employees. Rob's experiences provide him with an understanding of the issues to implementing a vital records software solution.

Igor Presnetsov has more than 21 years of experience working on vital records implementations. As the Technical Lead Igor will be a single point of contact to manage the infrastructure, deployment, and technical aspects of the project including interfaces. Igor was instrumental in the initial design and creation of the *VRVcloud* application. Igor is responsible for ensuring requirements are configured and implemented in the *VRVcloud* application and for successful implementation into production. Igor has worked on all aspects of the *VRVcloud* application from the initial development of the *VRVcloud* product through each successful implementation. Igor also works with Amazon Web Services (AWS) in the configuration and implementation of the cloud environment.

Mantech leadership actively manages the interactions and communication points between different team members or external stakeholders, ensuring smooth collaboration and alignment towards implementing a successful vital records application.

Mantech also understands that once the development is complete and the application is in production, supporting the system is critical. Mantech will deliver maintenance and support functions that meet the State's requirements to ensure the longevity of the system throughout the initial, and if extended, contract periods. Mantech has a standard maintenance agreement in place with our states during maintenance periods. As an added value, once the application is "live" in production, Mantech ensures the same staff are assigned to maintain the application for the first year. This ensures a continuity of knowledge on the project and that the State continues to work with experienced staff. After the first year, Mantech may choose to rotate staff for maintenance, always creating a balance to ensure experienced staff are assigned. This ensures several Mantech staff are experienced with the State's application; having numerous experienced staff available to support the State is part of our business continuity plan.

The organization chart (**Exhibit 2**) depicts the reporting relationships for the Mantech staff that will work on the project. The Account Manager will have reach back support to Senior Management to provide additional guidance, at no extra cost to the State. Resumes only include staff who will be directly working on the project.

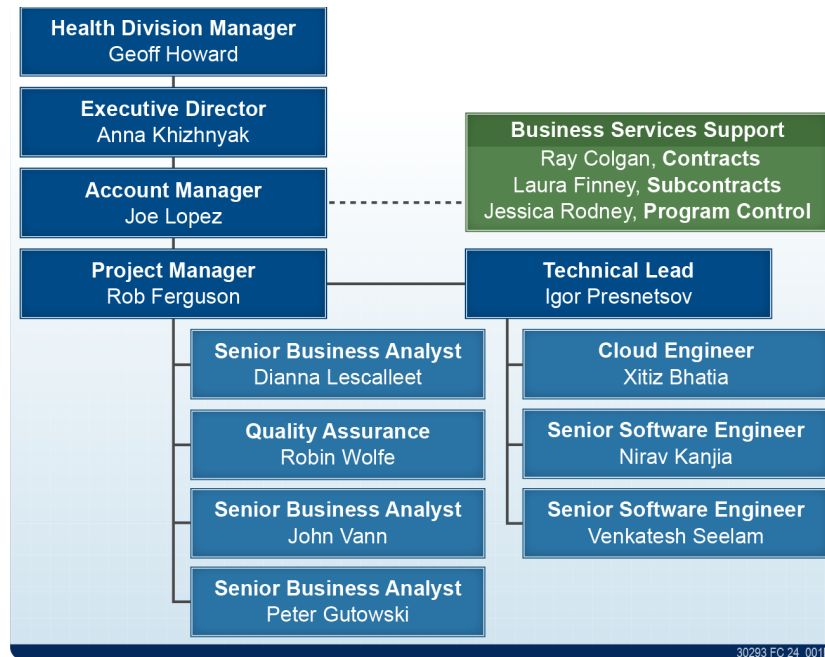


Exhibit 2: Mantech's Vital Records Organization Chart.

RESUMES OF SPECIFIC PROFESSIONALS WHO WILL BE WORKING ON THE PROJECT:
Joe Lopez, Account Manager

Joe Lopez	
Education:	• B.S., Computer Science, University of Akron; 1985 • M.S., Information Systems, George Mason University; 1993
Certifications and Special Training:	• CMMI, LEVEL 3; 2012 • Certified Information Engineering Facility (IEF) Engineer • Certified FAST Meeting Facilitator • Certified in a number of “older” Programming Languages – Assembler, COBOL, and others • CMMI training • Facilitation training • Several programmer language training courses including Information Engineering, Structured Programming, and others • Participated in FHIR certification
Understanding of the Process	
Worked in the field of vital records for 25 years as the single point of contact for matters concerning Mantech’s performance under the vital records contracts. He has the authority to make decisions that are binding to the contract, and is responsible for timely completion of the project, and responsible for meeting all contractual obligations.	
Professional Experience	
Mantech Account Manager/Program Manager 1999 – Present	
• As Account Manager for Mantech's VR business unit, is responsible for the success of all the VR projects in the program. These include Arkansas, Connecticut, Kansas, Massachusetts, Missouri, Oklahoma, Tennessee, Montana, Washington, and the UK. • Business unit has consistently grown with positive references from customers. • Has worked with hospitals, funeral homes, doctors, local health departments, and State employees, as well as managed an international software implementation. • Previous experience provides an understanding of issues with respect to implementing software solutions from a diverse user community. • Worked to ensure that the Information Technology (IT) standards of the various local and State agencies can be properly implemented. • Understands inter-agency relationships and cooperation opportunities and has worked with multiple State agencies ensuring data exchanges for mutual benefit. • As Project Manager for the Minnesota, New Hampshire, and Kansas implementations, led team in gathering and documenting requirements, developing Project Plans, managing and tracking project execution, and designing prototypes. • Served as main point of contact regarding needs definition, project status, and issue resolution. • After serving as a Project Manager for seven years, he was promoted to the position of Program Manager for the VR business program at Mantech. • As Program Manager reports to senior management on all aspects of the business unit, including business development, staff management, and financial oversight including managing budgets. • Responsible for management of all VR staff. Has been actively involved in all of Mantech's VR implementations.	

Joe Lopez	
Professional References	
Rob Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Dianna Lescalleet	206 Gay St, Newark, OH 43055 (740) 975-6757
Robin Wolfe	4241 SE 21st, Tecumseh, KS 66542 (785) 249-6585

Rob Ferguson, Project Manager

Rob Ferguson	
Education:	• B.S., Computer Studies, UMUC; 2005
Certifications and Special Training:	• IBM: Certified Consultant on The Rational Unified Process • Certified Specialist – WebSphere Application Server • SUN Microsystems: Certified Enterprise • Architect for the JEE Platform • Certified Programmer for Java 2 • CMMI, LEVEL 3; 2012 • PMP Certification • PMI-ACP Certification • Participated in FHR certification
Understanding of the Process	
Worked in the field of vital records for 18 years as the primary point of contact to represent and oversee the day-to-day activities of the project. Liaison between the state, other contractors, and stakeholders.	
Professional Experience	
Mantech	
Project Manager	2006 – Present
• Project Manager for statewide implementation of Vital Records (VR) applications for the following customers: – Connecticut – Successfully managed the implementation of the birth application into production. – Missouri – Successfully managed the implementation of the birth, death, and fetal death applications into production. – Massachusetts – Successfully managed the implementation of the birth, death, and point of sale (customer service) applications into production. – Tennessee – Successfully managed the implementation of the birth, death, fetal death, marriage, divorce, induced termination of pregnancy, and point of sale (customer service) applications into production. – United Kingdom – Successfully managed the implementation of the birth, death, and fetal death applications into production. – Washington – Successfully managed the implementation of the birth, fetal death, marriage, divorce, induced termination of pregnancy, and point of sale (customer service) applications into production. • Managed the planning, documentation, implementation, and enhancements of the VR applications • Managed the planning of the VR project from initiation by working closely with the stakeholders of the project. • Worked closely with the State to document requirements, including providing guidance to the customers on how to improve current processes. • Managed project developers and analysts to implement the requirements in the VR application to ensure they met the customer's expectations. • Worked post implementation with the customers on enhancements to the application to meet new State requirements. • Managed all associated tasks for the successful implementation of the VR application into six production implementations	

Rob Ferguson	
Professional References	
Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Dianna Lescalleet	206 Gay St, Newark, OH 43055 (740) 975-6757
Robin Wolfe	4241 SE 21st, Tecumseh, KS 66542 (785) 249-6585

Dianna Lescalleet, Senior Business Analyst

Dianna Lescalleet	
Education:	• M.S., Education: Theory and Practice, Ohio State University; 1992 • B.S., Education: Early and Middle Childhood, Ohio State University; 1984 • B.S., Ohio State University; 1974
Certifications and Special Training:	• Taught at the Ohio State University • Participated in FHIR certification
Understanding of the Process	
Twenty one years of experience in Vital Records, including documenting business requirements, configuring screens, testing and quality assurance.	
Professional Experience	
Mantech Analyst	January 2000 – Present
• Gathered requirements from the client • Created application screens through the Dynamic Scripting Engine (DSE), including business rules • Assisted developers in the development of proper workflow in Missouri Massachusetts, Tennessee, Connecticut, Montana, and Washington • Assisted in gathering requirements from clients in Joint Application Design sessions for the United Kingdom, Oklahoma, Kansas, Missouri Massachusetts, Tennessee, Washington, Montana, and Connecticut implementations • Provided quality assurance for the Vital Records systems for Missouri, Massachusetts, Tennessee, Montana, Connecticut, and Washington • Assisted in the development of imports and exports for Massachusetts, Washington and Tennessee • Assisted in the development of workflow documents for Missouri, Massachusetts Montana, Tennessee and Washington • Developed User Guides and training materials for Mantech's VR application for Kansas, Oklahoma, Missouri, Massachusetts, Montana, Washington, Tennessee, the United Kingdom, and Washington	
Professional References	
Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Robert Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Robin Wolfe	4241 SE 21st, Tecumseh, KS 66542 (785) 249-6585

Igor Presnetsov, Technical Lead

Igor Presnetsov	
Education:	• M.S., Computer Science, Moscow Institute of Electronic Technique; 1993
Certifications and Special Training:	• CMMI Level 3 Certified Individual, Technical Solution Process Expert, 2012 • WebLogic Workshop Certified Developer, 2008 • Participated in FHIR certification

Understanding of the Process

Twenty one years in Vital Records managing infrastructure, deployment, and technical aspects of the contract ensuring requirements are implemented. Responsible for design and implementation of Mantech's VRVcloud application software based on MVC design pattern and Web Services.

Professional Experience**Mantech****Senior Application Developer****2003 – Present**

- Client/Project: Kansas KDHE – Birth, Death, Fetal Death, Marriage, Divorce, ITOP module implementation and continuous maintenance support. 2005 – present
 - Setup and support of cloud-based installation of AWS hosted application and services. 2021 – present
 - Responsible for programming activities to successfully implement Mantech's VRVcloud application for Arkansas, Connecticut, Montana, Kansas, Missouri, Massachusetts, Oklahoma, Washington, Tennessee, and the United Kingdom
 - Client/Project: Oklahoma State Department of Health (OSDH) - Birth, Death, Fetal Death module implementation and continuous maintenance support. 2008 – present
 - Client/Project: Massachusetts Department of Public Health (DPH) - Birth, Death, Fetal Death module implementation and continuous maintenance support. 2010 – present
 - Client/Project: Arkansas Department of Health (ADH) - Birth, Death, Fetal Death, Indian Health Service (IHS) module implementation and continuous maintenance support. 2012 – present
 - Client/Project: Washington Department of Health (WDH) - Birth, Death, Fetal Death, Marriage, Divorce, ITOP, Customer Service module implementation and continuous maintenance support. 2012 – present
 - Client/Project: Tennessee Department of Health (TDH) - Birth, Death, Fetal Death, Marriage, Divorce, ITOP, Customer Service module implementation and continuous maintenance support. 2012 – present
 - Client/Project: Missouri Department of Health and Senior Services (DHSS) - Birth, Death, Fetal Death module implementation and continuous maintenance support. 2014 – present
 - Client/Project: United Kingdom Department of Health and Social Care (DHSC) - Birth, Death, Fetal Death, Marriage, Divorce module implementation and maintenance. 2005-2016
- Skills Summary:**
- Languages: Java, SQL, PL/SQL.
 - Java Technologies: J2EE, JDBC, Servlets, JSP, JNDI, Applets, AWT, Swing, Java FX, Jakarta Log4j and Java Mail.
 - App development: Android and iOS (Flutter with Dart), Swift and Kotlin
 - Middleware: EJB, JMS, JNDI
 - App Frameworks: Struts, Log4j, Ant, Hibernate.
 - Scripts: JavaScript, jQuery, JScript and VBScript
 - RDBMS: Oracle, DB2, SQL Server, MySQL, Sybase and MS Access

Igor Presnetsov

- Application servers: WebLogic, Oracle AS, JBoss
- Web Servers: Apache Tomcat, IIS
- Version Control: Sub Version, GIT, CVS and VSS 5.0
- Internet Tools: HTML/DHTML, CSS, DOM, SAX, XSLT, and XML
- Tools/IDEs: IntelliJ, Eclipse, JBuilder, JDeveloper, Android Studio, XML Spy, NetBeans, Visual Studio
- Operating Systems: Windows, Mac OS, Linux, Unix, Sun Solaris

Professional References

Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Robert Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Dianna Lescalleet	206 Gay St, Newark, OH 43055 (740) 975-6757

Robin Wolfe, Quality Assurance

Robin Wolfe	
Education:	• Attended Washburn University, 1985
Certifications and Special Training:	• Completed Vital Record Supervisory training for the State of Kansas • Participated in FHIR certification
Understanding of the Process	
Over 39 years in Vital Records, including moving from an old system to Mantech's VRVcloud application. This included documenting business requirements, printed output, screen design development, testing and quality assurance as well as working with all outside and internal partners in reporting vital events and data sharing.	
Professional Experience	
Mantech Business Analyst September 2016 – Present • Work with all aspects of the VRVcloud application, from configuring components through testing and production implementation. • Provide expert subject matter experience to the vital records business unit. • Provide requirements analysis, documentation, and implementation with the VRVcloud application for clients. • Development of imports, exports, reports, and letters for clients. • Development of workflow documents and documenting requirements gathered from clients. • Creating application screens through the Dynamic Scripting Engine (DSE), including business rules and edits. • Testing and quality assurance. • Assisted developers in the development of proper workflow for clients. • Assisted in developing User Guides and training materials for Mantech's VR application for clients.	
State of Kansas Vital Records Registration Section Chief December 1985 – September 2016 • Supervised and oversaw reporting of all Kansas vital events (birth, death, fetal death, marriage and divorce) including the amending vital records, establishment of paternity, processing adoptions (in-state and foreign born), filing of delayed birth records, and coding cause of death. • Proposed, wrote, and interpreted legislation and regulations, and contracts. • Oversaw several system developments that included an imaging system and moving from an AS400 to a web based application developed by Mantech International, Inc. As the office's Project Manager, liaison between agency IT and Mantech. • Developed and documented requirements for web base application, assisted with screen design, workflow to allow for full electronic filing of vital events by external partners (hospital birth clerks, midwives, funeral directors, physicians, coroners, district court clerks, judges, and attorneys). • Oversaw data sharing, establishing of imports and exports. • Developed User Guides and training materials for web base application, provided training to partners, and established troubleshooting procedures. • Member of National Association of Public Health Statistics and Information System (NAPHSIS). Participated on two committees within the organization: chairperson of the Inter-Jurisdictional Exchange (IJE)/State and Territorial Exchange of Vital Events (STEVE) and	

Robin Wolfe

member of the Electronic Verification of Vital Events (EVVE) regarding data sharing and data verification.

- Assisted and documented requirements for developing additional modules within the web base application to collect hearing screening, immunization, and critical congenital heart disease data on newborns to be shared with agency health programs.

Professional References

Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Robert Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Jason Mathewson	1000 SW Jackson, Topeka KS 66612 (785) 296-1420

Venkatesh Seelam, Senior Software Engineer

Venkatesh Seelam	
Education:	• MBA, Business Administration, Nagarjuna University, 2000 • M.S., Commerce Statistics, Nagarjuna University, 1989
Certifications and Special Training:	• Java Certification • AWS • CMMI Level 3 Certified Individual, Technical Solution Process Expert, 2012
Understanding of the Process	
Worked in the field of vital records for 19 years designing and developing application to meet the needs of the client.	
Professional Experience	
Mantech	2005 – Present
Senior Application Developer	
• Over 17 years of experience in web based, Mobile, client/server, distributed architecture applications in Java, J2EE, J2ME, DART and C# technologies using Object Oriented Analysis and Design. • Extensive knowledge in Android and iOS APP development using Flutter Framework. • Development experience with Swift and Kotlin. • Expert level skills in Dart, Flutter, Core Java, C#, Java Servlets, Java Server Pages, EJB, JMS, Java Applets, Exception Handling, JDBC. • Experience in performance tuning on long running queries in databases such as Oracle, SQL Server. • Extensive development experience in SQL, PLSQL, etc. • Proficiency in deploying and configuring multi-tier, clustered enterprise applications on application servers such as IIS, Oracle, WebLogic, JBoss and Tomcat. • Extensive Development experience with IDEs like Visual Studio, IntelliJ, Eclipse, JDeveloper, Android Studio, NetBeans and WSAD. • Development experience in J2ME (MIDP, CLDC) to build mobile applications for Palm. • Experience in VSS, Subversion, CVS and GIT. • Experience in XML, XSD, XSLT and using parsing methodologies like DOM, SAX. • Extensive working experience in REST and SOAP API. • Experience in AWS. • Vital Records Experience – – UK: Birth, Death, Marriage, Civil Partnership and Fetal Death modules development – Kansas: Birth, Death, Marriage and Stillbirth modules design and development – Tennessee: Birth, Death, Marriage, Divorce, ITOP and Fetal Death modules design and development – Washington: Birth, Death, Marriage, Divorce, ITOP and Fetal Death modules design and development – Missouri: Birth, Death, Marriage and Stillbirth modules design and development – Massachusetts: Birth, Death, Marriage and Stillbirth modules design and development – Arkansas: Birth, Death, Marriage and Stillbirth modules design and development – Connecticut: Birth, Death, Marriage and Stillbirth modules design and development – Oklahoma: Birth, Death, Marriage and Stillbirth modules design and development • VRVcloud product experience - – Worked on developing Android and IOS mobile apps using Flutter with Dart.	

Venkatesh Seelam

- REST service calls for Mobile Applications. Efficiently consumed and managed RESTful web services with JSON formats.
 - Created reusable widgets of primary colors and font sizes which can be referenced in any module of the code base.
 - Developed code for the Custom Menus, Dialogs and Image Views, Firebase Push Notifications.
 - Experience on state management tools like Redux and Bloc.
 - Experience in Android UI toolkit and Layout Managers.
 - Proficient in the Android/iOS application framework.
 - Worked on implementing Web user interface.
 - Participated in customization of application framework and development environment.
 - Worked on application performance testing and identified bottleneck issues.
 - Extensively working in SQL query performance and PL/SQL.
 - Prepared Ant based build scripts to build and deploy the application and acted as release manager. Prepared Oracle database upgrade scripts to release the application in module basis. Interacted with the client to support the critical problems and prepared patches for workaround.
 - Worked on PL/SQL objects like procedures, triggers, views, functions, Job Schedulers, etc.
 - Developed powerful Ad Hoc report tool.
 - Environment: Java, J2EE, Flutter, Dart, C#, XML, log4j, J2EE Design patterns, Oracle Database, PL/SQL, TOAD, CVS, Rational Rose, IIS, Oracle AS, WebLogic, JBoss, Visual Studio, IntelliJ, Android Studio, Windows and Unix.
- Skills Summary:**
- Languages: Java, C#, C++, Dart, C, Python, SQL, PL/SQL
 - Java Technologies: J2EE, JDBC, Servlets, JSP, JNDI, Applets, AWT, Swing, Java FX, Jakarta Log4j and Java Mail
 - App development: Android and iOS (Flutter with Dart), Swift and Kotlin
 - Middleware: EJB, JMS, JNDI, Java Crystal reports
 - Wireless Technologies: J2ME, WAP, CLDC, MIDP
 - App Frameworks: ASP.NET, Struts, Log4j, Ant, Hibernate
 - Scripts: React, JavaScript, jQuery, Bootstrap, Jscript and VBScript
 - RDBMS: Oracle, DB2, SQL Server, MySQL, Sybase, and MS Access
 - Application servers: WebLogic, Oracle AS, JBoss
 - Web Servers: Apache Tomcat, Allaire ColdFusion Server, IIS
 - Version Control: UB Version, GIT, CVS and VSS 5.0
 - Internet Tools: HTML/DHTML, CSS, DOM, SAX, XSLT, and XML
 - Tools/IDE's: IntelliJ, Eclipse, JBuilder, JDeveloper, Android Studio, XML Spy, NetBeans, Visual Studio
 - Operating Systems: Windows, Mac OS, Linux, Unix, Sun Solaris

Professional References

Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Robert Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Dianna Lescalleet	206 Gay St, Newark, OH 43055 (740) 975-6757

Xitiz Bhatia, Cloud Engineer

Xitiz Bhatia	
Education:	• B.S., Engineering, Thapar University, India; 2004
Certifications and Special Training:	• CMMI Level 3 Certified Individual, Technical Solution Process Expert, 2012 • Sun Certified Java Web Component Developer • Sun Certified Java Developer • Led effort for FHIR certification
Understanding of the Process	
Provided 19 years of cloud architecture design and implementation, lead DevOps, manage releases to customer, production issue resolution for vital records clients.	
Professional Experience	
Mantech Senior Software Architect 2005 – Present	
• Involved with eight successful projects in production for several state governments in the U.S. and one for the UK government. • Amazon Web Services (AWS) Architect and DevOps (10+ years of designing and maintaining solutions using AWS cloud) using cloud technologies to provide a secure and scalable vital records hosting solution with robust disaster recovery strategy. Designed and implemented the full cloud solution for Kansas Vital Records and migrated the KS existing vital records application from the on-premises datacenter to the cloud. Setup access for the State statistical group to data hosted in the cloud using secure VPN. • Production roll-out and technical specialist - 13+ years of experience in rollout of vital records applications to Production, handling legacy data conversion, integration with other enterprise services for authentication and image management, perform server hardening for servers, day-to-day critical production problem resolution. • Design and implement data-exchange solutions to import/export data between State vital records and agencies like SSA, NCHS, CDC. Knowledge of several standards - HL7 FHIR, STEVE, IJE, etc. • Mobile Platform design for Vital Records app and related backend web-services (iOS, Xcode, watchOS, Swift 4.2, Keychain, FaceID, Touch ID, JSON Web Tokens, APNS, REST web-services - JAX-RS) • Application Performance Tuning Expert - Multi-project performance issue resolution; expertise with Garbage collection log and Object heap analysis; Java Virtual Machine (JVM) and Application Server tuning recommendations; SQL Performance Analysis. (Java Virtual Machine, Garbage Collection, GC Tuning, Heap analysis, G1 Collector, Parallel Collector) • Java Development - Certified Java Developer with over 15+ years of full-stack development experience. Developed web-based Dynamic Screen Engine (DSE) for Vital Record product VRVWeb. VRVcloud, Integrated J2EE product with single sign-on platforms and external web-services. (Java, J2EE, JBoss, WildFly, WebLogic, SQL Server, Oracle, JavaScript, CSS, HTML) • Configuration Management: 12+ years of SCM experience (Git, Subversion, CVS, VSS, Ant Script, Maven) • Developed solutions for legacy data conversion for WA and CT. Implemented several single sign-on integrations with Active Directory and enterprise State identity providers.	
Skills Summary: • Cloud Technologies: AWS, Microsoft Azure, Google Gcloud Identity and Access Management (IAM), EC2, RDS, Virtual Private Cloud, ACM, AWS CLI, S3, SES, SNS, WAF,	

Xitiz Bhatia

Cloud Watch, Cloud Trail, QuickSight, ACM, Route 53, AWS VPN, WorkDocs, AWS Directory, AWS Firewalls

- Languages: Java, C#, C++, C, Python, MATLAB, SQL, PL/SQL, T-SQL
- Java Technologies: J2EE, JDBC, Servlets, JSP, JNDI, Spring Boot, EJB, JMS
- Mobile Development: iOS - Swift
- App Frameworks: ASP.NET, Struts, Hibernate
- Frontend scripting: React JS, JavaScript, jQuery, Bootstrap
- RDBMS: Oracle, DB2, SQL Server, MySQL, Sybase and MS Access
- Application servers: WebLogic, Oracle AS, JBoss EAP, WildFly
- Web Servers: Apache Tomcat, IIS
- Version Control: UB Version, GIT, CVS, Plastic
- Internet Technology: HTML, CSS, Bootstrap
- Tools/IDEs: IntelliJ, Eclipse, NetBeans, Visual Studio, Visual Code
- Operating Systems: Windows, Mac OS, Linux, Unix

Professional References

Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Robert Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Robin Wolfe	4241 SE 21st, Tecumseh, KS 66542 (785) 249-6585

John Vann, Senior Business Analyst

John Vann	
Education:	• B.S., Information Systems Management, Auburn University, 2005
Certifications and Special Training:	• Participated in FHIR certification
Understanding of the Process	
Provide business requirement development for Vital Records for 17 years.	
Professional Experience	
Mantech Business Analyst 2005 – Present • Gathering requirements from the client, modeling requirements into business rules, creating application screens through the Dynamic Scripting Engine (DSE), adding business rules through the DSE for validation of requirements, propagate business logic to programmers for proper workflow through the application. • Development of Vital Records systems (Infant Hearing Program, Death, Birth and Fetal Death) for the state of Arkansas and assisted in screen development (Birth) for the state of Massachusetts. • Quality Assurance Lead for the Vital Records system in Kansas, Oklahoma, Arkansas and Missouri. Former lead tester for the United Kingdom system (Birth, Stillbirth, Death, Marriage and Civil Partnerships). • Assisted in the development of Imports and Exports (Birth and Death) for the state of Oklahoma. • Assisted in document maintenance and development for Oklahoma and Arkansas, and the countries of England and Wales. • Works with clients to understand their current business process and to ensure all deliverables are met. This includes status meetings, written status reports, quality assurance, and documenting and implementing any change request. • Works closely with development team to mitigate risk involved in rollouts of deliverables or any planned system changes. • Lead or assisted in the continual improvement of development in the Vital Records systems for Birth, Death, Fetal Death, and the Infant Hearing Program in Arkansas, Oklahoma, Kansas, and Missouri..	
Professional References	
Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Robert Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Robin Wolfe	4241 SE 21st, Tecumseh, KS 66542 (785) 249-6585

Nirav Kanjia, Senior Software Engineer

Nirav Kanjia	
Education:	B.S., Engineering, Pune University, India; 1998
Certifications and Special Training:	- CMMI Level 3 Certified Individual, Technical Solution Process Expert, 2012 - Participated in FHIR certification.
Understanding of the Process	
Worked in the field of vital records for 19 years. Responsible for development, deployment for the print services to facilitate insolated and independent printing solution.	
Professional Experience	
Mantech Senior Developer 2005 – Present <i>Project: Vital records management (VRVcloud)</i> - Worked on successful implementation of various modules (Birth, Death, Fetal Death, Marriage, POS) for Kansas, Arkansas, Oklahoma, Missouri, Connecticut, Massachusetts, Tennessee, Washington, Montana, and United Kingdom (UK). - Develop web services for printing forms such as certificates, applications, permits, letters, worksheets, amendments and reports. - Worked on Data Migration using import tools developed in the application as well as stored procedures. - Create and configure import utility for legacy data conversion. - Worked on Data export to various organizations such as SSA, NAPHSIS, CDC and other exports as per client's requirements. - Create and configure export utility in various formats such as fixed length, comma separated and text with headers. - Worked on providing multi-language outputs for UK client. - Develop interfaces to communicate with document management systems such as Documentum and Paper Vision. Skills Summary: - Languages: C#, ASP.NET VB.NET, .NET, Java C++, Java Script, ADO.NET, COM, DCOM, WCF, XML, SQL - RDBMS: Oracle, Microsoft SQL Server - Web Servers: IIS, JBoss - Version Control: Sub Version, CVS and VSS 6.0 - Tools/IDEs: Visual Studio, SharePoint server, Amazon EC2 cloud, Amazon RDS - Operating Systems: Windows, Mac OS, Linux	
Professional References	
Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Robert Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Robin Wolfe	4241 SE 21st, Tecumseh, KS 66542 (785) 249-6585

Peter Gutowski, Senior Business Analyst

Peter Gutowski	
Education:	B.S., Business Administration with Concentration in Economics, SUNY- Empire State College; 2010
Certifications and Special Training:	N/A
Understanding of the Process	
Nine years of vital records experience providing business requirement development.	
Professional Experience	
Mantech Business Analyst 2015 – Present - Responsible for the daily support and maintenance of Vital Records entry software for NCHS reporting entities. - Support short- and long-term projects focused on the customization and enhancement of the individual state's Vital Records entry and modification software. - Engage our customers to ensure a superior end user experience and compliance with applicable State and NCHS record entry and reporting requirements. - Experience in testing and managing quality of the VRVcloud application. - Work with our current customers to understand their business process redesign needs, designing a compliant technical solution to be implemented. - Conduct regular status meeting updates with customer to ensure that business processes are functioning as required.	
Professional References	
Joe Lopez	5287 Cicerone St, Sarasota, FL 34238 (941) 416-8361
Robert Ferguson	5005 15th St N, Arlington, VA 22205 (703) 727-7009
Robin Wolfe	4241 SE 21st, Tecumseh, KS 66542 (785) 249-6585

1.j. Subcontractors

i. name, address, and telephone number of the subcontractor(s),

Subcontractor Name: OnKeel

Address: 5005 15th Street N, Arlington VA 22205

Telephone: Rob Ferguson -703-727-7009

Subcontractor Name: MBO

Address: 20370 Exchange Street, Suite 250, Ashburn VA 20147

Telephone: Taylor Shannon - 703-727-7009

ii. specific tasks for each subcontractor(s),

iii. percentage of performance hours intended for each subcontract; and

iv. total percentage of subcontractor(s) performance hours.

Mantech does not “portion out” project deliverables to subcontractors. When utilized, our subcontractors deliver services on a time and materials basis solely to Mantech. We do not subcontract project deliverables; Mantech is solely responsible for all project deliverables and responsibilities. Each subcontractor provides subject matter experts (SMEs) with a vital record skill set used to contribute to each project’s successful implementation. The subcontractors support our vital record workforce and are not subcontracted specific tasks; they solely provide supplemental labor. They are integrated tightly with our staff and are indistinguishable from Mantech staff. The percentage of performance hours (and thus the total percentage of subcontractor hours) will be dependent upon the project progression, as Mantech determines the need for subcontractors they will be integrated into the team at the appropriate time. We have a very long-standing relationship with our subcontractors; specific subcontractor staff that we use have been with Mantech for between 9 and 19 years and have a wealth of vital records experience working with Mantech. Our subcontractors have successfully performed work on all our other Vital Records contracts. All master terms & conditions are already in place with our subcontractors and awards specific to this opportunity will include all applicable flow down contract requirements to the subcontractors. There are no agreements or arrangements for reimbursement with the subcontractors other than for the labor provided to Mantech on the contract. All agreements and arrangements for reimbursement on this contract with the State of Nebraska are solely with Mantech, and not with any subcontractors. Mantech anticipates using OnKeel and MBO as subcontractors during the contract period. Additionally, Mantech uses AWS for the cloud hosting environment.

TECHNICAL RESPONSE [RFP SEC. VII.A.2]

PART I

Mantech confirms that we have read, understand, and meet the minimum essential qualifications, experience, and/or capabilities and is included within our proposal. Specifically, Mantech confirms that our technical and management approach meets the following qualifications and modules:

Qualification	Mantech's Solution Meets the Qualification / Module
1. Bidder shall have a minimum of five years' experience in the design, testing, implementation, support and maintenance of a cloud-based system similar to the scope of this RFP.	Yes.
2. Bidder shall have a minimum of three clients utilizing similar support, operation and maintenance of a cloudbased system similar to the scope of this RFP.	Yes.
3. Bidder shall confirm that all data, systems, and cloud hosting environments associated with this RFP will be located, stored, and managed within the United States. No data shall be transferred, processed, or stored outside the U.S. jurisdiction.	Yes.
4. Bidder must have an existing system that at a minimum contains modules: i. Birth; ii. Death; iii. Marriage; iv. Dissolution of Marriage; v. Fetal Death; vi. Induced Termination of Pregnancy (ITOP); vii. Order Management	Yes.

1.a. Understanding of the Project Requirements [RFP VII 2.Part1.a]

Scope of Work [RFP VI A.1]

Mantech understands the Office of Vital Records preserves birth, death, marriage and divorce records which occur in Nebraska. The records maintained are issued as legal certified copies and are printed on security paper with a digitally enhanced state seal. Nebraska vital records are important for legal and personal identification purposes such as obtaining a driver's license, passport, or Social Security card. These official documents, including birth, death, marriage, and divorce certificates, provide crucial proof of identity, lineage, and life events that are necessary for a wide range of activities, including school registration, property transfer, and claiming retirement or life insurance benefits. Mantech understands the requirements listed in this RFP will be met by customizing the VRVcloud application to function to meet State-specific requirements. Mantech has performed this same work for the states of Kansas, Oklahoma, Missouri, Arkansas, Massachusetts, Tennessee, Connecticut, Montana, and Washington, as well as the United Kingdom where data entry screens, workflows, reports, etc., were configured to meet State specific requirements. Mantech has never failed a VRVcloud implementation and has always met the requirements of the customer. Additionally, Mantech is well aware of changing State requirements, often due to legislative changes or federal changes. We also understand with the vital records process there are requirements, then all the exceptions to the requirements that have to be implemented. Mantech understands the need for the application to be flexible to meet the continuous legislative and user requirement changes to meet the State's business needs. Data collection screen content, layout, edit rules, and more can be easily designed and configured by the Mantech team with no code changes using the VRVcloud Dynamic Screen Engine (DSE). See our response below where **Exhibit 22** shows how fields on a screen are configured, including edit rules, that are all done with no coding required. This means you don't have to wait days or weeks for the change to be implemented in production, and it is a very cost-effective method to

handle changing requirements. For example, if the legislature requests the vital records unit to start collecting on the birth screen if the child has undergone genetic testing, and if so what testing, using the DSE Mantech can configure those fields in less than a day and have the ability for the hospitals to start collecting that data the very next day.

Mantech will deliver a *VRVcloud* implementation that will enable vital records staff to efficiently manage vital event data. *VRVcloud* implementation will also offer external users, including hospitals, clinics, funeral directors, physicians, county attorneys, county coroners, and local county registrars, the ability to quickly and reliably input data related to birth, death, marriage, dissolution of marriage, fetal death, and ITOP events while ensuring the integrity of the data. Furthermore, the *VRVcloud* application will support order management and permit designated users to generate certified copies of certificates. As one example of how the *VRVcloud* application will be customized is for the State's permit of transition or cremation. In other State's we have separate permits of cremation and transit, but Nebraska has one for both functions. Mantech will configure the workflow(s) to ensure that when it is proper that the user can print the permit of transit or cremation with the correct data completed on the permit.

Mantech has the ability, capacity, and skill to deliver a vital records application to the State of Nebraska that meets all their requirements as evidenced by our numerous successful implementations of vital records applications for other states. Mantech's integrity and character in the vital records area is well known, where Mantech is known to work with the State to implement the application the State desires, not one that meets another State's requirements because that is easier for the vendor. Mantech is proposing to deliver, within the budget and time constraints, all listed required functionality in this RFP by customizing the *VRVcloud* application to meet State-specific requirements for the functionality. As an added value and benefit to the State, Mantech will deliver our native mobile app. The mobile app allows the entry of the cause of death and certifying death records on Apple and Android phones - where users can download the *VRVcloud* app from the Apple or Google store. With the *VRVcloud* application the State will realize:

- Modern web-based architecture of the vital records application hosted in the Amazon Web Services cloud, with enhanced user experience for all stakeholders while also including native mobile apps for users to download in the Apple and Android stores.
- An efficient solution with improved timeliness, accessibility, and data accuracy in the registration of vital events with reduced errors.
- Compliant with all relevant State and Federal legal and regulatory requirements, including FHIR based interfaces with STEVE and NCHS.
- The ability to perform their vital records duties more easily with improved workflows which will increase productivity.
- Ensure their application is executing in a safe, secure hosted environment with optimal performance.
- Gain a flexible system architecture which will allow the State to make modifications as their business needs change.
- Utilize the latest technologies with the added benefit of both a web and mobile app ensuring the State is implementing a 21st century vital records application.

Mantech already has modules for Birth, Death, Marriage, Divorce (Dissolution of Marriage), Fetal Death, ITOP, and Customer Service (Issuance) and all are in production environments executing today. All the modules can be combined to provide a complete end to end solution for vital records, all with the same look and feel and proven production performance. Thousands of external users, including hospitals, clinics, town/city clerks, funeral directors, physicians, medical examiners/coroners, county attorneys, county coroners, local county registrars and State personnel register millions of vital records each year using our *VRVcloud* application. These users already have the ability to input data related to birth, death, marriage, dissolution of marriage,

fetal death, and ITOP events in other States, in addition with the ability of order management to permit users to generate certified copies of certificates. This head start provides significant and measurable benefits in risk reduction, time and efficiency gains, security, reliability, and support.

Mantech's proposed application fully addresses the business requirements descriptions, functional specifications, and technical specifications necessary to support the Nebraska Vital Records Unit. Our solution encompasses hardware, operational processes, and certificate printing that meet the State's requirements. Additionally, our VRVcloud application already allows for the integration, interfaces, and data sharing with State and Federal information systems. The VRVcloud solutions consists of ready-made software that does not require major modifications but supports customization to meet the State's functional specifications.

Mantech will be responsive to requests from the State of Nebraska in making any and all necessary applicable modifications to the system due to any modified or newly enacted Federal or State statutory or regulatory requirements before, during, or following implementation. Prior to making any changes Mantech will follow the documented change request process and provide a level of effort to complete the change. There will be no charge for up to 160 hours annually. Any additional hours, beyond 160, accrued annually for modifications to the system due to any changes in applicable Federal or State regulatory requirements will be billed at the appropriate rates as outlined in Part IV – Optional Services Miscellaneous Enhancements in the Cost Sheet.

Project Environment [RFP VI A.2]

Vital Records Management System [RFP VI A.2.a]

Mantech has converted many different legacy vital records applications, including from the current vendor for Nebraska. Mantech understands the current system has been in place for 15 years, and we hope to take this opportunity to improve business processes and user experiences, in addition to being more secure with better performance. A significant advantage of implementing a new vital records system is the opportunity to reimagine and improve existing processes. Mantech will use this opportunity to utilize the latest technologies with the added benefit of both a web and mobile app, ensuring the State is implementing a 21st century vital records application.

Data and File Migration [RFP VI A.2.b]

Mantech will develop, maintain, and follow a comprehensive data/file conversion and migration plan. The plan will detail how data that has not been recorded in the current system is populated in the new system. For example, there may be flags and other fields specific to VRVcloud that the current application does not maintain. Our data mapping will account for all current application fields and how they map to the VRVcloud application, including how VRVcloud fields are populated during conversion to ensure every flag and necessary data is correct in the VRVcloud application. Mantech will work closely with the State's project team to ensure the data tables and structure have the required level of data accuracy.

The data/file conversion and migration plan will describe the data/file conversion process and explain the process of transforming data and files from one format or architecture to another. The plan will describe the data/file migration process and explain the process of moving data and files from the current system to the new system. The plan will also define the roles and responsibilities for those responsible for data/file conversion and migration tasks. The plan will identify specific tasks needed to be completed for the conversion and migration, assign due dates and task owners. The plan will also describe the approach to any foreseeable obstacles regarding data migration during the transition period. The plan will include information about contingency procedures in the event of an unsuccessful cutover.

Mantech's approach to the transition from the legacy system to the VRVcloud application will begin during the project kick off. Mantech will begin gathering information about the legacy data sources to ensure all data to be converted is included in our data/file conversion and migration

plan. Mantech will deliver a data/file conversion and migration plan for all vital events that explains how the data conversion will be accomplished for each event type. Mantech will coordinate with the State to complete the conversion plan, which will describe the objectives of the data conversion, the methodology used to convert the data, including the tools, techniques, and how we may use the *VRVcloud* application import for the data conversion, along with how staging tables will be used, how sampling data will be used to ensure data integrity, and all other aspects of the data conversion. The plan will describe the process to be used to move data from the existing systems to the *VRVcloud* application, and the process that the State will use to validate that the data in the new system is valid and complete. Data conversion reports will be generated with records successfully converted and records not successfully converted, with information for the State to identify the records and remedy any data issues. The data/file conversion and migration plan will also include:

- A formal system tailored to the State to track, document, and manage conversion issues.
- A detailed mapping of legacy data fields to the fields in the new solution, including any images/documents, or external digital files to be converted.
- A detailed conversion schedule including all activities, milestones, and resources necessary to convert the legacy data to the new solution.

Mantech works closely with the State project team, and with Nebraska's strong understanding of their current system and Mantech's breadth and depth of the State implementations we have completed, the outcome should be an application that just does not replace a 15-year-old system but one with improved user experiences that is more secure with better performance. Mantech has converted data from other vital records vendors including State "home grown" applications, and we have converted data from various sources including flat file types (.csv, .txt, .xml, .xls, and others) along with imaging indexes. Additionally, Mantech has converted data from legacy application databases such as Oracle, SQL Server, MySQL, and DB2 all running on various operating systems. Mantech has a wealth of experience converting large amounts of data. Our experience includes converting millions of records at a time, which requires sufficient processing resources to perform the conversion. Mantech's experience in those conversions enables us to apply lessons learned to this project. For example, we know that turning off indexes while converting, tuning the environment server/database to allow the conversion to be performed, and dividing data conversion imports to improve performance can improve the conversion process for both speed and efficiency. In one State's application, we were able to reconstruct the amendment history from the legacy system during conversion by comparing multiple versions of each record and populating the audit trail, as well as tables related to the Birth module, such as the Paternity table. This allowed an amendment trail for that State's legacy data, even though their legacy system did not maintain an audit trail.

Of note, there is a difference between translating the data, i.e., taking the data sent and translating it into the source application for use, and cleansing the data, versus taking the source data and changing it prior to importing the data, potentially altering the meaning of the data. Mantech does not "cleanse" data without specific guidance from the State on what changes to the data should be made. It is the State's data, and if the data are to be altered in any way, the State would determine how to alter the data. Mantech will work with the State to identify issues in the data that will then allow the State to decide how they want to "cleanse" their data. This effort may involve changing the data at the source or providing Mantech with a translation algorithm for the data.

Mantech also saves the conversion scripts and tools in case there is a need for them in the future. For example, if the State were to convert some paper records to an electronic format and they needed to convert the electronic data into usable data in the *VRVcloud* application, the scripts and tools used for the data conversion will be useful to get this older paper data into the new

system. Mantech has performed this in the past, where over a year later additional data needed to be converted and Mantech converted the data into our application for the State to then utilize.

State and the National Vital Statistics System (NVSS) Data Standard Requirements [RFP VI A.2.c]

Mantech's VRVcloud complies with the State and National Vital Statistics System (NVSS) data standard requirements.

State Project Team [RFP VI A.2.d]

Mantech will work closely with the State project team through the entire project lifecycle. Mantech staff will interface with the State project team through in person meetings, webinars, and other methods outlined in the communication plan. As an added value, Mantech provides "vital records experienced" staff from top to bottom. When the State is talking to any of our staff, including developers, and they talk about delayed births our staff will know exactly what they are discussing. There is no need to explain to any of our staff vital records concepts because our staff will have implemented and supported delayed births in several states. All Mantech vital records staff are cross trained on our vital records implementations, ensuring experience in multiple implementations. Mantech believes in an open-door policy, where the State will be free to interact with any of our staff. All we ask is that the communication channels be respected to ensure proper staff are informed.

Vital Records Unit [RFP VI A.2.e]

Mantech will work closely with the vital records unit through the entire project lifecycle. The success of this project heavily depends on the involvement of the State's vital records staff. They are the only ones who can make key decisions that directly impact the project's critical path.

Project Testing [RFP VI A.2.f]

Mantech will develop, maintain, and follow a comprehensive data/file conversion and migration plan. The plan will include the vital records unit and various external users conducting multiple rounds of testing.

Business Requirements Descriptions [RFP VI A.3]

General: Mantech's VRVcloud application provides a comprehensive (all modules) and robust web-based application for vital record management that is intuitive, efficient, and user friendly while adhering to NCHS standards. The look and feel between modules is consistent, making it easier to enter and process vital events, empowering users to efficiently manage, validate, and process records and orders. The VRVcloud user interface provides a non-cumbersome entry process that allows the user to enter data without having to remember to validate the data on each screen, ensuring data integrity, accuracy, and regulatory compliance throughout the entire event lifecycle, from recording, processing, correcting, and amending. The VRVcloud monitors the data being entered through built-in real-time edits and automatically notifies the user when there is a data issue without the user having to remember to click on a button to validate the data on the screen (unlike other vendors). The VRVcloud approach allows the user to move quickly and smoothly between screens as it checks the data being entered. The key design standards and the determination of the best design are all end-user/State driven. Mantech has taken feedback for over 20 years from vital records end users and State users and has incorporated that feedback into our VRVcloud application. The VRVcloud application will enable the State to improve customer service with streamlined work processes, increase efficiency with easy-to-use screens and workflows, reduce costs by replacing manual process with automated processes, and enhance security with AWS security tools. The VRVcloud already adheres to State and Federal guidelines for vital records, including FHIR transmission of data.

Mantech's data management strategy includes data integrity. Only authorized users in the VRVcloud application can view, edit, and delete data and an audit trail is maintained for any altered data. No unauthorized staff have access to the database to modify data undetectably. Our hosting solution, using AWS, ensures that availability of the application is maintained. Data authenticity is accomplished with our transaction policies and the data security is also maintained using security measures such as the encryption of data in transit to and from the users' browser using the latest TLS 1.2 and TLS 1.3 standards. Non-repudiation of data is maintained using specific verifications for key data. For example, when a physician certifies a death, the VRVcloud application can be configured to verify the physician by having them execute a State required electronic signature. The record can then be stored with a hash algorithm, and if the record is changed the signature will need to be re-applied. The electronic signature process can vary from complex, to simple. For example, for simplicity in one implementation the State only requires the user to enter their PIN to sign the record. Mantech will work with the State to document and then implement the steps required to ensure non-repudiation with the goal being securely handling electronic signatures.

Below is a screenshot of a birth record being entered:

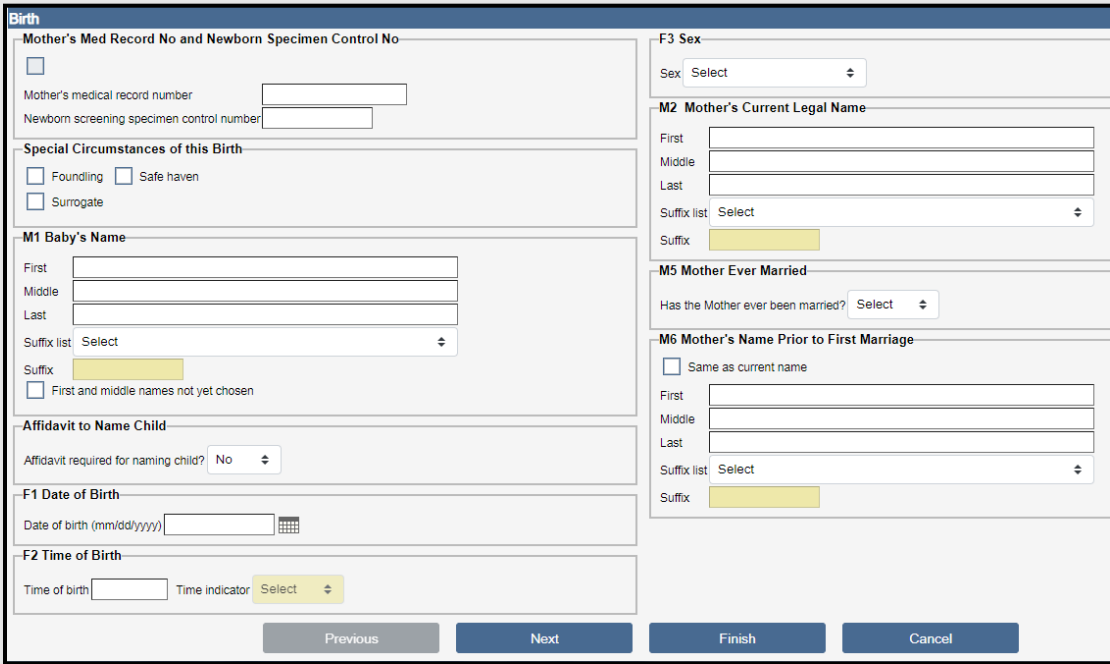


Exhibit 3: Birth Record Being Entered.

Another advantage to the VRVcloud application is the dashboard or main menu page that displays the user's workflow queues immediately without having to click on an option to open their queues. On the dashboard the user is able to print or export the contents of their queue if they need a hard copy. The dashboard provides easy access to various functions (i.e., printing, searching, user profile, etc.), news messages put out by the State, help content to other links for assistance (i.e., user guides, CDC resources, etc.), and displays when the user password is about to expire and a link to change their password immediately.

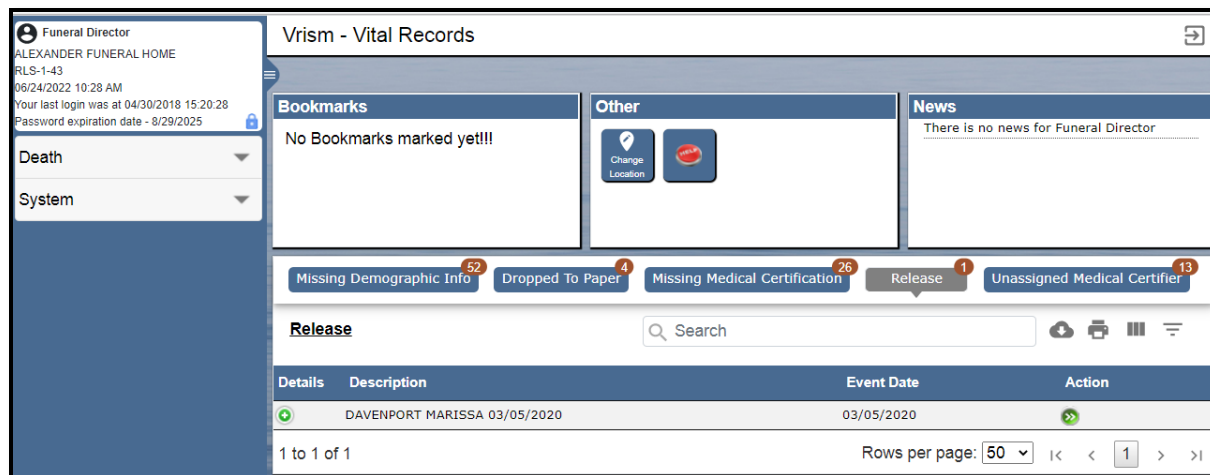


Exhibit 4: Screen Showing Dashboard, With News, Bookmarks, Queues and Other Information.

In the entry screens, the VRVcloud provides the user the ability to see help text on the field, giving the user direction about the field and how to enter data. Below is an example of help text on the field in the birth record.

Exhibit 5: Screen Showing Hover Text.

The VRVcloud has a screen navigation option that allows the user to see what sections are on each screen without leaving the screen they are on. Below is an example of the user being on the 6 Household and SSN Info screen but looking to see what sections are on the 2 Mother screen using the screen navigation option without leaving the 6 Household and SSN Info screen.

Vrism - Vital Records

Birth -- First: *FRANKLIN* Last: *DEMO* Date of birth (mm/dd/yyyy): *06/01/2022*

M26-27 Language and Income

Primary language spoken in the household: 1 English

Specify other language:

Household income range: \$35,000 - \$49,999

M28 Permission Given to Request Social Security Number

Permission given to request issue of SSN for child? Select

M29a Mother's Social Security Number

SSN:

☐ Unknown

☐ None

M29b Father's Social Security Number

SSN:

☐ Unknown

☐ None

Previous Next Finish Cancel

Exhibit 6: Screen Showing Navigation Pane Along with a Data Entry Screen.

Soft and hard edits and disabling and enabling fields assist the user in entering data to ensure data quality.

Below are two examples of the same section enabling and disabling fields to assist the user in entering data to ensure data quality. In the first example, the user indicates the mother did not smoke, which allows the user to skip the number of cigarettes or packs of cigarettes. The second example shows the user needs to answer the number of cigarettes or packs of cigarettes since the mother did smoke.

M17 Cigarette Smoking

Did mother smoke three months before or during pregnancy? No

Three months before pregnancy - # of cigarettes		OR - # of packs	
First three months of pregnancy - # of cigarettes		OR - # of packs	
Second three months of pregnancy - # of cigarettes		OR - # of packs	
Last three months of pregnancy - # of cigarettes		OR - # of packs	

Exhibit 7: Screen Showing Disabled Fields Based on Selection.

M17 Cigarette Smoking			
Did mother smoke three months before or during pregnancy?	Yes v		
Three months before pregnancy - # of cigarettes		OR - # of packs	
First three months of pregnancy - # of cigarettes		OR - # of packs	
Second three months of pregnancy - # of cigarettes		OR - # of packs	
Last three months of pregnancy - # of cigarettes		OR - # of packs	

Exhibit 8: Screen Showing Enabled Fields Based on Selection.

When saving a record, the warning page alerts the user of fields not completed as shown below, where the medical certifier has not completed all the required medical information.

VRISM Warning	
The record you are trying to save is UNFINISHED.	
All of the following fields are required for a FINISHED record.	
ATTN: MEDICAL CERTIFIER - The following information must be entered to complete the medical information section. Fix all the following:	
Was medical examiner contacted must be answered	
Field Group Description:	Was medical examiner contacted must be answered
Manner of death must be selected	
Field Group Description:	Manner of death must be selected
Autopsy must be answered or select Unknown	
Field Group Description:	Autopsy must be answered or select Unknown
Did tobacco use contribute to death must be answered	
Field Group Description:	Did tobacco use contribute to death must be answered

Exhibit 9: Screen Showing Warning Screen When Saving a Record with Links to Return to the Record.

The VRVcloud application also provides the ability to print various forms related to an individual's record at the time the record is saved without having to go to a separate menu option (only presenting forms as necessary), and the ability to start a multiple delivery (i.e., birth to birth, birth to fetal death, fetal death to birth, or fetal death to fetal death) copying data that is common on both records from one record to the next to streamline and eliminate redundancy, as shown below.

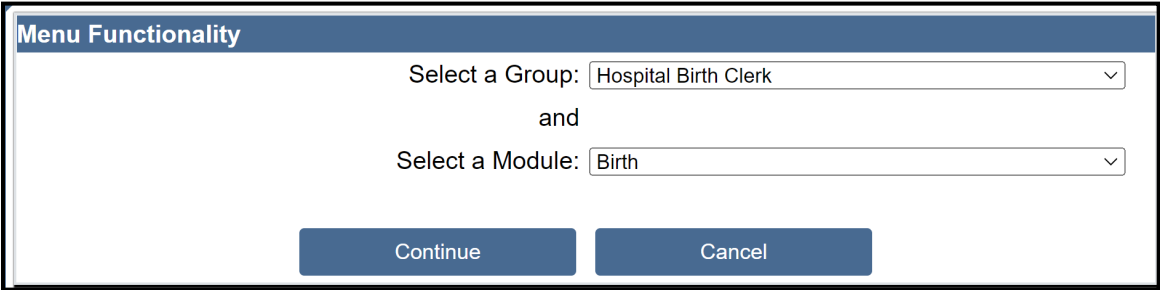
Users: The VRVcloud application has a robust and secure user management system that ensures authorized access to sensitive data, protects against unauthorized access and data breaches, and supports efficient user onboarding, authentication, and profile management. For user onboarding the State will be expected to authenticate new users prior to granting access. Once they are authenticated, onboarding is simply adding the user to the application using the VRVcloud profile management interface. This will include adding the user's name and information along with assigning the user to the proper role. Once the user is added an email is sent to the user that allows them to add/verify user information and passwords or PIN. Once the user performs those tasks, they can access the VRVcloud application and begin performing work. The role the user is assigned will determine what data the user has access to, thus ensuring only authorized access to sensitive data is maintained. The VRVcloud application has a number of user authentication processes to guard against unauthorized access and data breaches. For example, if the State is using a single sign on process Mantech can integrate with it. In our latest implementation we integrated with the State's OKTA single sign on process. In other

implementations we have integrated with Active Directory and proprietary State sign on processes. Mantech will work with the State to identify the requirements for user authentication and will implement those requirements.

System Admin: Using the *VRVcloud* application centralized administrative interface security provides granular configuration to ensure internal and external users can access, collect, store, and report all required data and perform all functionalities of their assigned User Role while preventing them from accessing data if it is not in line with their User Role. To support this security, users authorized to set up and manage user accounts assign users to groups and locations. Groups (roles) may include, OVR administration, hospital birth staff, funeral home data entry, funeral directors, physician data entry, physicians, etc. Locations are the State office, hospitals, funeral homes, etc.

Each user of the system must exist at a defined location, and locations at a given level have ownership of records. A location must exist for each entity that can own a record, or a specific section of a record. Using the Birth module as an example, ownership automatically takes place for a hospital when creating a record at that hospital. Each hospital can only view and update records that they own. The State may view and update records for any hospital.

Functions such as adding, updating, and printing documents related to their duties, that are available to users, are assigned as part of the *VRVcloud* security configuration process. The following two screenshots show how this functionality is configured. First the Group and Module are selected.



The screenshot shows a dialog box titled "Menu Functionality". Inside, there are two dropdown menus. The first is labeled "Select a Group:" and has "Hospital Birth Clerk" selected. Below it is the word "and". The second dropdown is labeled "Select a Module:" and has "Birth" selected. At the bottom of the dialog are two buttons: "Continue" and "Cancel".

Exhibit 10: Screen Showing How to Select a Group and Module to then Select Functionality for the Group.

Next the functions and features that will be available to the selected Group are selected. Only those selected can be executed.

<u>Group: Hospital Birth Clerk</u>			<u>Module: Birth</u>
YES ☐	NO ☐	Menu Description	Functionality Description
☐	☒	Birth - Batch Send to FileNet	Birth Batch Send to FileNet
☐	☒	Birth - Create - AIRS	Add Older Birth
☐	☒	Birth - Create - Foreign Born	Add Foreign born Adoption Record
☐	☒	Birth - Create - IJE	Birth - Create - IJE
☒	☐	Birth - Create - Multiple - From Birth	Add Multiple Birth Record
☒	☐	Birth - Create - Multiple - From Fetal Death	Add Multiple Birth Record From Fetal
☒	☐	Birth - Create - New	Add Birth Record
☐	☒	Birth - Create - Paper	Birth - Create - Paper
☐	☒	Birth - Export	List exports for a user
☐	☒	Birth - Import	List imports for a user
☒	☐	Birth - Maintain - Cancel	Abandon Birth Record

Exhibit 11: Screen Showing Assigning Functionality to the Group for the Module.

Audit Logs: All users and user functions are maintained in the VRVcloud application, allowing the State to administer user roles and permissions to promote a secure environment. An authorized user can add or edit users and alter roles to add or edit functionality of the role (e.g., the ability for the user to view audit logs of system activity).

The VRVcloud application includes a comprehensive, automated, and complete detailed audit trail and logging of all user activities and data modifications performed on the record. The audit trail includes the end user who performed the activity on the record, data that was changed, the date/time of the change, along with other audit trail information in order to perform traceability of any changes and to ensure data integrity, regulatory compliance and to support data analysis. Below is an example of a report a state user generates to view certain modifications done to records, such as corrections, amendments, adoptions, court paternity, and legitimation after a record has been registered.

TENNESSEE DEPARTMENT OF HEALTH					
UPDATE AUDIT REPORT					
Date Range: 01/01/2022 - 01/31/2022					
07/28/2022		Total Records: 6			
FUNCTION	SFN	LAST UPDATE	USERID	DATE OF BIRTH	CHILD'S NAME
COURT PATERNITY	000183	01/12/2022	80	11/23/2021	OPHELIA O'BRIAN-CP
ADOPT	000187	01/20/2022	1	11/23/2021	OSCAR ADOPT
LEGITIMATION	000184	01/12/2022	80	12/10/2021	RYAN JONES-LEGIT
ADOPT	000185	01/12/2022	80	12/10/2021	HENRY JONES-ADOPT
AMEND	000004	01/25/2022	227	01/19/2022	ROBERTA PRACTICE
ADOPT	000008	01/21/2022	1	01/21/2022	PURPLE FINCH

Exhibit 12: Screen Showing an Audit Report.

Below is another example of a report that provides the state user more information related to various types of modifications:

CASEBOOK REPORT							
Date Range: 03/01/2022 - 07/28/2022							
07/28/2022		Total Records: 12					
CASE ENVELOPE	OLD SFN	SFN	CHILD'S NAME	DATE OF BIRTH	COURT COUNTY/STATE	ACTION	REMOVAL DATE
1233211231	000003	000019	MICHAEL MICHEALSON-ADOPT	01/01/2022	DAVIDSON/TENNESSEE	A	04/25/2022
1264987313	000048	000049	ROBERT TEST	05/20/2022	/	L	05/24/2022
1987316731	000030	000031	GEORGE OVERTON-ADOPT	05/01/2022	DAVIDSON/TENNESSEE	A	05/09/2022
3216879831	000041	000042	PAULA JONES	05/01/2022	DAVIDSON/TENNESSEE	P	05/16/2022
6543218497	000022	000023	ROBIN FREDERICKSON-CP	04/01/2022	DAVIDSON/TENNESSEE	P	05/09/2022
6543218548	000020	000021	NANCY UMBRELLA-ADOPT-AMEND	01/11/2022	DAVIDSON/TENNESSEE	A	05/05/2022
6843198781	000034	000035	GEORGE OVERTON-ADOPT	05/01/2022	DAVIDSON/TENNESSEE	A	05/11/2022
6873168731	000032	000033	DANIEL BOONE	05/01/2022	DAVIDSON/TENNESSEE	P	05/09/2022
852268852	000009	000012	VICTOR PRACTICE	01/21/2022	DAVIDSON/TENNESSEE	A	03/04/2022
8735168784	000039	000040	ROBIN-ADOPT-AMEND WOLFE-CP-AMEND-LEG-AMEND	05/11/2022	DAVIDSON/TENNESSEE	A	05/13/2022
9843216879	484848	000108	NEW-ANDREW AIRS-ADOPT	01/01/2017	DAVIDSON/TENNESSEE	A	05/11/2022
9847819874	000024	000025	SUSAN ADOPTBUCKLY	05/01/2022	DAVIDSON/TENNESSEE	A	05/09/2022
TOTAL ADOPTION:			8				
TOTAL LEGITIMATION:			1				
TOTAL PATERNITY:			3				

Exhibit 13: Screen Showing Another Audit Report.

In addition to the data modifications maintained in the audit trail, Mantech's configuration change control process ensures that all customizations made to the *VRVcloud* application and environment for the State are documented, tested, and properly approved. Mantech maintains a strict configuration change control process to prevent incorrect customizations to the application or environment, and to ensure no previous customizations are lost. The *VRVcloud* application source code is maintained using Git version control to ensure previous customizations are not lost, and to maintain all versions of the application that have been placed into production. This ensures a complete audit log of every change to the *VRVcloud* application is maintained. No automated changes are made to the *VRVcloud* application and Mantech does not place software customizations of the *VRVcloud* application into State's environment without prior consent of the State. An additional benefit to the State is Mantech does not require or force the State to take software customizations of the *VRVcloud* application that were made for other States. Any customization made to the *VRVcloud* application will be reviewed with the State, and the State will determine if it is a customization they want included in the Nebraska version of the *VRVcloud* application. Each new release of the Nebraska *VRVcloud* application is accompanied with release notes documenting all changes made to the application and environment. Prior to the release, Mantech reviews the release notes with the State and only after approval can the release move forward.

All Modules: Mantech's *VRVcloud* application is a thorough and intuitive data management solution that empowers users to efficiently manage, validate, and process records and orders, securely handle electronic signatures and communications, ensure data integrity and regulatory compliance, and streamline workflow management for enhanced operational efficiency and decision-making capabilities. Mantech's *VRVcloud* application provides a comprehensive (all modules) and robust web-based solution for vital record management that is intuitive, efficient, and user friendly while adhering to NCHS standards. The look and feel between modules is consistent, making it easier to enter and process vital events, empowering users to efficiently manage, validate, and process records and orders. The *VRVcloud* user interface provides a non-cumbersome entry process that allows the user to enter data without having to remember to validate the data on each screen, ensuring data integrity, accuracy, and regulatory compliance throughout the entire event lifecycle, from recording, processing, correcting, and amending. The

VRVcloud monitors the data being entered through built-in real-time edits and automatically notifies the user when there is a data issue without the user having to remember to click on a button to validate the data on the screen (unlike other vendors). The VRVcloud approach allows the user to move quickly and smoothly between screens as it checks the data being entered. The key design standards and the determination of the best design are all end-user/State driven. Mantech has taken feedback for over 20 years from vital records end users and State users and has incorporated that feedback into our VRVcloud application. The VRVcloud application will enable the State to improve customer service with streamlined work processes, increase efficiency with easy-to-use screens and workflows, reduce costs by replacing manual process with automated processes, and enhance security with AWS security tools. The VRVcloud already adheres to State and Federal guidelines for vital records, including FHIR transmission of data.

All Vital Event Registration Modules:

Mantech's VRVcloud application is a comprehensive and robust vital event registration and management system that adheres to NCHS standards and ensures data integrity, accuracy, and regulatory compliance throughout the entire vital event lifecycle, from recording to registration, processing, and amendments. VRVcloud is comprised of Birth, Death, Fetal Death, Marriage (including Same Sex and Civil Partnership), Divorce, Induced Termination of Pregnancy, Customer Service (Point of Sale or Issuance), and Infant Hearing modules with a complete end-to-end solution for each module from the data provider to all back-office functions. All these modules are currently executing in production environments.

Order Management Module:

The VRVcloud application has an intuitive, efficient Customer Service (sometimes called issuance or order management) module to process all certificate requests, including mail in requests, walk in requests, and electronic requests. The VRVcloud application seamlessly captures all the transaction information about the order placement in a robust and user-friendly vital event certificate ordering and management system, along with tracking and recording secure payments made. This includes the secure payment handling of the payment type which includes check, credit card, money orders, cash payments, or other configured methods of payment. Mantech will produce the Final Design Document covering four primary functional requirement areas: Detailed Design, Workflow, Printed Output, and Import/Export. Together these artifacts will document "how" the State's requirements will be met. The Detailed Design document includes details concerning every data entry screen element. This includes all the screens for the processing walk-in or State processing of the order and the collection of checks, money orders, or cash. The Printed Output document describes everything printed on each printed artifact, including all reports. This includes the batch process report to be sent to the Business and Financial Services Division for reconciliation.

When processing an order, the VRVcloud application can send and receive data from the VitalChek servers for authorizing credit cards and update the VRVcloud order with the information, and it can also accept electronic certificate orders from VitalChek for processing within the VRVcloud application. The VitalChek certificate orders are placed in a queue to allow the State to fulfill the request. Additionally, the VRVcloud application can be configured to provide a link to the funeral home that directs them to the VitalChek site for them to submit orders for certificates that are paid for with credit cards, thus allowing them to serve their customers efficiently.

The screenshots below show a walk-in order with the information collected, including who is making the request, the reason, the amount will be shown when processing the request since multiple requests can be combined into a single request, and the request type which in this case is for a birth record. When processing the payment, the selection of the type of payment is entered, and VRVcloud supports check, money order, or cash along with other payment types.

Order Application / General Information

Order Initiation Info Location: DESK OF KATE Date started: 03/03/2022 16:25:26 Customer order number (system): 686273		Requester Info Frequent: BENTON COUNTY COURT Funeral home: Select Funeral home name: Agency/company line 1: COURT Agency/company line 2: BENTON COUNTY COURT *First name: JUDY Middle name: *Last name: TANNER Suffix: Select Address: 7122 W. OKANOGAN PL. Unit #: Countries: Select Country: UNITED STATES States/provinces: Select State/province: WASHINGTON Cities: Select ☐ City not in list City: KENNEWICK Zip code: 99336 Validation result code: Validate address: Validate Accept verified address:	
Order Info *Order origin: Counter *Delivery method: Priority-USPS Tracking number: Fee number: 124597 Fee date: 03/08/2022 ID method: GOVERNMENT ID ☒ ID verified Order status: Open ☐ Check this to reopen the order ☐ Check to void this order			
*Records Requested Number of Birth records requested: 1 Number of Death records requested: Number of Fetal Death records requested: Number of Marriage records requested: Number of Divorce records requested: ☐ Split this order			
Comments Regarding this Order New comment: Add comment			

Exhibit 14: Screen from Order Management Showing a Walk in Order.

Instructions ☐ Complete Request Information sections (a last name and date of birth are required) and then click the Search button.		Status of this Request ☐ Void this request Status of this record request: Open ☐ Refund complete ☐ Request denied Primary reason for denial: Select	
Request Information - Full Name on Certificate First Middle Last FRANKLIN FRANKS		Match Information - Full Name on Certificate First Middle Last FRANKLIN FRANKS	
Request Information - Date and Place of Birth Date of birth City of birth County of birth 09/23/2020 DAYTON COLUMBIA		Match Information - Date and Place of Birth Date of birth City of birth County of birth Country of birth 09/23/2020 DAYTON COLUMBIA UNITED STATES	
Request Information - Mother/Parent Name First Middle Last HAENRIETTS FRANKS		Match Information - Mother/Parent Name First Middle Last HAENRIETTS FRANKS	
Request Information - Father/Parent Name First Middle Last HARVEY ALAN SHIPLEY		Match Information - Father/Parent First Middle Last HARVEY ALAN SHIPLEY	
Search Search Matched ☐ No index available		Deliver to ☒ Requestor Number of copies: 0 ☐ Payee Number of copies: 0 ☐ Other Number of copies: 0	
Record Information (SFN) (Issue hold) (DNI) (DNI comment) 202000023R P Y ... Unable to issue, contact CHS ...		Name and Address for Other Recipient Name: Street address: Apartment number: Countries: UNITED STATES Country: UNITED STATES States/provinces: Select State/province: City list: Select City: Zip code: Validation result code: Validate address: Validate	
Products Ordered Birth certificate: 1 VA claim copy: 0 Apostille: 0 Country: Heirloom: 1 Parentage sealed file: No Original birth certificate birth parent: 0 Parentage verification letter: 0 Original birth certificate adoptee: 0 Adoption sealed file: No Confidential birth info: 0 Sealed file CI: 0 Homeless person's birth certificate: 0 Informational birth copy: 0			
Eligibility ID verified: Y ID verification method: GOVERNMENT ID Relationship: PARENT ☒ Eligibility verified			
Products Delivered ☐			

Exhibit 15: Additional Screen from Walk In Order.

The VRVcloud application Customer Service module was developed based on a cash accounting system. For example, at the end of each day a cash register report is run to identify the amount of cash, checks, money orders, and credit card transactions that should be held by each customer service window and mail processing station to reconcile receipts at the cash drawer level and provide summary data for all the cash drawers. The report will be configured to contain all the State's requirements for data on the report. Additionally, a monthly report can be run to identify the amount of fees collected including invoices generated, less refunds. A separate report can track invoice payments, and another report lists transactions recorded in a given month but not yet completed. Mantech will produce the Final Design Document covering four primary functional requirement areas: Detailed Design, Workflow, Printed Output, and Import/Export. Together these artifacts will document "how" the State's requirements will be met. The Printed Output document describes everything printed on each printed artifact, including all reports. All the reconciliation reports will be documented in the Printed Output document and implemented to meet the State's requirements.

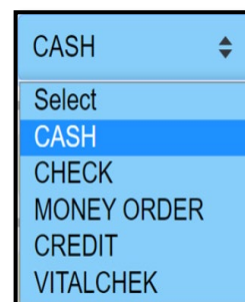


Exhibit 16:
Screen Showing
Payment
Options.

Reports: The VRVcloud application has an all-inclusive and flexible reporting and document management system with two basic types of reports; static pre-defined (canned) reports/documents and ad hoc reports/documents. Reports are created/maintained with our Dynamic Reports tool. The Dynamic Reports tool is used to create both predefined and ad hoc reports that can be viewed, printed, saved for future use, and shared with other users. Saved reports can be customized or replaced by the State to meet changing needs. Reports can include any data found in the system. Some of the parameter driven options and capabilities of our Dynamic Reports tool are:

- Drag and drop capability for users to effortlessly and generate customized reports.
- Query generation tool.
- The ability to add custom SQL for more advanced users.
- The ability to publish ad hoc report/document results to a variety of formats including MS Office (Word, Excel, etc.), HTML, CSV, and PDF.
- Access to the data dictionary.
- Header and Footers.
- Ability to summarize and calculate enabling data-driven decision making.

There is no need to deliver a new code base to make new or modified reports available to users. Parameters such as date ranges or other date can be defined that will be entered when a user executes the report along with the report format to ensure the report includes only selected data. Once completed, the report's final version can be made available to end users, including all necessary security components to ensure only authorized users have access to the report. The VRVcloud Dynamic Reports tool also has analytical reporting capability to produce automatic calculations such as frequency and summary reports, including summaries, counts, and time-based analysis. Using the VRVcloud Dynamic Reports tool, custom data reports and extracts from the master file(s) can be defined, saved, and even made available to additional users. For example, a report can be created to identify exceptions in selected records (low birth weight) within a selected timeframe (last 6 months) and it can be produced in PDF as a report or saved in Excel as an extract. Additionally, ad hoc reports can also be used to produce various audit reports. Mantech works with the State to identify predefined reports, and we configure and implement them in the VRVcloud application for the State as part of our development effort. Mantech also assists the State in creating ad hoc reports.

Because of our Dynamic Reports tool, there is no need to purchase and integrate a third-party reporting tool. Some vendors exclusively use third-party tools for their ad hoc reporting, however using these tools requires the State to purchase a separate license, and separate administration/training for the report tool. Additionally, these tools are either not able to enforce security within the application (access to records) because they are “outside” of the application security confines, or they must off-load records that the user is allowed to view into a separate table that the reporting tool executes against.

The VRVcloud application streamlines the document creation process by tailoring the State’s document forms, letters, permits, and worksheets, based on the requirements for those items across all modules (birth, death, fetal death, marriage, divorce, and ITOP). The VRVcloud application provides the ability for the user to generate pre-defined documents, customized certificates, letters, permits, reports, and forms based on their user role to enhance operational efficiency. The ability to print is not only from the menu option, but during the workflow of the record where the option to print is presented to the user, if applicable. For example, if a voluntary acknowledgement of paternity form was required at the time of the birth, the VRVcloud application automatically presents the form to the user at the hospital upon saving the record so that the form may be populated with data from the record and presented to the parents for signature as shown below.

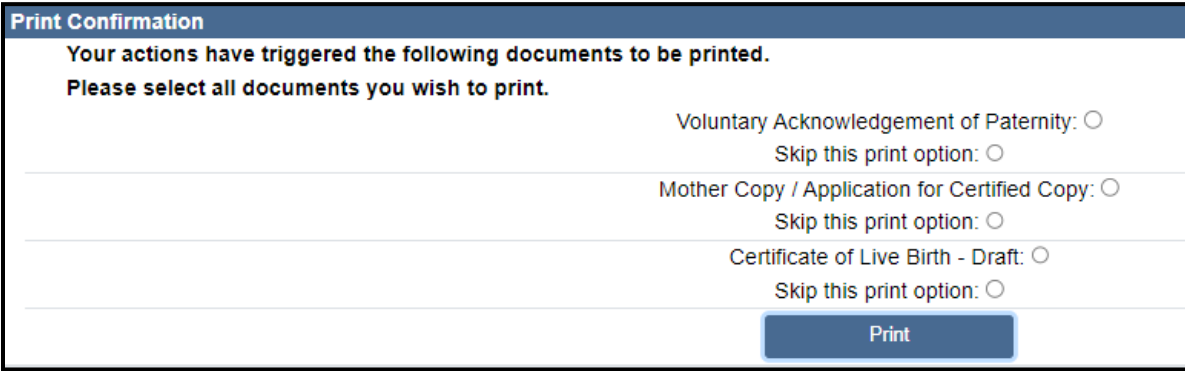


Exhibit 17: Screen Showing How Forms Can Be Printed After Saving the Record.

When defining the printed outputs (letters, certificates, reports, etc.), the types of outputs are documented. For example, some outputs will be defined to be delivered in PDF, some in Word or Excel including allowing user to enter free form text within the letter as needed. Below is a list of some letter templates used by another state:

1010. Social Security Amendment Verification (422-127) - BC – SSA/Amendment Verification
1011. Confidential Birth Response Letter - CB – Confidential Birth Response Letter
1012. Incomplete Paternity Acknowledgment - P – Incomplete Paternity Acknowledgment
2010. Query Letter - Query Letter
2011. Death Letters - Print Death letter from POS
2012. Death Amendment Letters - Print Death Amendment letter from POS
3011. Marriage Letters - Print Marriage letter from POS
3012. Marriage Amendment Letters - Print Marriage Amendment letter from POS
2064. Query Medical Certifier - Query Medical Certifier
2065. Query Medical Facility - Query Medical Facility
5006. Fetal Death Crematory Letter - MEMO that certificate of fetal death is submitted for registration
5011. Fetal Death Letters - Print Fetal Death letter from POS
5012. Fetal Death Amendment Letters - Print Fetal Death Amendment letter from POS
5016. Legacy FetalDeath Print History - Legacy FetalDeath Print History
10108. No ID Letter Adoptee Check Cashed - No ID Letter Adoptee Check Cashed - Blank Form

Exhibit 18: Screen Showing Some Printed Outputs for the User.

Integration: The VRVcloud application will securely exchange data with various external state and federal agency systems for sharing related data, using FHIR when the agency systems can accommodate it. The VRVcloud application has a robust, user friendly service for file generation (export/import) capability to produce and consume exports/imports. When agencies do not utilize FHIR Mantech has provided custom integration using XLS, CSV, XML, TXT, RTF, PDF, IJE, JSON, or HL7. Additionally, the VRVcloud application utilizes secure web services, including Mantech exposing customized web services to external agencies for the exchange of data.

The VRVcloud application already streamlines the ability to exchange data with the latest versions of STEVE, Electronic Verification of Vital Events (EVVE), Online Verification System (OVS) from SSA, Validation and Interactive and Edits Web Service (VIEWS), medical and statistical software such as SuperMICAR, ACME, TRANSAX, and Standardized Occupation and Industry Coding (SOIC), and VitalChek. The results of the data exchanges provide data analysis on the exchange, and ensure accurate, timely, and secure data exchanges.

Mantech will configure the exchange of data based on the requirements of the entity we are exchanging data with. Mantech has integrated numerous State agency data exchanges and we will integrate the State agency interfaces to ensure the exchange of data meets the State's requirements

Analytics Tool: Mantech's goal is to eliminate the entry of data duplication during data entry. When the user enters the required information on this first screen when entering a vital record, the system performs a duplicate check by searching records already in the database to determine if the record may already exist. The information used for this search is determined by the State, and it typically includes more than one type of search. For example, while most records may use a search based on name and date of birth, a different set of criteria may be used for foundling or safe haven babies. If no potential duplicate record is found, the user may continue to add information to the record. However, if a potential duplicate is found, the user is notified as shown below. The user can decide to continue entry of the record, or they can abort entry to avoid duplicate entry:



The screenshot shows a 'WHALES Warning' dialog box. At the top, it says 'Please verify this is not a duplicate record.' Below this, there is a table with three columns: 'Criteria by which record was matched:', 'Module', and 'Click a link to see existing record's details'. The first row contains 'Birth Duplicate Check (by name) (Record #1):', 'Birth', and '(Details)'. At the bottom of the dialog, there are two buttons: 'IGNORE AND CONTINUE ENTRY' and 'ABORT ENTRY OF RECORD'.

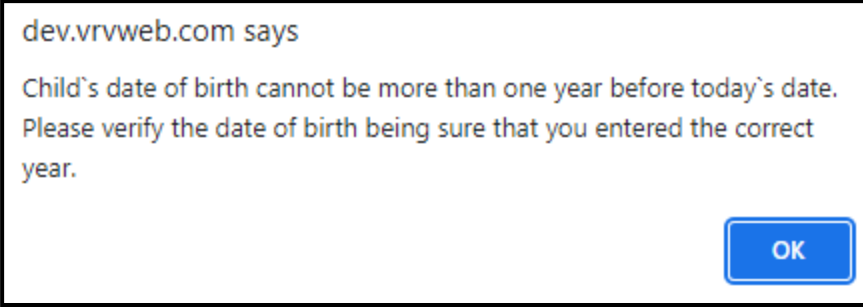
Criteria by which record was matched:	Module	Click a link to see existing record's details
Birth Duplicate Check (by name) (Record #1):	Birth	(Details)

IGNORE AND CONTINUE ENTRY ABORT ENTRY OF RECORD

Exhibit 19: Screen Showing Duplicate Check Confirmation.

Additionally, Mantech's solution includes integration with a powerful data analytics tool -AWS QuickSight. AWS QuickSight empowers users to identify data duplication, discrepancies, anomalies, and trends to allow deeper understanding of the State's data by asking natural language questions, exploring interactive dashboards, or even enabling pattern detection by machine learning. This could benefit the State by allowing additional capabilities beyond those requested. For example, QuickSight allows forecasting where the State can forecast scenarios such as deaths by Covid in the next 12 months. QuickSight can automatically analyze historical data using machine learning and provide a graphical forecast for future periods. Additionally, states have us create Annual tables at certain times each year when they "close" their files. What this does is freeze the data for that year in a separate table while the production data remains available for amendments, etc. Using QuickSight the State will be able to perform trend analysis, comparing multiple years' worth of data for forecasting and perform what if scenarios. QuickSight will allow enable data driven decision making, enhanced data quality, and improved operational efficiency.

Help: The VRVcloud provides comprehensive, context-sensitive user assistance that provides seamless user onboarding. Online help comes in different forms, from prompting the user with edit messages when performing data entry, to user manuals available in the VRVcloud application. Online help also consists of numerous edits including, recommended NCHS edits that are available to the state immediately. Mantech will also work with the State to define the State specific edits that will notify the user when their action is outside the normal range for processing. For example, the State may not allow birth records to be filed as a standard certificate of birth where the birth occurred over one year from the date the record is being entered. Below is the



The screenshot shows a message box from 'dev.vrvweb.com says'. The text inside reads: 'Child's date of birth cannot be more than one year before today's date. Please verify the date of birth being sure that you entered the correct year.' There is an 'OK' button at the bottom right.

dev.vrvweb.com says

Child's date of birth cannot be more than one year before today's date.
Please verify the date of birth being sure that you entered the correct year.

OK

Exhibit 20: Screen Showing Hard Edit.

hard edit message that is presented to the hospital birth clerk that the date of birth is outside the normal range and to check their entry. All edit messages can be modified to meet the State's requirements, and the edits are configurable by the State to allow them to quickly add, delete, or edit a message.

Hover text is presented when a user places their cursor over the field name as shown below:

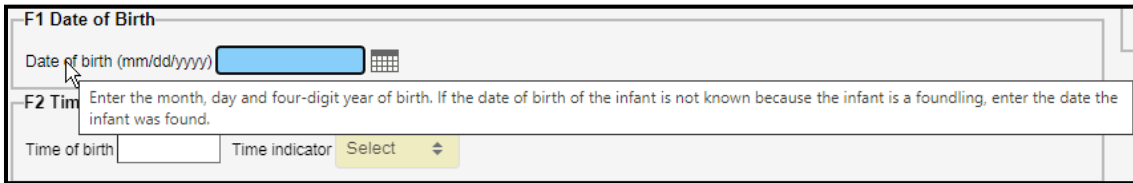
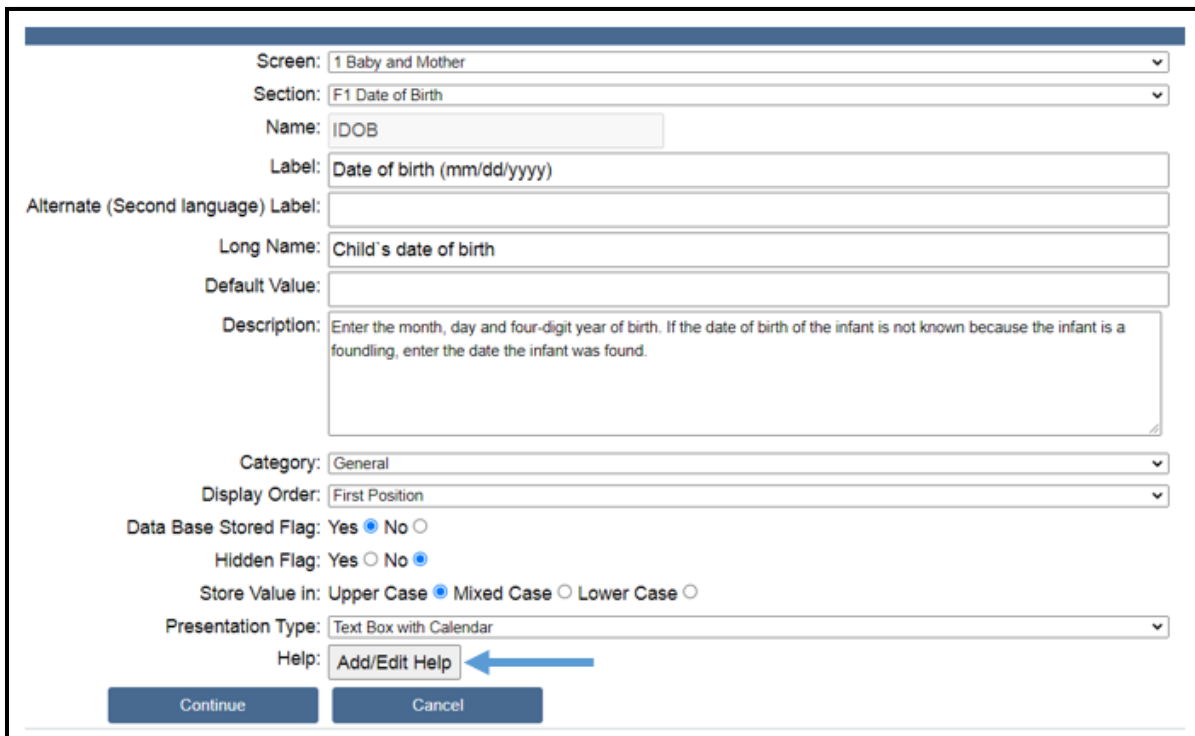


Exhibit 21: Screen Showing Hover Text.

Users are consistently guided by the application during data entry to avoid invalid and inconsistent data, ensuring effective troubleshooting while resolving data issues. The VRVcloud is configurable, allowing the State to make quick changes based on user responses. For example, if a number of users are entering Unknown for an entry, the help can be configured to display a message that *Unknown is an unlikely response and to review the worksheet for a valid response*. The configuration can be done in minutes and deployed, with no need for a build or code change, and the help message is immediately displayed to users to provide improved data quality. Help text messages are set up through the field configuration screens as shown in the following two screenshots.



Screen: 1 Baby and Mother

Section: F1 Date of Birth

Name: IDOB

Label: Date of birth (mm/dd/yyyy)

Alternate (Second language) Label:

Long Name: Child's date of birth

Default Value:

Description: Enter the month, day and four-digit year of birth. If the date of birth of the infant is not known because the infant is a foundling, enter the date the infant was found.

Category: General

Display Order: First Position

Data Base Stored Flag: Yes ☒ No ☐

Hidden Flag: Yes ☐ No ☒

Store Value in: Upper Case ☐ Mixed Case ☒ Lower Case ☐

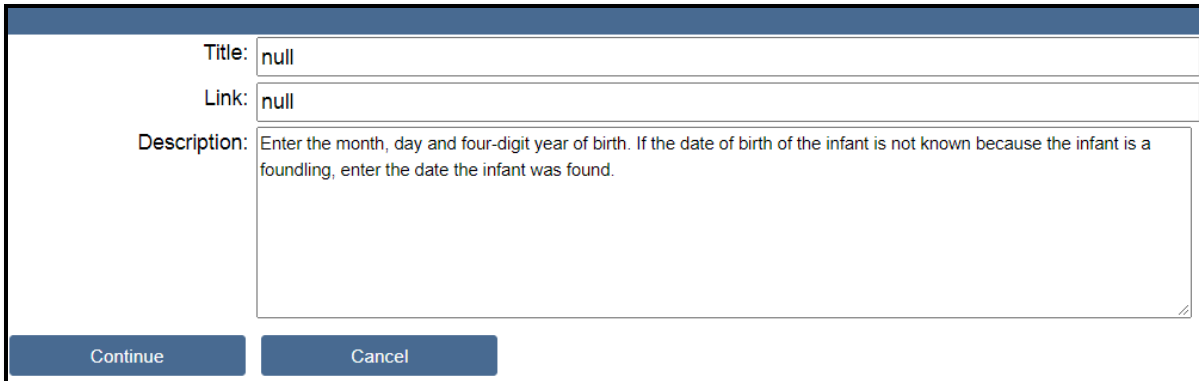
Presentation Type: Text Box with Calendar

Help: Add/Edit Help

Continue Cancel

Exhibit 22: Screen Showing Field Definitions That Can Be Configured.

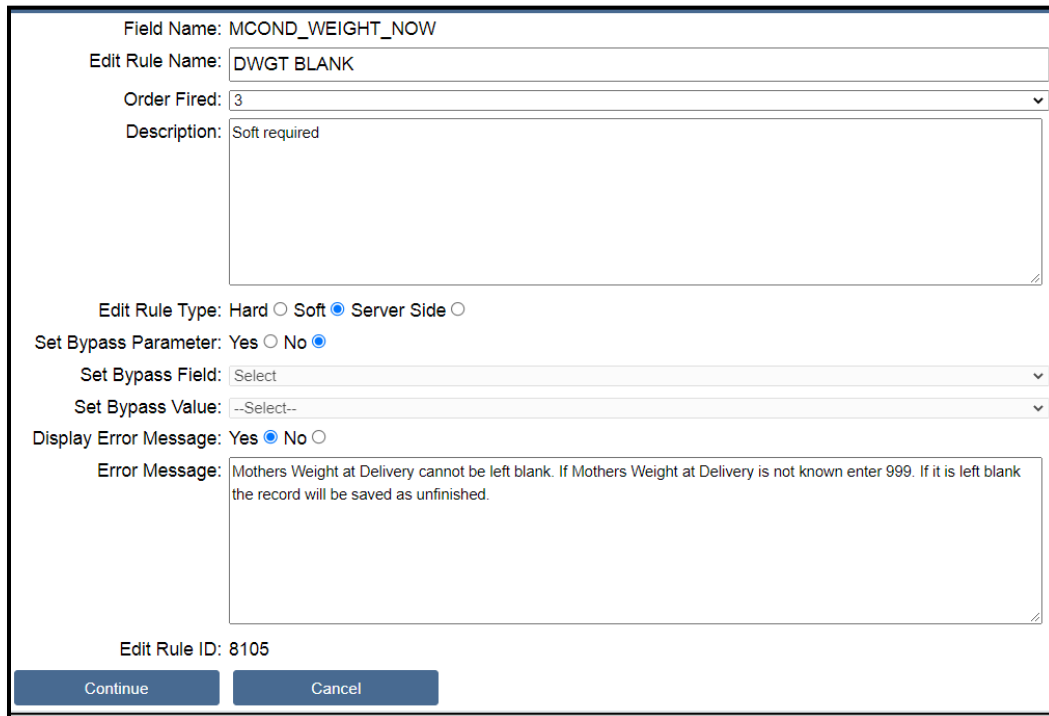
The user clicks on Add/Edit Help and enters the help text that the user will see on the screen as shown below:



This screenshot shows a configuration screen for an edit message. It includes fields for Title and Link, both set to 'null'. A Description field contains the text: 'Enter the month, day and four-digit year of birth. If the date of birth of the infant is not known because the infant is a foundling, enter the date the infant was found.' At the bottom are 'Continue' and 'Cancel' buttons.

Exhibit 23: Screen Showing Edit Message that is Configured.

In addition to the hover text, soft and hard edits are developed to provide helpful information to the user as the user enters a record through the field configuration screen. Below is an example of the soft edit rule being set up in the field configuration screen that will inform the user that the field must be completed, or the record will be saved as unfinished.



This screenshot shows a detailed configuration screen for an edit rule. The Field Name is 'MCOND_WEIGHT_NOW' and the Edit Rule Name is 'DWGT BLANK'. The Order Fired is set to 3. The Description is 'Soft required'. The Edit Rule Type is set to 'Server Side' (selected). The Set Bypass Parameter is 'No' (selected). The Set Bypass Field is 'Select' and the Set Bypass Value is '--Select--'. The Display Error Message is 'Yes' (selected). The Error Message text is: 'Mothers Weight at Delivery cannot be left blank. If Mothers Weight at Delivery is not known enter 999. If it is left blank the record will be saved as unfinished.' The Edit Rule ID is 8105. At the bottom are 'Continue' and 'Cancel' buttons.

Exhibit 24: Screen Showing the Configuration an Edit Message.

Below is an example of what the user sees during entry of the record. The message is also informing the user if the weight at delivery is not known, to enter "999". All hover text, and soft and hard edit texts are configurable to meet the State's requirements and can be edited or even removed at any time by the state without a new release.

Vrism - Vital Records	
Birth -- First: ROBIN Last: WOLFE Date of birth (mm/dd/yyyy): 06/01/202 F28 Mother's Weight at Delivery Weight at delivery (pounds) F29 Characteristics of Labor and Delivery (Check all that apply) ☐ Induction of labor	dev.vrvweb.com says Mothers Weight at Delivery cannot be left blank. If Mothers Weight at Delivery is not known enter 999. If it is left blank the record will be saved as unfinished. Click OK to continue to the next field, click CANCEL if you would like to correct your entry. OK Cancel

Exhibit 25: Screen Showing Soft Edit Message.

Helpful context can also be placed directly on the screen as seen by the example below, where information is provided to the user to guide them in completing the cause of death information.

28. Cause of Death PART I.
****Enter the chain of events (diseases, injuries, or complications) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. Enter only one cause on a line. DO NOT ABBREVIATE.****

☐ Cause of death pending
☐ Cause could not be determined

IMMEDIATE CAUSE (Final disease or condition resulting in death)

a.

Due to (or as a consequence of)

APPROXIMATE INTERVAL:
 Onset to death

Sequentially list conditions, if any, leading to the cause listed on line a.
 Enter the **UNDERLYING CAUSE** (disease or injury that initiated the events resulting in death) **LAST**.

b.

Due to (or as a consequence of)

c.

Due to (or as a consequence of)

d.

Due to (or as a consequence of)

28. PART II.
Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART I.
 Use a semicolon to separate other multiple causes contributing to death in the textbox below. Do **NOT** use the Enter key.

Rare Cause Alert
 If a rare cause of death warning appeared at the top of this tab the cause(s) listed is considered a Rare and Unusual cause of death and requires confirmation from National Center for Health Statistics. Has this rare cause(s) been confirmed by medical testing?

Exhibit 26: Screen Showing Death Entry with Helpful Context.

The VRVcloud has three methods for to check spelling. First, the VRVcloud is integrated with VIEWS2 which performs edits and spelling checks on the cause of death fields. VIEWS2 can be configured to automatically execute during data entry and returns spelling suggestions from VIEWS2 to the user so they may take action. The second method is that the VRVcloud uses the Microsoft Word dictionary to perform spell checks on text fields. This dictionary is available to the State, and they can maintain the dictionary by adding or removing entries. The third method is

through a medical dictionary where the spelling can be checked against common medical terms, again this is through the Microsoft Word dictionary that the State can maintain. For the second and third method the spell checking is performed by a user selecting the spell checker icon next to the field to perform the spell check. It has been our experience that forcing spell checking, other than the cause of death fields, on the user is not preferable but if the State desires it, the spell checker can be invoked automatically on specified text fields.

For online help, the user guides (which are tailored to specific user roles, tasks, and contexts) are available online with a link to the guide, and any tutorials or specific documentation the State may want to develop can also be hosted in the cloud and accessed via a link that is displayed in the VRVcloud application. Additionally, the dashboard has configurable notes to display to users, and often a Frequently Asked Question (FAQ) document can be displayed in the dashboard.

Project Requirements [RFP VI A.4]

Functional Specifications [RFP VI A.4.a]

Please see Attachment 1 - Functional Specifications.

Technical Specifications [RFP VI A.4.b]

Please see Attachment 2 - Technical Specifications.

Project Initiation [RFP VI A.4.c]

Kick-off Event, Documentation, Review and Approval [RFP VI A.4.c.i]

Mantech will coordinate an initial kickoff meeting via teleconference no later than two weeks after contract execution. Mantech's key staff and relevant State Unit project staff will attend. During the meeting Mantech will conduct introductions, along with reviewing the scope, goals, established timeline, and project details. Mantech will discuss roles and responsibilities for project resources and will establish initial communication channels (the communications plan will detail project communications). Technology tools will be initially discussed and further documented in relevant plans. Mantech will create kickoff documentation of all items ascertained in the meeting to be disseminated, reviewed, and approved (signed off) by the State.

Develop a Detailed Project Plan [RFP VI A.4.c.ii]

Mantech will deliver a project plan that will exceed the State's requirements. The project plan will include all the State requirements. Mantech will develop a detailed project plan to outline the project goals, tasks, scope, deadlines, and deliverables. The plan will include key project elements and finalization of project details. Mantech will maintain the project plan throughout the project life cycle and will review the plan with the State in regular weekly status meetings. If a change is made to the plan following the initial signature, the plan will be reviewed and electronically signed by the selected Unit stakeholder to accept the changes to the plan.

The project plan will break the project implementation into manageable tasks with an owner and if appropriate estimated time commitment. Mantech will work with the State to document State tasks in the plan, will highlight when, and what, Unit involvement is necessary to allow the Unit to best plan for resources. The project plan will categorize tasks into phases, or stages, to create a hierarchical structure by documenting critical paths in the project plan.

The project plan will outline specific required tasks and deadlines that need to be met throughout the project. Included will be major tasks or deliverables that need to be completed timely within each specific required task. The plan will assign start and end dates to each specific task requirement, which will not modify the project timeline pursuant to established due dates.

The project plan will document the resources required for each task, including personnel (if State personnel are to be identified the State will work with Mantech to identify their personnel), equipment, materials, and financial resources (if necessary). Mantech will assign specific

resources to tasks based on their expertise and availability, and if State resources are to be assigned the State will work with Mantech to ensure specific State resources are assigned.

Mantech will host weekly project reviews to assess progress, identify potential issues, and adjust the plan as needed. Mantech will establish a governance for updating the project plan as necessary. Mantech will gather feedback from stakeholders and incorporate it into the project plan.

The project plan will define mutually agreed upon sign-off criteria for project deliverables and completion of required tasks.

Develop a Risk Management Plan [RFP VI A.4.c.iii]

Mantech will deliver a risk management plan that will exceed the State's requirements. The risk management plan will identify, evaluate, and plan for possible risks that may arise within the project to ensure risk-handling activities are prepared in advance to mitigate adverse impacts on achieving objectives. The Risk Management plan will include all the State requirements. The comprehensive risk management plan will be developed, maintained, and followed by Mantech throughout the project lifecycle. If a change is made to the plan following the initial signature, the plan will be reviewed and electronically signed by the selected Unit stakeholder to accept the changes to the plan.

The risk management plan will define the tools and approaches that will be used to perform risk management activities, such as risk assessment, risk analysis, and risk mitigation. A risk register will be maintained using a chart that documents all the risk identification information for the project. A risk breakdown structure will be maintained using a hierarchical tree diagram that will identify risk categories and the structure of project risks in order of importance. A risk matrix will be maintained and used to analyze the likelihood and the impact to the project of each risk so they can be prioritized.

Mantech's risk management includes a continuous review of potential risks to ensure risks are identified early and that mitigation plans are put in place, executed, and monitored. Our risk management focuses on three primary areas:

- Identification of risks
- Risk analysis and assessment
- Risk mitigation and monitoring

Throughout the project lifecycle Mantech and the State will collaborate using checklists and brainstorming during the project execution to ensure identification of risks for any stakeholders. Risks will not be limited to technical issues but will include all sources of risk to that could impact the project. Once a risk is identified, Mantech and the State will collaborate with all stakeholders to ensure they are aware of the risk. Our risk analysis and assessment will ensure the risk is thoroughly analyzed and ranked according to probability and consequence, and our risk mitigation will be documented to ensure all parties understand their role in the mitigation, and the risk will be continuously monitored through status meetings.

Develop a Communication Plan [RFP VI A.4.c.iv]

Mantech will deliver a communication plan that will exceed the State's requirements. The communication plan will outline how important information will be communicated to stakeholders throughout the project. Mantech and the State will determine who will be receiving the communication, how those people will receive it, when they will receive it, and how often they should expect to receive that information. The comprehensive communication plan will be developed, maintained, and followed by Mantech and the State throughout the project lifecycle. If a change is made to the plan following the initial signature, the plan will be reviewed and electronically signed by the selected Unit stakeholder to accept the changes to the plan. Mantech

agrees that communication is a key element to the success, in particular the ability of staff to converse about vital record procedures. Mantech's experienced staff from top to bottom will ensure the State will not have to spend time explaining vital records concepts to Mantech staff.

Mantech will work with the State to determine the specific groups of people who need to be informed about the project, such as team members, clients, sponsors, and external stakeholders. The plan will specify the objectives to be achieved for each communication and will identify the most appropriate communication channels for each target audience. Mantech will work with the State to determine the frequency and timing of communication for each target audience and define who is responsible for communicating with each target audience. Mantech will work with the State to set up channels for receiving feedback from stakeholders.

Develop a Staffing Management Plan [RFP VI A.4.c.v]

Mantech will deliver a staffing plan that will exceed the State's requirements. The staffing plan will outline the human resource needs of the project and how those needs will be met. The comprehensive staffing plan will be developed, maintained, and followed by Mantech and the State throughout the project lifecycle. If a change is made to the plan following the initial signature, the plan will be reviewed and electronically signed by the selected Unit stakeholder to accept the changes to the plan.

Staffing Process: The staffing plan will describe how staffing levels will achieve service regardless of changes that may influence work volume, including the process of temporarily and permanently replacing vacancies in key personnel. Mantech already has in place a business continuity and a continuity of operations plan:

- **Business Continuity.** Mantech anticipates responding to emergencies, such as a pandemic, by providing a sufficient level of service for continuity until the emergency is resolved. All Mantech staff are cross trained on our vital records implementations and are capable of working from home (telecommuting) in addition to working at our office locations. During the COVID-19 pandemic, Mantech continued to provide the same service level as we provided prior to the pandemic. We provided maintenance operations for all our customers, as well as enhancement work. The only item we were not able to provide during the pandemic were face-to-face meetings, which were replaced by webinars until conditions allowed for safe travel.
- **Continuity of Operations.** Staff are dispersed in different locations, ensuring that if a disaster strikes one office, it should not affect staff located in other areas. In addition to the vital record staff, Mantech has more than 7,100 qualified professionals, many with advanced degrees that the vital record group has access to if necessary. Additionally, Mantech's development environment is based in the AWS cloud, where staff can access it from any location, allowing them to perform work anywhere. Communication channels are already set up to communicate with staff, and when those systems are overloaded, e.g., email is not available, Mantech can use other methods of communication such as webinars, alternate email addresses, and telephone. Additionally, the AWS cloud can be restored to new AWS Availability Zones in hours. Through these layers of skill and geographic dispersions, Mantech anticipates a recovery time for staff to recover from a major disaster to be a matter of hours.

Roles and Responsibilities: Mantech will work with the State to define the roles and responsibilities by resource type, including identifying key and non-key personnel as well as resource allocation for all personnel. The detail will be differentiated by Mantech staff and State Unit project staff.

Resource Calendars: The staffing plan will not identify total hours to be expended, per phase, and for the entire project, by vendor staff and State Unit project staff. Mantech does not track

State staff hours therefore they cannot be included in the staffing plan. As this is a fixed price contract, Mantech hours expended are not relevant to the performance of this contract.

Background Checks: Upon written request from the State, Mantech will provide written confirmation that any individual assigned to work on the project has successfully passed a background check. Upon written request, any new staff that are assigned throughout the duration of the contract will be confirmed to have successfully passed a background check.

Performance Issues: Mantech understands the Unit will retain the right to request that Mantech release outright or request the replacement of any Mantech staff who is working at an inferior level of performance, as determined by the Unit. The State will first follow the escalation process to ensure any performance issues are addressed, and if the State is not satisfied with the result may request release of the staff. The State will not unreasonably request release of Mantech staff. Mantech will provide an acceptable replacement within ten (10) working days of the notice of release.

Staffing Plan Changes: If there are any changes in key personnel, Mantech will notify the Unit in writing at least fourteen (14) days prior to the change, except in the case of immediate risk to the health and safety of project staff, or in the case of unlawful security breaches. Mantech's key personnel positions may not be vacant for more than ten (10) Business Days without a qualified substitute (temporary replacement). A qualified substitute will be in place no more than ten (10) Business Days after the separation date of the Mantech staff. The definition of a qualified substitute is someone meeting the requirements of the RFP. Mantech may not fill vacant key personnel positions with other existing key personnel without approval by the Unit. The Unit will have the authority to approve proposed replacements of key personnel by Mantech. The Unit reserves the right to interview and approve Mantech's personnel and any subcontractors. The Unit reserves the right to reject any proposed staff member and require the appointment of a satisfactory staff member, as well as to require verification of a proposed staff member's skills through demonstration and/or testing.

Develop a Change Management Plan [RFP VI A.4.c.vi]

Mantech will deliver a change management plan that will exceed the State's requirements. The change management plan will outline the process for change management throughout the project lifecycle, such as how to submit a change request and how those requests are assessed. The comprehensive change management plan will be developed, maintained, and followed by Mantech and the State throughout the project lifecycle. If a change is made to the plan following the initial signature, the plan will be reviewed and electronically signed by the selected Unit stakeholder to accept the changes to the plan.

The change management plan will describe the process of submitting, evaluating, authorizing, managing, and controlling change requests. The plan will define the roles and responsibilities for those responsible for change management. The plan will provide a change request template for submitting changes and for collecting and tracking changes.

All change requests (updates/changes), including Federal or State legislative or regulatory requests, will be documented using the Change Request (CR) template, and from there the Change Management plan will be followed to incorporate the change. Mantech allows the State to determine the priority of the change and that will dictate the timeline for the implementation. Once the change is formally documented, Mantech will then determine if this is something that can be performed under maintenance (or within the 160 hours of additional labor provided every year that rolls over), or if there is an additional cost to implement the change. A general guide is used for pricing that if the change can be accomplished within 1-2 weeks of effort than there will be no cost. Additionally, because of the flexibility demonstrated with the VRVcloud application

often changes to the screens, workflows, and other items can be accomplished at no cost to the State.

Because Mantech has been in the vital records business arena for 25 years, we understand that Federal mandated changes are of importance to the State. Because of that, and because we would have to perform the change for all our customers, these are typically done at no cost. Mantech has implemented functionality in the *VRVcloud* application using a modular approach (web services for FHIR, OVS, etc.) and we can make the changes to Nebraska branches of *VRVcloud* in a short period of time. For example, during the testing and certification of the FHIR implementation NCHS continuously made changes to the standard based on testing feedback. Mantech was actively testing for multiple states, and because of our modular approach we were able to quickly integrate the changes into the *VRVcloud* branch of our testing states.

To incorporate the State into the change making decisions, feedback from the State is solicited during our regular meetings about any changes that the State may be considering. Mantech dedicates a portion of the regular meetings to soliciting from the State how the application can be enhanced. In the same manner as the participatory design meetings, Mantech will be performing “what if” scenarios with the State that could lead to requested changes to the application. The requested changes will then be documented using the CR template, and from there the change management plan will be followed to incorporate the enhancement.

There is no “average time” to implement a change. Each change is unique, and each state is unique on when they want the change delivered. Mantech allows the State to drive the priority of the change request and collaborates on the delivery of the change with the State.

Develop an Issue Management Plan [RFP VI A.4.c.vii]

Mantech will deliver an issue management plan that will exceed the State’s requirements. The issue management plan will outline the process of identifying, tracking, and resolving issues that arise throughout the project lifecycle. The comprehensive issue management plan will be developed, maintained, and followed by Mantech and the State throughout the project lifecycle. If a change is made to the plan following the initial signature, the plan will be reviewed and electronically signed by the selected Unit stakeholder to accept the changes to the plan.

The issue management plan will describe the process of prioritizing, tracking, escalating, communicating, and reporting issues. The plan will provide the approach to documenting, reporting, and resolving issues identified by Mantech, the Unit, or other stakeholders. The plan will define the roles and responsibilities for those responsible for issue management. The plan will define an impact matrix that will be used to analyze, evaluate, and prioritize issues.

Mantech’s issue management planning includes issue identification, issue resolution, and issue monitoring. Our issue management focuses on the following primary areas:

- Issue identification.
- Issue prioritization.
- Issue response planning.
- Issue action implementation.
- Issue monitoring.
- Lessons learned.

Throughout the project lifecycle Mantech and the State will collaborate using checklists and brainstorming during the project execution to ensure identification of issues for any stakeholders. An issue log is maintained by Mantech to allow for version control of the project issues, and it is reviewed in the status meetings.

Design and Configuration [RFP VI A.4.d]

Mantech's approach to system design is to first review the functional and technical requirements with the State and further define them into a complete, detailed set of requirements that will be used as the baseline requirements. To further document and detail the functional and technical specifications, Mantech's project methodology uses an iterative, agile configuration cycle, in which prototypes of the VRVcloud application are reviewed early and often thus allowing the State to work with the application to ensure it meets their system design requirements. It is our experience working with vital records staff that they are much more adept at understanding how their requirements should be implemented in the application by viewing the implementation, than they are at reviewing requirements documentation. Therefore, our project management approach adjusts to emphasize hands on working prototype collaboration. By allowing early access this allows staff the ability to exercise functionality and provide feedback early in the process. There will not be any surprises as to how the requirement is implemented in the VRVcloud application, and ensuring the system configuration meets the State's requirements. This is an added benefit to the State and will prove its value when users are able to view working functionality early and often, exercising the application through the project life cycle. While other vendors will require the State to "sign off" on a set of requirements documents prior to the State viewing the working functionality, Mantech will be demonstrating working functionality of the VRVcloud application for the State to then exercise their requirements, rather than looking at mockups and requirements documents.

To achieve this, Mantech will host a series of participatory design sessions (Joint Application Design/Development) using webinars and onsite visits to allow our business analysts to interact with the State's SMEs to review and concur on configuration-related issues. Mantech conducts webinar meetings to facilitate remote attendance for viewing the application prototypes. With the ability to quickly prototype functionality, Mantech will demonstrate functionality via screens that will closely match the final application with the prototyping sessions. Mantech will also perform a detailed requirements analysis including the comparison of implementations from other states to review functionality, allowing the State to compare and contrast their vision of how they want specific functionality to work compared to other state implementations. Then, in collaboration with Mantech, the State will make the decision on the best design to meet their requirements. As an added benefit Mantech will work with the State to take advantage of this opportunity to refine requirements that their old application may have met, but where a better method to meet the requirement may exist, while also implementing new functionality.

Mantech will also configure State user access to the cloud environment so they can view the latest prototype on their own and provide feedback at their convenience and not just during meetings. In cooperation with Mantech, states have also used the cloud environment to work with external users to view and comment on working functionality to allow the State an easy transition for acceptance by the external user community. For example, allowing a larger funeral home to do some testing of the application early on and provide feedback.

The results from the participatory design meetings are captured in functional requirements documents. These documents then become the basis for the acceptance testing. Our ability to quickly prototype functionality allows us to include screenshots that accurately capture the "look and feel" of the application in the design documentation. This can be compared to other vendors who may deliver a narrative waterfall requirement process where all the requirements are documented in a descriptive manner possibly using wireframes and other methods that are not fully reflective of the final product. Mantech will produce the Final Design Document covering four primary functional requirement areas: Detailed Design, Workflow, Printed Output, and Import/Export. Prior to integrating the workflow Mantech will work with the State to identify and document every workflow, including automatic queueing, prompts during the workflow such as a

print option, notifications to be sent during the workflow, etc. Some vendors will include in their assumption's statements such as – our proposal assumes all features (i.e., workflows) required by the State that are not currently in our product will go through a change request process and be paid for separately. Mantech understands that each State is unique and what works for one State may not work for you. Mantech will not push the State into a workflow simply because it is already configured in our application for another State. Mantech will implement workflows that exceed the State's requirements. Mantech's *VRVcloud* application has an integrated, customizable workflow and we will work with the State to identify all workflows, and ensure they are configured to meet the State's requirements. The *VRVcloud* workflows are configured throughout the application to help guide users through the proper processes, ensuring the users complete their work efficiently. Together these artifacts will document "how" the State's requirements will be met.

The Detailed Design document includes details concerning every data entry screen element. The Workflow document includes every action on the vital record, including placement and removal of records from queues. The Printed Output document describes everything printed on each printed artifact, including all reports. The Import/Export document includes all data imported and exported in the application, including integrations. In addition to the Final Design Document, Mantech will deliver a requirements traceability matrix, ensuring the system design aligns with the requirements.

Once the Final Design Document is completed and agreed upon, Mantech will deliver validation sessions to the State to walk through the document and ensure all requirements can be validated with a demonstration in the *VRVcloud* application, or if not possible, identify how the requirement was met.

Mantech uses AWS for the hosting of our *VRVcloud* application. Mantech is an advanced AWS Partner. AWS is the world's most comprehensive and broadly adopted cloud platform, offering over 200 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster. With Mantech using AWS the State obtains all the advantages of a third-party, industry-leading cloud solution. As the application demand grows, the State does not want to outgrow a hosting site and then have to transition the application. AWS is a virtual site that allows for almost limitless growth. Mantech believes we are providing the State with an optimal hosting model, moving away from a vital record vendor hosting and to a national model used by industry leading companies. Using AWS ensures the State can meet their requirements for growth, reliability, security, disaster recovery, and stability at a reduced cost. As the application demand grows AWS can automatically scale by adding resources to meet the demand; often it only takes minutes to add those resources. Mantech will be managing the AWS hosting environment to ensure the State can focus on the business of Vital Records and not worry about maintaining and keeping servers running. Mantech will configure the AWS environment to meet the State's requirements, including data warehousing options available to the State.

Establish Review and Acceptance Process [RFP VI A.4.d.i]

Mantech will work with the State to develop a deliverable review and acceptance plan that will exceed the State's requirements. The Deliverable Acceptance plan will include review cycles, which will be conducted and scaled to size and complexity of the deliverables. The plan will ensure deliverables will reflect coordination with the overall modular system and will follow agreed upon change control processes. Mantech will be responsible for facilitating the change control process, which will allow the appropriate audience to determine priorities using a structured business value assessment process to measure both the effort to implement in hours and the benefits. Mantech will conduct informal reviews and walkthroughs of draft and final deliverables. Mantech will not queue up excessive deliverables for simultaneous review.

The Deliverable Acceptance plan identifies the acceptance criteria to be used for each project deliverable. The purpose of this plan is to ensure that the State and Mantech both agree to the scope and content of all deliverables prior to delivery. The elements listed in this requirement will be incorporated into a Deliverable Acceptance plan. Each deliverable from Mantech is accompanied by a Deliverable Product Acceptance Form (DPAF). The information in the DPAF is dependent upon the deliverable and it outlines the steps for the State to accept the deliverable. For example, for a deliverable such as the Communication plan, the DPAF will accompany the Communication plan when it is delivered. The DPAF contains the list of staff from the State who need to review the deliverable, the estimated time to review the deliverable (review cycles depending upon the complexity of the deliverable), comments to be input by the State about the deliverable, and a selection if the deliverable is accepted without comments, with comments, or not accepted. A formal sign off is also part of the DPAF and if the State accepts the deliverable a signature is typically required. If for some reason the deliverable is not accepted, Mantech and the State will meet to discuss the deliverable, and Mantech will provide a new target date for the deliverable along with the steps to be taken to remedy the deliverable. Because we will be using working prototypes Mantech will be continuously collaborating on all the *VRVcloud* application deliverables. Mantech will be demonstrating functionality to the State, taking in their feedback, incorporating it, and continuing with the prototyping again until all application deliverables are completed and accepted by the State.

When Mantech completes a deliverable we will conduct a walkthrough of it with appropriate staff, including executive stakeholders if required. This ensures that we just don't drop the deliverable on the State and move on. This will also allow the State and Mantech to coordinate on how the deliverable will be accepted during the walkthrough.

Mantech also will provide a change control plan, which will outline how changes can be initiated and tracked. The Change Control plan will allow Mantech to facilitate the change control process, and to allow the State to accommodate their change control requirements such as a change control board (if necessary) to determine priorities based on the State requirements. Mantech will participate in any executive level meetings the State requires to ensure the State understands the impact of any changes, any deliverable, or any other project item.

Develop a Requirements Traceability Matrix (RTM) [RFP VI A.4.d.ii]

Mantech will deliver a Requirements Traceability Matrix (RTM) that will exceed the State's requirements. The RTM will map out the relationship between requirements and project work, in particular where the requirement is met in the application. This will ensure project requirements are met and enable the testing process to use the RTM to test each requirement, and report issues or completion of the requirement. When developing the test plan, Mantech and the State will work to ensure the test cases are aligned with the needs of the project and incorporate the RTM as much as possible. The RTM will be developed, maintained, and followed by Mantech and the State throughout the project lifecycle. If a change is made to the RTM following the initial signature, the RTM will be reviewed and electronically signed by the selected Unit stakeholder to accept the changes to the plan.

The RTM is a good tool to ensure all the requirements are implemented, but it does not document "how" the requirement will be implemented. As an added value Mantech will produce the Final Design Document covering four primary functional requirement areas: Detailed Design, Workflow, Printed Output, and Import/Export. Together these artifacts will document "how" the State's requirements will be met. The Detailed Design document includes details concerning every data entry screen element. Together these artifacts will document "how" the State's requirements will be met. The Workflow document includes every action on the vital record, including placement and removal of records from queues. The Printed Output document describes everything printed on each printed artifact, including all reports. The Import/Export document includes all data

imported and exported in the application, including integrations. These documents will describe how the requirements will be implemented. It is our experience working with vital records staff that they are much more adept at understanding how their requirements should be implemented in the application by viewing the implementation in the application, than they are at reviewing requirements documentation. Therefore, our project management is adjusted to emphasize hands on working prototype collaboration. By allowing early access this allows staff the ability exercise functionality and provide feedback early in the process. There will not be any surprises as to how the requirement is implemented in *VRVcloud*. This can be compared to other vendors who will require requirements sign off before making any changes to the application.

Coordinate and Facilitate On-Site Requirements Gathering Session(s) [RFP VI A.4.d.iii]

Mantech will coordinate and facilitate onsite, and remote requirements gathering sessions to discuss, clarify, and better understand the project's objectives, scope, and requirements. The sessions will be led by Mantech's staff, and all relevant Unit staff should attend. The objectives of the meetings will be to gather detailed information to create project requirements for each system module, and to collect feedback from the Unit to incorporate into the requirements. Mantech will document the requirements and provide them to the Unit for review and approval. Once the requirements are reviewed by the Unit and confirmed, the selected Unit stakeholder will provide sign-off.

Mantech's approach is to first review the functional and technical requirements with the State and further define them into a complete, detailed set of requirements that will be used as the baseline requirements. To further document and detail the functional and technical specifications, Mantech's project methodology uses an iterative, agile configuration cycle, in which prototypes of the *VRVcloud* application are reviewed early and often thus allowing the State to work with the application to ensure it meets their system design requirements. It is our experience working with vital records staff that they are much more adept at understanding how their requirements should be implemented in the application by viewing the implementation, than they are at reviewing requirements documentation. Therefore, our project management approach adjusts to emphasize hands on working prototype collaboration. By allowing early access this allows staff the ability to exercise functionality and provide feedback early in the process. There will not be any surprises as to how the requirement is implemented in the *VRVcloud* application, and ensuring the system configuration meets the State's requirements. This is an added benefit to the State and will prove its value when users are able to view working functionality early and often, exercising the application through the project life cycle. While other vendors will require the State to "sign off" on a set of requirements documents prior to the State viewing the working functionality, Mantech will be demonstrating working functionality of the *VRVcloud* application for the State to then exercise their requirements, rather than looking at mockups and requirements documents.

To achieve this, Mantech will host a series of participatory design sessions (Joint Application Design/Development) using webinars and onsite visits to allow our business analysts to interact with the State's SMEs to review and concur on configuration-related issues. Mantech conducts webinar meetings to facilitate remote attendance for viewing the application prototypes. With the ability to quickly prototype functionality, Mantech will demonstrate functionality via screens that will closely match the final application with the prototyping sessions. Mantech will also perform a detailed requirements analysis including the comparison of implementations from other States to review functionality, allowing the State to compare and contrast their vision of how they want specific functionality to work compared to other State implementations. Then, in collaboration with Mantech, the State will make the decision on the best design to meet their requirements. As an added benefit Mantech will work with the State to take advantage of this opportunity to refine requirements that their old application may have met, but where a better method to meet the requirement may exist, while also implementing new functionality.

Mantech will also configure State user access to the cloud environment so they can view the latest prototype on their own and provide feedback at their convenience and not just during meetings. In cooperation with Mantech, States have also used the cloud environment to work with external users to view and comment on working functionality to allow the State an easy transition for acceptance by the external user community. For example, allowing a larger funeral home to do some testing of the application early on and provide feedback.

The results from the participatory design meetings are captured in functional requirements documents. These documents then become the basis for the acceptance testing. Our ability to quickly prototype functionality allows us to include screenshots that accurately capture the “look and feel” of the application in the design documentation. This can be compared to other vendors who may deliver a narrative waterfall requirement process where all the requirements are documented in a descriptive manner possibly using wireframes and other methods that are not fully reflective of the final product. Mantech will produce the Final Design Document covering four primary functional requirement areas: Detailed Design, Workflow, Printed Output, and Import/Export. Mantech’s *VRVcloud* application has an integrated, customizable workflow and we will work with the State to identify all workflows, and ensure they are configured to meet the State’s requirements. The *VRVcloud* workflows are configured throughout the application to help guide users through the proper processes, ensuring the users complete their work efficiently. Together these artifacts will document “how” the State’s requirements will be met. The Detailed Design document includes details concerning every data entry screen element. The Workflow document includes every action on the vital record, including placement and removal of records from queues. The Printed Output document describes everything printed on each printed artifact, including all reports. The Import/Export document includes all data imported and exported in the application, including integrations. In addition to the Final Design Document, Mantech will deliver a requirements traceability matrix, ensuring the system design aligns with the requirements.

Once the Final Design Document is completed and agreed upon, Mantech will deliver validation sessions to the State to walk through the document and ensure all requirements can be validated with a demonstration in the *VRVcloud* application, or if not possible, identify how the requirement was met.

Develop and Submit an Application Configuration and Maintenance Plan to the Unit Prior to Beginning Configuration Activities [RFP VI A.4.d.iv]

Mantech will develop and submit a plan for application configuration and maintenance to the Unit. Because the *VRVcloud* has such a robust configuration ability, Mantech will be using configuration at the outset of the project to allow the State to view working prototypes very early in the process. For example, Mantech can add fields to the screen in a matter of minutes and create a working prototype where the field is on the screen and showing how the field operates, with no programming changes required. This allows the State to view the fields working prior to approving a configuration plan that documents the field will be in the upper left-hand corner and if left empty will trigger a warning to the user. The State will be able to see the functionality rather than envision it. This method has proven very effective, versus other methods of documenting, reviewing, and agreeing on any configuration prior to the configuration being initiated. Mantech understands there needs to be a final configuration that is agreed to by the State, but early access to the screens will prove invaluable to the State in making the best decisions about the configuration of the application. The configuration plan will document the approach to conducting design sessions or walkthroughs, the approach to conducting sprints or iterations, how configuration management is accomplished in the *VRVcloud* application. The plan will also outline the release cycles, the tasks, timelines, and responsible parties for the design and configure/build tasks, and our approach to system enhancements. The plan will also document programming and coding standards that Mantech uses.

Establish and Utilize a Deliverable Review and Acceptance Process Agreed Upon by the Unit [RFP VI A.4.d.v]

Mantech will work with the State to develop a deliverable review and acceptance plan that will exceed the State's requirements. The deliverable acceptance plan will include review cycles, which will be conducted and scaled to size and complexity of the deliverables. The plan will ensure deliverables will reflect coordination with the overall modular system and will follow the agreed upon change control processes. Mantech will be responsible for facilitating the change control process, which will allow the appropriate audience to determine priorities using a structured business value assessment process to measure both the effort to implement in hours and the benefits. Mantech will conduct informal reviews and walkthroughs of draft and final deliverables. Mantech will not queue up excessive deliverables for simultaneous review.

The Deliverable Acceptance plan identifies the acceptance criteria to be used for each project deliverable. The purpose of this plan is to ensure that the State and Mantech both agree to the scope and content of all deliverables prior to delivery. The elements listed in this requirement will be incorporated into a Deliverable Acceptance plan. Each deliverable from Mantech is accompanied by a Deliverable Product Acceptance Form (DPAF). The information in the DPAF is dependent upon the deliverable and it outlines the steps for the State to accept the deliverable. For example, for a deliverable such as the Communication plan, the DPAF will accompany the Communication plan when it is delivered. The DPAF contains the list of staff from the State who need to review the deliverable, the estimated time to review the deliverable (review cycles depending upon the complexity of the deliverable), comments to be input by the State about the deliverable, and a selection if the deliverable is accepted without comments, with comments, or not accepted. A formal sign off is also part of the DPAF and if the State accepts the deliverable a signature is typically required. If for some reason the deliverable is not accepted, Mantech and the State will meet to discuss the deliverable and Mantech will provide a new target date for the deliverable along with the steps to be taken to remedy the deliverable. Because we will be using working prototypes Mantech will be continuously collaborating on all the *VRVcloud* application deliverables. Mantech will be demonstrating functionality to the State, taking in their feedback, incorporating it, and continuing with the prototyping again until all application deliverables are completed and accepted by the State.

When Mantech completes a deliverable we will conduct a walkthrough of it with appropriate staff, including executive stakeholders if required. This ensures that we just don't drop the deliverable on the State and move on. This will also allow the State and Mantech to coordinate on how the deliverable will be accepted during the walkthrough.

Mantech also will provide a change control plan, which will outline how changes can be initiated and tracked. The Change Control plan will allow Mantech to facilitate the change control process, and to allow the State to accommodate their change control requirements such as a change control board (if necessary) to determine priorities based on the State requirements. Mantech will participate in any executive level meetings the State requires to ensure the State understands the impact of any changes, any deliverable, or any other project item.

Configure Environments for Development, Testing, Training, and Production [RFP VI A.4.d.vi]

The hosted environment will have a quality assurance (QA) test, training, UAT, production, and development environment. Only the production environment will have access to live production data. Mantech manages data across environments and does not move data between environments without explicit approval from the State. To move builds into an environment, Mantech uses tools such as Maven. Due to its declarative nature and built-in conventions, Maven projects are often easier to setup and maintain in the long run. Maven dependency management is a system that automates the process of adding and managing external libraries for a Java

project by using a project's pom.xml file. Developers declare dependencies (like a group ID, artifact ID, and version) in the pom.xml, and Maven automatically downloads and resolves them from a repository, making the libraries' functionality available to the project. This system handles transitive dependencies (dependencies of dependencies) and allows for centralized management of versions in multi-module projects. On purpose, configurations are not consistent across environments. As a new build is delivered to the development environment, build 1.1, the other environments may be on different builds, depending upon the use of the build in the environment. Builds progress through the environments until they reach the production environment. Mantech does not move builds to environments without approval from the State. Typically, a date and time for the build to be deployed is mutually agreed upon. Mantech also provides warnings to users indicating what environment they are to prevent users from accidentally adding production data to a test, or other environment. Mantech hosts a development environment to implement changes for the State and to also demonstrate to the State "what if" scenarios. Once the implementation is agreed upon and Mantech conducts regression testing the release is delivered to the test environment. The test environment is available to the State to perform testing of the latest release, and any other testing the State may want to perform. Typically, integration, system, and user acceptance testing are performed using a separate dedicated UAT environment. Setting up different environments for integration testing, one for system testing, and one for other testing would require the testing to be performed once again when everything is implemented in one environment. The training environment can be used by the State to provide training to new users and is typically set up with pre-populated data to perform training exercises. Mantech can provide backups of the training environment to restore it to the previous version before the next training session, which will eliminate the need to reload training exercises when the training is completed. Throughout the project, additional environments may be necessary on an as-needed basis. For example, we anticipate a staging environment for data conversion, a performance and load test environment, and other environments as necessary. Those environments would be available as they are needed and may be taken off-line when not needed. Mantech will provide all the environments in the AWS cloud.

Complete Standards System Configuration [RFP VI A.4.d.vii]

Mantech will configure the *VRVcloud* application to meet the requirements in the Final Design Document, which is provided by Mantech and that was signed off by the State. Once all the configuration is completed Mantech performs our own unit testing to ensure the application is configured properly. Mantech will provide training, documentation, support, and expertise and will walk the State through the application functionality. If accepted, the State will then provide sign off on the configuration of the application.

Assist the Unit with Configuration of System [RFP VI A.4.d.viii]

Mantech will configure the *VRVcloud* application to meet the requirements in the Final Design Document, which is provided by Mantech and that was signed off by the State. Once all the configuration is completed Mantech performs our own unit testing to ensure the application is configured properly. Mantech will provide training, documentation, support, and expertise and will walk the State through the application functionality. If accepted, the State will then provide sign off on the configuration of the application.

Mantech will identify all system configuration that must be completed by the State prior to the configuration training. Configuration provided by the State is minimal, most of the State configuration is ensuring all the users are added to the system and configured in the correct roles. Mantech works closely with the State to achieve the user configuration, typically allowing the State to collect the user information in a spreadsheet that can then be directly imported into the application, saving the State from entering hundreds of users just prior the application going live. Obviously sensitive information such as passwords are not kept in the spreadsheet. When a user

is added when they first log in they will be prompted to go through the user initiation process, typically an email will be sent to the address for the user and the user can then complete their set up.

Mantech will provide detailed system configuration instructions in the user guides that are provided to the State. There is a state user guide that details all the steps required for the State staff to configure their responsibilities in the application. For example, the State user guide will provide detailed instructions and screenshots of how to add a user, including their role, and how to complete the set up for a new user.

Mantech will provide training of system configuration in the training sessions that are provided to the State. During training the State has access to a state user guide that details all the steps required for the State staff to configure their responsibilities in the application. For example, the State user guide will provide detailed instructions and screenshots of how to add a user, including their role, and how to complete the set up for a new user. Mantech will provide State training on the State responsibilities required in the *VRVcloud* application.

In addition to the documentation and training for the State on configuration tasks, upon request Mantech will provide assistance to the State in performing configuration, or other tasks.

Mantech and the State will complete a quality review to ensure that application is correct and complete. Mantech will provide feedback to the Unit if there are any necessary changes to be made to the configuration.

Assist the Unit with User Role Determination [RFP VI A.4.d.ix]

Mantech will assist the Unit in defining different user roles for the application. Each role has a specific set of permissions and access levels tailored to the specific role and based on specific responsibilities. Mantech will work with the State during the requirements sessions to identify roles and responsibilities and will then configure those roles and responsibilities in the *VRVcloud* application. Mantech will then assist the State with determining which users belong to which roles and will assist the State in assigning the users those roles in the *VRVcloud* application. Mantech will provide training of assigning user roles in the training sessions that are provided to the State. During training the State has access to a state user guide that details all the steps required for the State staff to assign users roles. For example, the state user guide will provide detailed instructions and screenshots of how to add a user, including their role, and how to complete the set up for a new user.

Obtain Acceptance from the Unit on Design and System Configuration [RFP VI A.4.d.x]

Mantech will produce the Final Design Document covering four primary functional requirement areas: Detailed Design, Workflow, Printed Output, and Import/Export. Mantech's *VRVcloud* application has an integrated, customizable workflow and we will work with the State to identify all workflows, and ensure they are configured to meet the State's requirements. Together these artifacts will document how the State's requirements will be met. The Detailed Design document includes details concerning every data entry screen element. The Workflow document includes every action on the vital record, including placement and removal of records from queues. The Printed Output document describes everything printed on each printed artifact, including all reports. The Import/Export document includes all data imported and exported in the application, including integrations. Once the Final Design Document is completed and agreed upon, Mantech will deliver validation sessions to the State to walk through the document and ensure all requirements can be validated with a demonstration in the *VRVcloud* application, or if not possible, identify how the requirement was met.

Mantech will engage the Unit throughout the design and configuration process, address any concerns or questions raised, and gain formal approval to proceed with the project's next phase.

This includes providing configuration and role documentation, addressing concerns, demonstrating responsiveness to those concerns, obtaining formal sign-off, and documenting the next steps. Once all design and initial system configuration concerns have been mitigated and resolved and have been properly documented by Mantech, the selected Unit stakeholder will provide final sign-off.

Development and Testing [RFP VI A.4.e]

Testing: Mantech's approach and methodology for testing is to perform various testing throughout the lifecycle. Below are some of the testing phases:

- **Unit Testing:** Prior to UAT, Mantech continuously conducts our own unit and integration testing during code check-in and prior to demonstrating the tested solution to the State. Mantech developers and analysts will conduct unit and integration testing on agreed-upon functionality in our cloud environment, and the testing performed is based on the functionality being demonstrated. Mantech staff will review the requirements documents and derive a plan to execute unit testing prior to demonstrating the build. Through the prototype approach, the application will be tested early and often ensuring the application is tested formally through unit testing, and informally through review sessions prior to the UAT. Additionally, we often work with the State (in the cloud) to review functionality to ensure it meets the State requirements and to clarify any issues with workflows, data entry, and printed outputs.
- **Integration Testing:** Mantech will collaborate with the State to perform integration testing of all inbound and outbound interfaces, including end-to-end testing. Integration testing will require State involvement from the initial identification of the specific integration to the testing of the integration, and throughout the production implementation. Mantech will rely on the State to first identify points of contact for the integration to ensure all integration requirements are identified and documented, and that Mantech, the State, and the party to be integrated understand how the integration will be accomplished. Mantech already has integrated with standard vital records integrations such as the SSA Online Verification System (OVS) and in these instances there will be limited State involvement other than for this integration it is the State's responsibility to execute the test deck provided by SSA. In cases like OVS Mantech already has points of contact and has worked directly with the integration staff. For something like a Nebraska agency integration, Mantech would rely on the State to ensure sufficient attention is provided by the Nebraska agency to the integration. Mantech has and will work directly with the external State agencies and other parties; however, we do request State involvement in communicating in these cases to ensure the successful integration. Mantech will perform initial integration testing of all inbound and outbound interfaces to ensure they are successful and will collaborate with the State on UAT testing scripts to ensure all inbound and outbound interfaces are included in the UAT.
- **System Testing/Performance Testing:** Mantech will provide system testing to include load, stress, and performance testing. Load testing is usually defined as the process of exercising the system under test by feeding it the largest tasks it can operate with. Stress testing tries to break the system under test by overwhelming its resources or by taking resources away from it (in which case, it is sometimes called negative testing). Performance testing ascertains how the components of a system are performing, given a particular situation. Performance testing will show how long it takes a normal number of users to perform usual business activities using the application. Stress testing is ramping up the number of users until the application breaks, revealing the maximum number of users the application can handle. Load testing is ramping up users on the application to find out how the application performs under various scenarios. Mantech will provide a system test plan documenting how Mantech will conduct automated system testing. The plan will include the

automated tool to be used and the scenarios to be simulated. The automated tools used in the past were Playwright for functional regression testing and JMeter for performance testing, along with various tools from Microsoft and Oracle. Mantech will work with the State to identify the scenarios and transactions to be simulated, determine the total number of concurrent transactions to mimic peak system usage, and agree upon acceptable levels of performance as part of the planning process prior to the automated testing. Mantech will conduct the testing and review the results with the State. Based on performance results, the State and the Mantech will work together to optimize system performance.

- **UAT testing support:** Mantech will provide UAT support activities that meet, or exceed, 100% of the State requirements. Mantech will provide assistance (as coordinated between Mantech and the State) during UAT for all phases of the project, in addition to training selected State staff and stakeholders with UAT procedure training for reporting and tracking defects. Mantech anticipates being onsite for the initial UAT testing, and afterwards the support provided will be through webinars and meetings as the State performs their UAT. Additionally, our staff are very active in the configuration and testing phases and will also be able to provide insight during onsite visits. Because of the iterative agile prototype process and the fact State will have interacted with the application for some time, the State should be very familiar with the application workflows when performing UAT.
- **Defect Resolution:** Mantech will provide defect resolution to resolve defects that will meet, or exceed, 100% of the State requirements. Mantech works closely with the State during the UAT to ensure any issues found, either with the application or the converted data, are quickly addressed and resolved. Issues found during UAT typically fall into the category of a classic bug where the application did not function as documented. In another scenario, the application functions as documented; however, during UAT the State has found a better way to implement the functionality. This occurs because UAT introduces new staff to test the application, or the State has discovered missing requirements that were not anticipated. In the case of a classic bug, Mantech will correct the defect through a build, or, oftentimes, the bug can be corrected without a build by using the application's DSE functionality to address the issue. When the State has found a better way to implement functionality, or they discovered missing functionality, Mantech will respond on a case-by-case basis through the change control process. If the change is minor and does not impact the project schedule, Mantech would implement it as requested. For example, a common issue is that with the new application in UAT, and because of the introduction of the legacy data, a field or a report may not have been part of the agreed-upon requirements. Because Mantech has the most flexible application, adding edit rules, fields, and reports using the DSE will be much easier than it will be for other applications. Prior to delivering the application back to the State after a defect has been resolved, Mantech conducts unit testing first, and if passed regressions testing using the UAT testing script to ensure the defect has been resolved. Mantech understands the State will be executing the UAT in iterative fashion until the results are satisfactory. Because Mantech uses an agile prototyping approach throughout the project, Mantech will use this same approach to address any issues found during UAT and the State will be able to retest quickly.
- **Test Results:** Mantech will document test results to include results of the testing, including defect management reporting, and confirmation of errors being retested and resolved. Test result documentation will include an updated requirements traceability matrix that maps all requirements in the detailed requirements document to the test scenarios.

Quality Management: Mantech will develop and maintain a quality management plan. The quality management plan identifies the quality standards for the project and how quality standards are measured. It includes the process steps and quality tools that will be used (e.g., templates,

standards, and checklists). The quality management plan that will ensure the work being performed under this contract will meet or exceed quality assurance checkpoints.

Collaboration and Acceptance process: Mantech works with the State during the UAT process by collaborating with the State to ensure the UAT testing is thorough and complete. Mantech will provide onsite and offsite collaboration depending upon the State's need, and Mantech staff will engage the State as necessary to resolve any issues during the UAT. Once UAT is successfully executed, the State will accept the UAT as completed.

Release and known issue documentation: Every new release of the VRVcloud application is accompanied by release notes. The release notes explain in detail all new features (including change requests and upgrades) and all defect remedies included in the release. These release notes accompany the release and are reviewed with the State. If the release requires additional documentation or training, Mantech will also deliver these items in advance of the release. All known issues are captured in Bugzilla and the State can view them at any time they choose.

Any tool(s) used for testing and defect tracking: For defect tracking Mantech hosts a Bugzilla server to allow assigned representatives from the State to enter and track any defects. Bugzilla allows entries to be assigned a severity level and priority and tracks the status of a resolution. Defects are entered with a status of New, which when addressed is changed by Mantech to a resolution status such as Fixed, Invalid, or Works-As-Designed. Questions, clarifications, and remedies can be entered, and are documented in the permanent defect history. When a defect is resolved, the originator reviews the resolution, reopening the bug with additional information if not resolved, and eventually updating the status to Closed. Bugzilla can accommodate the reporting of a specific module, sub-module, build number, and other pertinent information to track the specific issue of a specific build and/or component of the build.

Complete all Necessary Custom Development [RFP VI A.4.e.i]

Mantech will complete and test all custom development. Mantech will then walk the State through testing of the custom development and afterwards the Unit may perform independent testing. Once the testing is successful, the State will provide sign off.

Complete all Necessary Reports [RFP VI A.4.e.ii]

Mantech will complete and test all necessary reports. Mantech will then walk the State through testing of the reports and afterwards the Unit may perform independent testing. Once the testing is successful, the State will provide sign off.

Complete all Necessary Integrations (Interfaces, Imports, and Exports) [RFP VI A.4.e.iii]

Mantech will complete and test all necessary integrations, including all existing interfaces, imports, and exports. Mantech completes and test the integration, then will then walk the State through testing of the integrations. Afterwards the Unit may perform independent testing. Once the testing is successful, the State will provide sign off.

The VRVcloud application already securely integrates with various state agency systems for sharing data, using FHIR when the State agency systems can accommodate it, or other methods when necessary. The VRVcloud application has a robust service for file generation (export/import) capability to produce and consume exports/imports including XML, JSON, CSV, TXT, and PDF files. Additionally, the VRVcloud application utilizes secure web services, including Mantech exposing customized web services to external agencies. All of functionality in the VRVcloud application, including these services, are provided using a role-based control for the functionality. Mantech was an active participant in the National Vital Statistics System (NVSS) testing of the NCHS and STEVE FHIR protocols where we successfully bidirectionally exchanged data with both NCHS and STEVE, including certification by NCHS for the FHIR transmission. This is in

addition to the production implementation of a FHIR exchange between the VRVcloud application and two separate ME applications.

To share data, Mantech's VRVcloud application has a robust import/export capability to design and create exports and imports. This tool is used to initially configure the exports and imports such as STEVE, SSA, NCHS, etc. The export configurability allows an authorized user to define the type of export to be saved such as Word, Excel, PDF, CSV, fixed length fields, XML (web). The output can also be directed to a database table, such as a holding table. Once the type of export is defined, the file layout allows the user to define the translation of the data to translate/format data from the VRVcloud application into the export file. Users are then granted access to execute the export. Mantech has developed a process within the VRVcloud application to automatically flag records for export based on criteria, and if the record is updated the flag can be set to re-export the updated record. Additionally, a flag can be set to determine where the file is to be exported. For example, VRVcloud sets a flag within the records that informs the STEVE application if the record should go to an NCHS mailbox, or only to the receiving State's STEVE mailbox. A similar process is used for imports, where the import is defined using the VRVcloud application interface to import various files into the VRVcloud application. Mantech has been certified by NCHS for transmitting data via FHIR to STEVE and NCHS. This capability will support both current and future integrations, including ongoing batch imports of digitized records and images from the current and ongoing Vital Records Digitization Project. As new records are scanned, they can be automatically indexed and imported into the system for seamless access and archival utilization.

In addition to manually executing imports/exports, to automatically schedule the execution of exports and imports the VRVcloud application has a job (event) scheduler that allows users to schedule jobs such as imports, exports, and reports to be executed on a scheduled basis that includes a recurring frequency. Also included is the ability to define import and export file locations for the automated execution of imports and exports.

Mantech works with the State to configure all the exports and imports using the tool included with the VRVcloud application. Using the export tool, authorized State staff can create extract files and transfer them to existing State databases or applications.

Develop a Testing Plan [RFP VI A.4.e.iv]

Mantech will outline a plan for testing the system's functionality, performance, compatibility, and integrations, including high-level tasks and timelines. In collaboration with the Unit, a system test plan will be developed that describes Mantech's system testing approach and includes all the requirements listed by the State. Mantech will gather the Unit's feedback on content and functionality and make all necessary changes as requested to meet the needs of the Unit's requirements on an agreed upon timeline. The testing plan will be developed, maintained, and followed by Mantech. If a change is made to the plan following the initial signature, the plan will be reviewed and electronically signed by the selected Unit stakeholder. Please see our response to the section titled **Development and Testing** above where we discuss some aspects included in our testing plan such as unit testing, integration testing, system testing/performance testing, UAT testing support, defect resolution, and testing results.

Execute and Evaluate Testing [RFP VI A.4.e.v]

Mantech will complete all necessary testing efforts. Mantech will conduct testing according to the defined system test plan and record results. Mantech will analyze test results to identify issues, defects, and areas that require improvement. Mantech will collaborate with our developers to fix issues and address performance issues. The Unit reserves the right to conduct independent testing of the system at any time. Mantech will cooperate with the Unit or its designee, and provide environments, data, and technical support for independent testing. Once the necessary Mantech

led testing is complete and has been evaluated by Mantech, and the system performs as intended the Unit will review and confirm and the selected Unit stakeholder will provide sign-off.

Mantech will verify that the system is working as expected, taking into account the needs and requirements of the Unit. This will include regression testing for each upgrade that is released throughout the project prior to implementation. Mantech uses Playwright for functional regression testing. Mantech will include reliability testing to find system weaknesses to reduce the number of failures during deployment. Reliability testing is testing under real world use and Mantech will be performing this testing during the performance testing.

Mantech will verify that the performance of each system module works as expected; testing bandwidth performance expected in the work process. Mantech uses JMeter for performance testing, along with various tools from Microsoft and Oracle. This will include load, stress, failure, and recovery tests. Mantech will provide system testing to include load, stress, failure, recovery, and performance testing. Load testing is usually defined as the process of exercising the system under test by feeding it the largest tasks it can operate with. Stress testing tries to break the system under test by overwhelming its resources or by taking resources away from it (in which case, it is sometimes called negative testing). Performance testing ascertains how the components of a system are performing, given a particular situation. Performance testing will show how long it takes a normal number of users to perform usual business activities using the application. Stress testing is ramping up the number of users until the application breaks, revealing the maximum number of users the application can handle. Load testing is ramping up users on the application to find out how the application performs under various scenarios. Failure testing will be to simulate a system failure and recovery testing will test how the system recovers from the failure.

Mantech will verify that the browsers, devices, platforms, and operating systems are working as expected. Mantech will work with the State to ensure this includes possible kiosks, possible card scanners, printers, mobile devices, operating systems, and browsers. Mantech will coordinate with the Unit and specific system component vendors/external parties to conduct integration testing. All inbound and outbound interfaces will be tested to ensure accurate and secure data transmission.

Mantech will conduct regular penetration testing and regular security audits. Mantech uses AWS for the cloud hosting. AWS has an intelligent threat detection service (GuardDuty) that is configured by Mantech in the AWS cloud. GuardDuty is a threat detection service that continuously monitors AWS accounts and workloads for malicious activity and delivers detailed security findings for visibility and remediation. GuardDuty combines machine learning, anomaly detection, network monitoring, and malicious file discovery, utilizing both AWS-developed and industry-leading third-party sources to help protect workloads and data on AWS. GuardDuty can analyze tens of billions of events across multiple AWS data sources, such as AWS CloudTrail event logs, Amazon Virtual Private Cloud (VPC) flow logs, Amazon Elastic Kubernetes Service (Amazon EKS) audit logs, and DNS query logs. Amazon GuardDuty identifies unusual activity within accounts, analyzes the security relevance of the activity, and gives the context in which it was invoked. This allows Mantech to determine if they should spend time on further investigation and what action should be taken. Mantech will walk through how GuardDuty will detect suspected fraud or abuse with the State if requested. Mantech will report to the State any detection of suspected fraud or abuse, along with logs and other relevant data. Mantech will walk through with the State any threat reported to ensure corrective measures were taken to meet the State's requirements.

Mantech will provide Unit resources or their designee access to test cases, test results, and defect tracking via online tool(s). The Unit reserves the right to inspect artifacts and results at any time.

Mantech will ensure the System Integration Testing (SIT) environment is available prior to UAT availability to facilitate interface testing with the Unit as provided in the Project Work Plan.

Document Testing Results [RFP VI A.4.e.vi]

Mantech will document testing results by summarizing testing activities, testing results, and defects identified. A detailed testing results report will be developed by Mantech. Once reviewed by the Unit and confirmed, the selected Unit stakeholder will provide sign-off.

Assist the Unit with User Acceptance Testing (UAT) [RFP VI A.4.e.vii]

Mantech will have a User Acceptance Testing (UAT) environment completed and fully accessible to users no later than twelve (12) consecutive months after the kickoff meeting.

Mantech will assist the Unit with their UAT efforts, from planning to execution to post-UAT support. The UAT will be completed, and all defects will be captured by Mantech. Once defects and mitigation plans are reviewed by the Unit and confirmed, the selected Unit stakeholder will provide sign-off.

Mantech will assist the Unit in executing the UAT plan, answer questions, and resolve any technical issues that arise. Mantech will collaborate with the Unit to capture, and document identified defects, including clear descriptions, steps to reproduce, and severity levels. Mantech will work with the development team to prioritize and resolve defects identified during UAT, ensuring timely fixes and feedback to the testers. Mantech will provide the Unit with defect resolution status of every defect, which will be tracked in Bugzilla. Mantech will ensure the UAT environment is available before UAT scheduled start date as provided in the Project Work Plan.

Mantech works with the State during the UAT process by collaborating with the State to ensure the UAT testing is thorough and complete. Mantech will provide onsite and offsite collaboration depending upon the State's need, and Mantech staff will engage the State as necessary to resolve any issues during the UAT. Mantech can provide backups of the UAT environment to restore it to the previous version before the next UAT session, which will eliminate the need to reload UAT exercises when the UAT is being conducted.

Obtain Acceptance from the Unit on Testing Results [RFP VI A.4.e.viii]

Mantech will present the testing findings, address any concerns or questions raised by the Unit, and gain formal approval from the Unit to proceed with the project's next phase. This includes preparing and presenting a comprehensive testing report, addressing concerns, and demonstrating responsiveness to those concerns, obtaining formal sign-off, and documenting the next steps. All testing concerns will be mitigated and resolved and be properly documented by Mantech, and the selected Unit stakeholder will then provide final sign-off. Mantech will correct all critical and high defects prior to go-live. All other defects will be reviewed and have an agreed upon remediation approach by Mantech and the Unit. Mantech will ensure the SIT and UAT environments are available at least ninety-nine percent (99%) of the time during the project testing phase.

Data/File Migration [RFP VI A.4.f]**Develop a Data/File Conversion and Migration Plan [RFP VI A.4.f.i]**

Mantech will develop a data/file conversion and migration plan that will exceed the State's requirements. The key aspects of the plan will include the following:

- **Data/File Conversion Process:** Mantech will develop, maintain, and follow a comprehensive data/file conversion and migration plan. The plan will describe the details regarding how we will conduct the data/file conversion and migration process, and how such conversions and migration will include image and document file types as well. If a change is made to the plan following the initial signature, the plan must be reviewed and

electronically signed by the selected Unit stakeholder. Once the plans are reviewed by the Unit and confirmed, the selected Unit stakeholder will provide sign-off.

- **Data/File Migration Process:** The data/file conversion and migration plan will describe the data/file conversion process and explain the process of transforming/moving data and files from one format or architecture to another. The plan will describe the data/file migration process and explain the process of moving data and files from the current system to the new system.
- **Roles and Responsibilities, Tasks and Timeline:** The data/file conversion and migration plan will define the roles and responsibilities for those responsible for data/file conversion and migration tasks, including state and Mantech staff. The plan will identify specific tasks needed to be completed by specific staff for the conversion and migration, including tasks and timelines while assigning due dates to task owners.
- **Contingency:** The data/file conversion and migration plan will include a contingency plan that involves backup procedures, rollback strategies, and plans to manage foreseeable obstacles during the transition period. The plan will describe the approach to any foreseeable obstacles regarding data migration during the transition period. The plan will include information about contingency procedures such as creating backups of the original data, developing a rollback plan to revert to the previous state, and documenting communication strategies for stakeholders and users in the event of an unsuccessful cutover.

Mantech's approach to the transition from the legacy system to the *VRVcloud* application will begin during the project kick off. Mantech will begin gathering information about the legacy data sources to ensure all data to be converted is included in our data/file conversion and migration plan. Mantech will deliver a data/file conversion and migration plan for all vital events that explains how the data conversion will be accomplished for each event type. Mantech will coordinate with the State to complete the conversion plan, which will describe the objectives of the data conversion, the methodology used to convert the data, including the tools, techniques, and how we may use the *VRVcloud* application import for the data conversion, along with how staging tables will be used, how sampling data will be used to ensure data integrity, and all other aspects of the data conversion. The plan will describe the process to be used to move data from the existing systems to the *VRVcloud* application, and the process that the State will use to validate that the data in the new system is valid and complete. Data conversion reports will be generated with records successfully converted and records not successfully converted, with information for the State to identify the records and remedy any data issues. The data/file conversion and migration plan will also include:

- A formal system tailored to the State to track, document, and manage data conversion issues.
- A detailed mapping of legacy data fields to the fields in the new solution, including any images/documents, or external digital files to be converted.
- A detailed conversion schedule including all activities, milestones, and resources necessary to convert the legacy data to the new solution.

Mantech has converted data from other vital records vendors including State "home grown" applications, and we have converted data from various sources including flat file types (.csv, .txt, .xml, .xls, and others) along with imaging indexes. Additionally, Mantech has converted data from legacy application databases such as Oracle, SQL Server, MySQL, and DB2 all running on various operating systems. Mantech has a wealth of experience converting large amounts of data. Our experience includes converting millions of records at a time, which requires sufficient processing resources to perform the conversion. Mantech's experience in those conversions enables us to apply lessons learned to this project. For example, we know that turning off indexes while converting, tuning the environment server/database to allow the conversion to be

performed, and dividing data conversion imports to improve performance can improve the conversion process for both speed and efficiency. In one State's application, we were able to reconstruct the amendment history from the legacy system during conversion by comparing multiple versions of each record and populating the audit trail, as well as tables related to the Birth module, such as the Paternity table. This allowed an amendment trail for that state's legacy data, even though their legacy system did not maintain an audit trail.

Of note, there is a difference between translating the data, i.e., taking the data sent and translating it into the source application for use, and cleansing the data, versus taking the source data and changing it prior to importing the data, potentially altering the meaning of the data. Mantech does not "cleanse" data without specific guidance from the State on what changes to the data should be made. It is the State's data, and if the data are to be altered in any way, the State would determine how to alter the data. Mantech will work with the State to identify issues in the data that will then allow the State to decide how they want to "cleanse" their data. This effort may involve changing the data at the source or providing Mantech with a translation algorithm for the data.

Mantech also saves the conversion scripts and tools in case there is a need for them in the future. For example, if the State were to convert some paper records to an electronic format and they needed to convert the electronic data into usable data in the *VRVcloud* application, the scripts and tools used for the data conversion will be useful to get this older paper data into the new system. Mantech has performed this in the past, where over a year later additional data needed to be converted and Mantech converted the data into our application for the State to then utilize.

Develop a Conversion Mapping Guide [RFP VI A.4.f.ii]

Mantech will develop a guide for the data/file conversion to transform data and files from one format or architecture to another, ensuring compatibility with the *VRVcloud* application. Mantech will provide data layout documentation to the Unit. The detailed conversion and mapping guide will be developed and followed by Mantech. Once the guide has been reviewed by the Unit and confirmed, the selected Unit stakeholder will provide sign-off.

The guide will list all data sources, file types, and formats involved in the conversion. The guide will describe data structures, field definitions, and relationships. It will identify any unique or complex data elements requiring special handling. Mantech will create detailed maps showing how data elements from the old system correspond to fields in the new system. The guide will document how to address differences in data structures, field names, data types, and coding schemes. The guide will explain any data transformations or calculations required during conversion. Mantech will outline the steps involved in the conversion process, including data extraction from source systems, data cleaning and validation, data transformation and mapping, and loading data into the new system. Mantech will specify any tools, scripts, or software used for conversion. Mantech will describe the testing procedures to ensure data accuracy and completeness after conversion. Mantech will also define acceptance criteria for successful conversion. The guide will outline processes for error handling and data reconciliation. The guide will also provide instructions for conversion team members. It will include screenshots, examples, and decision trees for complex mappings. Mantech will document any assumptions, limitations, or known issues.

Perform the Data/File Conversion and Migration [RFP VI A.4.f.iii]

Mantech will transform data and files from one format or architecture to another following the mapping guide so that it is compatible with the *VRVcloud* application. Mantech will move all data and files to the new *VRVcloud* database(s). Once the necessary data/file conversion and migration are complete, and have been tested by Mantech, and perform as intended, and the Unit has tested and confirmed, the selected Unit stakeholder will provide sign-off.

Provide a Data/File Conversion and Migration Results Report [RFP VI A.4.f.iv]

Mantech will present key conversion metrics to the Unit and stakeholders using tables, charts, and graphs to visually represent the results in a migration results report. We will highlight any potential concerns regarding the conversion process. Once a detailed conversion results report is developed and maintained, it will be followed by Mantech throughout the completion of the burn-in period. The report will be reviewed and confirmed with sign-off from the Unit stakeholder.

The migration results report will the number of records successfully converted, the number of records with errors or inconsistencies, details of any data discrepancies encountered and how they were handled, performance statistics of the conversion process (e.g., processing time, resource usage), and additional details or supporting documentation, such as detailed data mapping tables, sample error logs, results, and system configuration logs.

Obtain Acceptance from the Unit on Data/File Conversion and Migration Results [RFP VI A.4.f.v]

Mantech will present the final data migration results, address any concerns or questions raised by the Unit, and gain their formal approval to proceed with the project's next phase. This includes addressing concerns, demonstrating responsiveness to those concerns, obtaining formal sign-off, and documenting the next steps. Once the data/file conversion and migration are complete, all concerns are mitigated and resolved and have been properly documented by Mantech, the selected Unit stakeholder will provide final sign-off.

Training [RFP VI A.4.g]

Mantech works with the State to develop training for State staff and train the trainer (for end user training) that will exceed the State's requirements.

The training for State staff will include all the State functions that are required to maintain the VRVcloud application. With our Software as Service hosting, the State can focus on the business of vital records and not worry about maintaining and keeping servers running, including database administration and modification. Mantech will perform all the hosted environment tasks, including maintaining descriptions/definitions of all database tables and other environment associated tasks. Therefore, our administration training will focus on the State administration of the application, and not the environment administration. Training for State staff includes both formal and informal training. Since Mantech immediately sets up a development site on the cloud and gives the State access to that site, the informal training will begin with the first webinar or in-person meeting, focusing on the questions that arise during discussions among State staff on how to administer the application. Formal training for State staff includes technical training on how to maintain export configurations, how to maintain code tables, how to add users, and other areas. For the training Mantech provides a User Guide, a Training Plan, and a Student Guide with exercises. The instructor/facilitator for this training may include the project manager, configuration experts and/or senior developers. The training will be an in-person classroom training and demonstration that will allow time for exploring and questions.

The train the trainer training will be conducted both in person and virtual and will be coordinated with the State. The State may also want select end users in this training to get feedback on the training for end users. The length of the training will depend upon the training being conducted, the students' capabilities, and other logistics. The training will include demonstrations and will allow time for exploring and questions. For this training, Mantech provides User Guides, a training plan, a Student Guide with exercises, all based on the user's role (hospitals, funeral homes, physicians, Clerk of Courts, etc.). Training is provided by trainers experienced in vital records and the features, functions, and processes in VRVcloud.

All the user guides are available online in the VRVcloud application for users to refresh themselves any time. Documents such as frequently asked questions can be hosted in the

application for users to click on to get answers to commonly asked questions and not have to go through a user guide. The online help in the VRVcloud application is reviewed during the training, where the hover text is shown that describes the field being entered, and how help for the field can be accessed. The State is welcome to video the training and Mantech can provide a link to the training in the application, if desired.

Coordinate and Facilitate On-Site Training Instruction [RFP VI A.4.g.i]

Mantech will provide onsite training one to two months prior to go-live. Mantech will provide users and administrators with train-the-trainer system training onsite, including general use, reporting, report writing, database administration and modification, descriptions/definitions of all database tables and fields (including possible field values), record management and modification, and other key topics requested by the Unit. For the database administration, database table and fields, and other technical items, Mantech will be hosting the application, so this training is not necessary. If the State desires a technical overview covering these topics can be provided.

Mantech will plan to have all key staff onsite throughout the duration of the training session. All corresponding training materials and notes will be provided to the Unit for internal, external, and system admin users. Mantech will inform the Unit of any equipment needed to implement hands-on training. Mantech will utilize a variety of delivery methods which may include online self-paced training presentations, in-person classroom instruction, written material, and demonstrations.

The key aspects of the training will include overview and navigation of the VRVcloud application. Mantech will provide end-to-end role-based training, including all system admin tools and any potential third-party functionality. Mantech will outline the process for State users to engage Mantech support channels. When new functionality is developed for the State, Mantech will provide training on the upgrade.

Following the completion of onsite training, Unit members will be completing a survey to provide feedback confirming effectiveness in the sessions. Should the results of the survey yield information that indicates the sessions had shortfalls and supplemental training and/or information is needed, the State reserves the right to request additional onsite or remote training at no additional charge. Mantech typically provides the survey. Below is a survey from one of our training sessions:

Course/Instructor Evaluation Form

Course Details



Type

☐ System Administration☐ End-User

Title

Date

Instructor

Your Name
(Optional)

Objectives and Content

Check the appropriate column.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
You feel you have gained new skills and knowledge.					
You would recommend the course to others.					
The skills you have learned will help you perform your job.					
The course materials are easy to read.					
You will be able to use the course materials as a reference.					
The course material is suitable.					
You felt comfortable during the course.					
The lesson time frame is adequate.					

If you strongly disagree with any of the above, please give details:

Other comments and suggestions:

Exhibit 27: Screen Showing First Part of Training Survey.

Course Presentation

Check the appropriate column.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The concepts and techniques were explained clearly.					
You were encouraged to actively participate during the course.					
Your individual questions/problems were discussed to your satisfaction.					
The trainer's presentation style was effective.					
The trainer has good knowledge of the subject.					
The course was well paced.					

If you strongly disagree with any of the above, please give details:

Other comments and suggestions:

General

Check the appropriate column.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
You feel you have gained new skills and knowledge.					
You would recommend the course to others.					
The skills you have learned will help you perform your job.					
The course materials are easy to read.					
You will be able to use the course materials as a reference.					
The course material is suitable.					
You felt comfortable during the course.					
The lesson time frame is adequate.					

Any additional comments on the course (e.g., strengths or weaknesses).

Exhibit 28: Screen Showing Second Part of Training Survey.

Once the results of the survey indicate the standard for sufficient training has been met and/or any additional necessary supplemental training has been reviewed and confirmed by the unit, the selected Unit stakeholder will provide sign-off.

Provide Online Reference Training Materials for Administrator and User Manuals [RFP VI A.4.g.ii]

Mantech will provide users with training documentation including system features, feature definitions, functionality, configuration, options, and step-by-step instructions describing how to implement changes to the current configuration. The Unit should have 24x7 access to all reference materials (e.g., Requirements Matrices, Manuals, System Documentation, System Design Documentation, User Documentation, Business Rules Catalog, and Training Materials) and Mantech will update all project documentation as necessary throughout all phases of the project. Training materials for DHHS-led training will be received by the Unit for review and approval in accordance with the appropriate date as agreed upon in the Project Plan and within a timeframe that corresponds with scheduled training. Changes to previous versions will be identified for ease of review of the changes.

A complete set of training materials and documentation will be developed and maintained by Mantech. The materials and documentation will be reviewed by the Unit and electronically signed by the selected Unit stakeholder.

The key aspects of Mantech's materials and/or documentation will include the following:

- Mantech will deliver an operations manual which shall provide guidelines for the operation and use of the System and/or System component(s) containing the policies, processes, and workflows for the System and/or System component(s).
- Mantech will deliver a data dictionary that contains field definitions and formats as well as database names and descriptions, database table, field type and length, valid values, and their corresponding descriptions. The data dictionary is available via the *VRVcloud* application and can be accessed by authorized users.
- Mantech's materials will include step-by-step procedures for completing functions in the system.
- Mantech's system documentation will include specs for each system environment and process documentation for upgrading the system. For the specs (such as server specs, etc.) for the system environment and process documentation, and other technical items, Mantech will be hosting the application, so this information may not be necessary. If the State desires a technical overview covering these topics one can be provided.
- Mantech's user manuals will help users understand the purpose and operation of the system/system component(s) for each business process/major program/functional area. If acronyms are used in user instructions they will be identified and will be consistent with windows, screens, reports, and the data element dictionary.
- Mantech's training will cover system navigation, online help, and policies and procedures.
- Mantech's user guides and other documentation will be available online and provide an on-line search capability with context-sensitive help. Mantech's *VRVcloud* application will provide the ability to produce a printable training manual upon request. Mantech will use version control to retain historical versions of documentation and where revisions will be clearly identified. Mantech's user materials and/or documentation will be written and organized so that novice users can learn from reading the documentation on how to access the on-line windows/screens, read reports, and perform all other user functions. Mantech's user manuals will contain a table of contents and an index. Mantech will coordinate with the State on the descriptions and steps to take to correct an error/warning message. When an error/warning is triggered, the error/warning message will display the error/warning and the steps to take to correct the error/warning. All the error/warning messages, and what triggers the message to be displayed, can be viewed or printed from the *VRVcloud* application by an authorized user. When Mantech uses abbreviations, they will be consistent throughout the documentation.

- Mantech's user manuals will contain a section describing all reports generated within the subsystem, to include a narrative description of each report, the purpose of the report, a definition of all fields in the report, including detailed explanations of calculations used to create all data and explanations of all subtotals and totals, definitions of all user-defined, report-specific code descriptions; and a copy of a representative report with pages from each report. Instructions for requesting reports or other outputs will be presented with examples of input documents and/or screens. The user manual will also include instructions for making online updates (if the report allows updates) and will clearly depict which data and files are being changed.

Mantech provides industry-leading user documentation developed by our experienced in-house documentation team. All VRVcloud user documentation and training products are developed and managed in a modular fashion so that reassembly into role-based products is simplified, and common content modules, such as menu navigation, are maintained in a single baseline. Like the application itself, these products are easily customized for state-specific configurations and reassembled into role- or context-based courses, e.g., Birth Clerk User Guide. Mantech will deliver a user guide for each user group (e.g., hospital, physician, state, county, etc.) that describes the operation and use of the appropriate system features that is available in the VRVcloud application.

User guides and training materials are provided to the State for review. The user guides provide instructions for accessing the system, navigation, and special system features, and explains how to execute the functions needed to perform their jobs with the new system. The user guides are typically provided in MS Word format. Additionally, these documents are then converted to Adobe PDFs and stored in a location where end users may access them from the application. In addition to the on-line user guides, the VRVcloud application contains a messaging function that allows an authorized user to add messages that users can view and then take action. For example, if the State wants to add a Frequently Asked Questions (FAQ) document, they can add a message indicating that a FAQ document exists and instruct the users to click on the link to access the document. This allows the State to update the FAQ based on feedback to ensure the latest information is available to the end users. This documentation process resulted in the successful delivery of user guides that received Crown copyrights and are being used in the United Kingdom. Additionally, if the State desires a training video Mantech will work with the State to develop the video and to host the video in the VRVcloud application.

Obtain Acceptance from the Unit on Training Results [RFP VI A.4.g.iii]

Mantech will present training results, address any concerns or questions raised by the Unit, and gain their formal approval to proceed with the project's next phase. Once all training concerns are mitigated and resolved and properly documented by Mantech, the selected Unit stakeholder will provide final sign-off.

Implementation [RFP VI A.4.h]

Mantech will implement a production environment completed and fully accessible to users no later than fifteen (15) consecutive months after the Kick-off meeting.

Mantech's approach to change management is documented in the change management plan. The same change management plan that was followed during development is followed in implementation. Please see section **Develop a Change Management Plan** for additional information on the change management plan.

Mantech's approach to issue management is documented in the issue management plan. The same issue management plan that was followed during development is followed in implementation. Please see section **Develop an Issue Management Plan** for additional information on the issue management plan.

Mantech's approach to **defect management** is similar to the defect management during development. For defect tracking Mantech hosts a Bugzilla server to allow assigned representatives from the State to enter and track any defects. Bugzilla allows entries to be assigned a severity level and priority and tracks the status of a resolution. Defects are entered with a status of New, which when addressed is changed by Mantech to a resolution status such as Fixed, Invalid, or Works-As-Designed. Questions, clarifications, and remedies can be entered, and are documented in the permanent defect history. When a defect is resolved, the originator reviews the resolution, reopening the bug with additional information if not resolved, and eventually updating the status to Closed. Bugzilla can accommodate the reporting of a specific module, sub-module, build number, and other pertinent information to track the specific issue of a specific build and/or component of the build.

Mantech's approach to **monitoring initial operation** of the VRVcloud application is Mantech will monitor the initial operation of the solution to ensure there are no immediate or ongoing adverse effects on the State's programs. Initial operation issues can typically be categorized into two basic types, technical and functional. A technical issue example is the application is experiencing some sort of failure such as slow response time or is not available. A functional issue example is the users may be encountering difficulty executing the application to perform their duties. This can occur even though the users are trained. They may not understand what they are experiencing and thus are contacting the State with requests for assistance.

Mantech deploys a two-pronged approach to ensure the initial operation of the solution operates as designed. The Mantech project manager will be a dedicated resource during the initial operation for the State to contact. In the past this resource would have been onsite, but since this is a cloud operation being onsite does not provide any additional advantages, so they will be offsite unless the State requests them to be onsite. If any issues arise, either technical or functional, the project manager will coordinate with the State and Mantech staff to resolve the issue and then perform a root cause analysis. The analysis will be shared with the State once it is complete.

For technical issues AWS provides a myriad of detailed monitoring tools that will provide in-depth technical monitoring of the application. The monitoring tools are referred to as CloudWatch along with Simple Notification Services (SNS). CloudWatch provides in depth, detailed metric monitoring. Simple Notification Services can push a notification in a variety of methods out to notify staff of any issues. Mantech will configure CloudWatch to monitor numerous metrics, from wait time, read time, memory usage, storage utilization, and numerous other metrics. These metrics will be set to trigger an alarm if a range within the metric is triggered that will then send out a message using SNS to Mantech. The metrics will be monitored on a minute-by-minute basis, or other time and/or event methods. The number, complexity, and detail of the available monitoring for the application on AWS are too in-depth and complex to define all the options in this document, however Mantech will confirm with the State the monitoring settings. Mantech will configure AWS to maintain statistics concerning availability, to maintain physically different locations and/or mirrored sites (including a 1,000-mile requirement), disaster recovery, and 24/7 availability of the environment. This automated monitoring will be executing the entire time the application is in production and will alert Mantech to issues such as slow response times or if the application is not available.

Functional issues will be handled on a case-by-case basis, depending on what type of issues the users are experiencing. A real-world example of an initial roll out functional issue occurred during one implementation when a user who was trained started to use the application and immediately said the application was not working. That is because even though they were trained on the application, for some reason when using it in the "real world" whenever an edit message came up, they closed the window instead of reading the edit message and responding accordingly. For

example, when entering a low birth weight, a warning message displayed that the birth weight was low and the user should verify the weight. Since the previous application never questioned the birth weight they thought there was something incorrect with the application. Our PM walked them through a screen and discovered what they were doing and informed them to read the message and take the appropriate response. Once they did that everything was fine. The point being that we never know what we will encounter with a diverse user base no matter how well trained they are or how easy the application is to use. Another example of a functional issue may be that the State is experiencing a number of unknown responses for a particular data field. The users may just be choosing to enter unknown instead of entering the data. Because of the DSE, Mantech can quickly make edit changes to add or edit a prompt to the user to verify that the unknown value is most likely available and that unknown should not be frequently used. Mantech will collaborate on any issues with the State during the initial roll out.

Perform and Complete all Aspects of the Implementation [RFP VI A.4.h.i]

After the system is implemented and delivers the desired functionalities, all concerns are mitigated and resolved, it is fully operational, and has been properly documented by Mantech, the selected unit stakeholder will provide final sign-off. As such, there shall be a transition to the system being officially and formally available in the production environment for all internal and external users.

Go-live [RFP VI A.4.h.ii]

Mantech will provide go-live procedures to meet the State's requirements. This includes a go-live plan and check list to ensure the State is prepared for the go-live date.

Assist the Unit with On-Site Implementation Assistance for Go-Live Week [RFP VI A.4.h.iii]

Mantech will provide the Unit with onsite implementation assistance for go-live week with hands-on support during the critical period when the system transitions into full operation. Mantech will monitor system performance and promptly identify any technical issues, assisting users with navigating the system and resolve any issues, document feedback and questions for post-launch analysis and improvement, and escalate any major issues to relevant teams. Mantech will plan to have all key staff onsite throughout the duration of go-live week session. In the event there are substantial open unresolved issues (i.e., DHHS business operation needs), the Unit may deem it necessary to extend and/or require additional onsite assistance be provided by the Mantech's key staff at no additional charge to the State. Once all concerns have been mitigated and resolved and properly documented by Mantech, the selected Unit stakeholder will provide final sign-off.

Obtain Acceptance from the Unit on Implementation Results [RFP VI A.4.h.iv]

Mantech will present implementation results, address any concerns or questions raised by the Unit, and gain formal approval to proceed with the project's next phase. This includes gathering feedback, demonstrating the achieved benefits, and addressing any remaining concerns. Once the system has been successfully implemented, all concerns are mitigated and resolved and have been properly documented by Mantech, the selected Unit stakeholder will provide final sign-off.

Additional Information [RFP VI A.4.h.v]

Work performed by the Vital Records Unit is subject to State and Federal statutes that may not be within the system's capabilities. This may necessitate a change order initiated by DHHS. Mantech will be responsive to making prescribed modifications timely and in accordance with the change order process to achieve timely compliance and avoid service disruption. All change requests, including federally mandated requests, will be documented using the Change Request (CR) template, and from there the Change Management plan will be followed to incorporate the change. Mantech allows the State to determine the priority of the change and that will dictate the timeline for the implementation. Once the change is formally documented, Mantech will then determine if this is something that can be performed under maintenance, or if it can be completed

with the 160 hours that the State requested for each year (accumulated if not used). If the 160 hours has been utilized, a general guide is used for pricing that if the change can be accomplished within 1-2 weeks of effort there will be no cost. Additionally, because of the flexibility demonstrated with the *VRVcloud* application often changes to the screens, workflows, and other items can be accomplished at no cost to the State. Because Mantech has been in the vital records business for 25 years, we understand that federally mandated changes are of importance to the State. Because of that, and because we would have to perform the change for all our customers, these are typically done at no cost.

Post-Implementation [RFP VI A.4.i]

Mantech's approach for steady state is to consider the solution stable after 30 days without critical or major issues. While the solution is trying to achieve a steady state, Mantech staff are dedicated to monitoring and resolving, on a day-to-day basis, the condition of the solution. Mantech will meet with the State daily (or as mutually agreed necessary) to review the state of the solution and any outstanding issues. Once the steady state has been achieved, Mantech will warrant the solution for 60 days. After the 60-day warranty, the State will execute the system maintenance agreement. Once in system maintenance, the maintenance agreement will determine how the solution will be maintained.

Mantech's approach to the proposed evolution, planned releases, and on-going development philosophy of core products and software tools in the *VRVcloud* application is to maintain a roadmap of future functionality. Mantech's road map for the *VRVcloud* application focuses on integrating the latest technology into our application along with ensuring that customers participate in the inclusion of future functionality. Mantech is constantly seeking to improve the quality and value of the *VRVcloud* application. In close collaboration with customers, we develop long term plans to add features, technology, and overall value of *VRVcloud*. Mantech focuses on a quarterly planned release schedule for general improvements while coordinating with customers for release schedule to customer environments that meets their specific needs.

The near-term focus is to continue to integrate FHIR implementations, we have been certified for the FHIR Vital Records Death Reporting (VRDR) standard and are working with other States to become certified. Mantech has also started testing with the FHIR Birth and Fetal Death Reporting (BFDR) standard and will be working to achieve certifications for all our customers. Mantech also desires and to expand the capabilities of our Apple and Android mobile apps. Our mobile apps currently allow physicians, medical examiners, coroners, and their assistants to enter cause of death and certify deaths, along with approving cremation permits. States have been receiving such good feedback on the mobile apps that they are asking us to expand this capability for those users to perform all their activities on the mobile app. We also continuously update the user interface based on customer feedback, incorporating suggestions from States to enhance the user experience. We recently demonstrated our Artificial Intelligence (AI) capability at the last NAPHSIS conference, where we showed how when uploading a document by running an AI algorithm against it we could notify the user they were not uploading the correct document, and we could identify if key items were missing from the document. Additionally, we demonstrated how our user manuals could be available to users by simply asking a question through an interface in the *VRVcloud* application and it would search users guides and State statutes to provide a comprehensive answer to the question.

Each enhancement release of *VRVcloud* begins with discussing the needs of our customers and determining which enhancements offer the best return on investment for them. This is accomplished through regular communications, coordination with customer strategic plans and evaluating evolving directions of the Vital Records industry. We encourage customers to collaborate on solution design, compare needs and help to determine the best course of action.

Based on customer needs specific items from the roadmap can be accelerated or delayed from the target timeline.

Once we understand the most desirable features as determined by both our customers and industry needs, we leverage our rapid-prototyping, agile methodology to get functional enhancements available in our cloud-based environments to begin receiving customer feedback as soon as possible. This approach allows but Mantech and customers to ensure that functional and technical enhancements meet target of delivering maximum value.

Release Time Frame	Release Enhancements
Prior Year	FHIR Integration with Medical Examiners FHIR Vital Records Death Reporting (VRDV) Certified Custom Integration with MDI Log for Medical Examiners Mobile App Single Sign On Active Directory Custom Single Sign Dashboard with Enhanced Work Queues Integration with legacy Imaging Native Image Storage Enhanced document generation
Q2 2026	FHIR BFDR integration Integrate additional states with our custom address validation
Q4 2026	User Interface Enhancements 2.1
Q1 2027	Token-based Multi-Factor Authentication Customizable analytics-based dashboards Artificial Intelligence integration
Q2 2026	Mobile App functionality expansion
Q3 2027	User Interface Enhancements 2.2
Long Term Planned	Enhanced business process management and work queues.

Exhibit 29: Roadmap Listing of Planned Enhancements.

Mantech's approach to system improvements is the roadmap, mentioned above. Mantech's approach to change requests is documented in the change management plan. The same change management plan that was followed during development is followed in implementation and in the post implementation phase. Please see the section titled Develop a Change Management Plan for additional information on the change management plan. Mantech's approach to how bug fixes are prioritized is the State determines the prioritization. For defect tracking Mantech hosts a Bugzilla server to allow assigned representatives from the State to enter and track any defects. Bugzilla allows entries to be assigned a severity level and priority and tracks the status of a resolution. Mantech will prioritize to work on all critical bugs first. Within a bug category there can also be subcategorization. For example, there could critical P1 bugs, critical P2 bugs, and we subcategorize down to P4. In this case, Mantech will work on the critical P1 bugs first, then P2, etc. As to how these items relate to other client requests, Mantech always works with the customer to prioritize work, ensuring the State's priorities are our priorities.

Below is an excerpt from our maintenance agreement defining response times, escalation process of support, support tracking system, severity level determinations, and support options.

Begin excerpt:***Helpdesk and Incident Management Service Levels******First and Second Level Service***

Mantech agrees to provide Second Level Technical Support via a Help Desk facility. The State agrees to provide a First Level User Helpdesk.

Help desk levels:

Support Level	Support Description
First Level User Help Desk	Provided by the State. Takes support requests directly from end users. Resolution by help desk or routing to personnel within the State if functional issue or to technical support for technical problems.
Second Level Technical Support	Provided by Mantech. Only takes support requests from First Level User Help Desk team. Mantech's help desk consists of support via telephone, email, and internet. Depending upon the issue, Mantech will remotely meet with the end users in a webinar to assist troubleshooting issues. Our only request is that a State representative also be present in the meeting.

Exhibit 30: Support Level.

Severity Definition. The table below identifies the severity definitions of support requests and associated response/resolution times. These definitions apply to the VRVcloud software and hosting environment:

Severity	Definitions or Examples
Critical	The entire VRVcloud or one of the modules is unavailable.
Major (Severe)	There is a loss of major functionality, or a consistent and reproducible non-conformity that results in a legal or regulatory non-compliance where there is no workaround available.
Normal (Medium)	There is a loss of some functionality, or a consistent and reproducible non-conformity that results in a legal or regulatory non-compliance where there is a workaround available.
Minor (Low)	There is a consistent and reproducible non-conformity that results in no loss of functionality and no legal or regulatory non-compliance.
Enhancement	Modifications that are made to the VRVcloud application that do not fall in above categories.

Exhibit 31: Severity Conditions.

If a critical and/or major issue exists with a version of the VRVcloud software recently placed into production, Mantech agrees to roll back to the previous version of VRVcloud.

All support requests will be entered into Bugzilla, or currently used bug reporting tool. If Bugzilla is unavailable, then email will be used to report the support request. For critical and major bugs, the State will use Bugzilla, email, and telephone to Mantech's technical support.

Service Priority. The table below identifies the target response time for all support requests. All target times are based on normal business hours: Monday to Friday, 9:00 to 18:00, EST excluding all observed holidays.

Severity	Definitions or Examples	Target Response Time
<i>Critical</i> Application is non-operational or inaccessible.	<i>For calls logging Critical bugs requiring Mantech working hours</i>	<i>Within 1 working hour after receiving notification of a bug by the State</i>
<i>Major (Severe)</i> Large impact on application functionality	<i>For calls logging Major bugs during Mantech working hours</i>	<i>Within 2 working hours after receiving notification of a bug by the State</i>
<i>Normal (Medium)</i> Moderate impact on application functionality	<i>For calls logging Major bugs during Mantech working hours</i>	<i>Within 8 working hours after receiving notification of a bug by the State</i>
<i>Minor (Low)</i> Little impact on application functionality or system operations	<i>For calls logging Major bugs during Mantech working hours</i>	<i>Within 24 working hours after receiving notification of a bug by the State</i>
<i>Enhancement</i>	<i>All issues logged in Bugzilla as an enhancement</i>	<i>Handled on a case-by-case basis</i>

Exhibit 32: Severity Response Times.**Escalation**

At any point during the operation of the VRVcloud Maintenance Agreement, either party can escalate unresolved concerns and issues. Examples of such concerns include:

- A support request was not responded to within a timeframe.
- An RFC timeline is not met.
- The classification of severity of problems.
- The communication of a fix relating to a critical or major bug is not adequate.

Escalation Rules. The following basic rules should be followed when escalating issues:

1. First point of escalation within the State should be to the State's program manager.
2. First point of escalation within Mantech should be to Mantech's program manager.
3. No upwards escalation should occur without a peer-to-peer discussion.
4. Prior to upwards escalation, each peer should inform their counterpart of escalation.
5. Once escalated, the senior escalation point must be updated on all progress; resolution. of escalated issues should be confirmed by all parties to whom escalation has occurred.

Escalation Path. Where both parties cannot agree to the problem, they should escalate the issue as identified below:

Nebraska		Mantech	
<i>Name</i>	<i>Role</i>	<i>Name</i>	<i>Role</i>
<i>TBD</i>	<i>TBD</i>	<i>Rob Ferguson</i>	<i>Project Manager</i>

		Joe Lopez	Account Manager
		Anna Khizhnyak	DHA Portfolio Lead

Exhibit 33: Escalation List.**End excerpt.**

AWS is responsible for the hardware that runs AWS services. AWS will notify Mantech of any hardware upgrades/replacements that are necessary, and Mantech will notify the State of the upcoming hardware changes. For firmware security patches AWS will automatically apply the patches to the hardware. AWS will not allow obsolete or unsecure hardware to execute in the AWS cloud. This applies for as long as the State is executing a maintenance agreement with Mantech and applies to all hardware items executing the VRVcloud application. AWS will provision any repairs or replacements and AWS. Mantech will target a minimum availability of 99.9% uptime, to include all unscheduled outages and exclude all scheduled maintenance times.

Burn-in Period [RFP VI A.4.i.i]

Mantech will provide onsite, post go-live support if deemed necessary by the Unit. Mantech will adhere to a Burn-In Period which will begin upon completion of system go-live and will continue for ninety (90) calendar days thereafter completion of the Burn-In Period. Once reviewed by the Unit and confirmed, the selected Unit stakeholder will provide sign-off, unless one of the Critical Incidents listed directly below occurs:

- **Out of Business:** The Critical Incident causes the system to be completely down, and the State of Nebraska is unable to conduct business with the system at any point following system implementation. To mitigate Out of Business Mantech is proposing using AWS for hosting and we will configure AWS with physically different locations and/or mirrored sites (including a 1,000-mile requirement), disaster recovery, and 24/7 availability of the environment. The likelihood that both mirrored sites will be down is extremely small. Since Mantech started hosting, we have only one instance where the failover from one mirrored site to another has occurred. When the failover occurred, there were no reported issues from users, and when we met with the State shortly after the failover to discuss it, they had no indication that anything had occurred at all. There was a recent AWS issue where it went out of business for about 12 hours. One of our hosted customers experienced the out of service, the other did not.
- **Time Sensitive:** The Critical Incident pertains to time-sensitive functions, such as recording vital events, processing payments, and issuing or amending certified copies of certificates, preventing the use of such functions at any point following system implementation. To mitigate Time Sensitive Mantech is proposing using AWS for hosting and we will be using a pro-active, auto-scaling policy that responds to the real-time metrics by automatically scaling the servers up or down which allows Mantech to meet not only the Quality of Service (QoS) requirements, but also the QoS requirements for the anticipated user workload over the future lifespan of the system. Mantech will configure the availability and performance monitoring to ensure the State has accurate and timely availability and performance reporting. AWS has numerous monitoring tools, and one of the tools is Cloud Watch with Simple Notification Services (SNS). Cloud Watch provides in depth, detailed metric monitoring including availability and performance. SNS can push a notification in a variety of methods out to notify staff of any issues. Cloud Watch can be set up to monitor numerous availability metrics and these metrics can be set to trigger an alarm that will then send out a message using SNS. The metrics can be monitored on a minute-by-minute basis, or other time and/or event methods. The number, complexity, and detail of the availability/performance monitoring for the application on AWS are too in-depth and complex to define all the options in this response. For availability/performance of the

application deployed in the AWS cloud hosting environment Mantech will use metrics from the servers such as CPU usage, memory usage, as well as custom metrics from the Java Virtual Machine (JVM) like the average heap memory usage, average response times, etc., to automatically scale the application to meet the growing workload demands.

- **Data Movement:** The Critical Incident pertains to any interfaces required by the Vital Records Unit, such as the interface with the Online Verification System (OVS) or Fast Healthcare Interoperability Resources (FHIR) messaging at any point following system implementation. Note: Per the questions and answers, this requirement only applies to vendor related issues. Therefore, if an interface is not operational due to no fault of Mantech, this item is not applicable. To mitigate Data Movement, Mantech will ensure that any changes to the interfaces are thoroughly tested prior to moving to production, and once in production any issues with the interfaces will be immediately reviewed by Mantech. If the issues are due to Mantech's configuration of the interface, Mantech will take immediate steps to address the issue and that would qualify as Mantech's responsibility for Data Movement. If the issue is due to the external party that is being interfaced with, Mantech will work with the State to ensure the external party interface is operational. That would not be Mantech's responsibility for Data Movement. It is our experience that most of the interface issues are due to changes made by the external party that were not communicated to Mantech. For example, the addition of fields to the interface, changing the authentication method, the external site is down and not capable of interfacing, placing new code in the interface that is not backwards compatible and not notifying Mantech, etc. In these cases, Mantech will prioritize changing our interface to ensure it operates.

Important - If any of the Critical Incidents listed directly above occur during the "Burn-in Period" of the contract, Mantech may be subject to liquidated damages as outlined in Section (II)(Z).

If a Critical Incident occurs, the Burn-in Period will be stopped, and Mantech will complete all necessary work to correct the problem. The Critical Incident will be considered resolved when both parties agree Mantech has provided a permanent solution to the software issue. When both parties agree the Critical Incident has been resolved, the State will notify the vendor in writing whether the Burn-in Period will be continued, extended past the initial ninety (90) calendar days, or be reset back to day zero to begin again.

Following a successful burn-in period and sign-off, the project will immediately transition into the Support, Maintenance, and Operations phase.

Mantech will complete the action only after new versions or software updates have been fully tested, found critical error-free, and agreed upon with the Unit. Mantech will provide timely system fixes and resolution of issues deemed critical by the Unit. Resolutions will be applied or installed only after appropriate testing by Mantech and acceptance of the Unit. Mantech will provide proper notification and details regarding when the system is or will be unavailable to users.

Mantech will provide the process for the Unit to identify and improve the system based on defects, feature enhancements, or needed adjustments. Mantech's process for the Unit to identify and improve the system based on defects, feature enhancements, or needed adjustments is during status meetings Mantech will discuss with the State any potential enhancements or adjustments they are considering, along with the discussion of any defects. Mantech's approach to the proposed evolution, planned releases, and on-going development philosophy of core products and software tools in the VRVcloud application is to maintain a roadmap of future functionality. Mantech's roadmap for the VRVcloud application focuses on integrating the latest technology into our application along with ensuring that customers participate in the inclusion of future functionality. Mantech is constantly seeking to improve the quality and value of the VRVcloud application. In close collaboration with customers, we develop long term plans to add features, technology, and overall value of VRVcloud.

Coordinate and Facilitate a Post-Implementation Review Teleconference Meeting [RFP VI A.4.i.ii]

Mantech and the State will conduct a post-implementation review to evaluate whether project objectives were met, determine how effectively the project was run, learn lessons for the future, and ensure that the Unit gets the greatest possible benefit from the project. This should occur within two (2) weeks following the acceptance of the Burn-In Period.

Once a formal project performance assessment is completed by Mantech and is reviewed by the Unit and confirmed, the selected Unit stakeholder will provide sign-off.

Provide a Plan for Enhancement Requests [RFP VI A.4.i.iii]

Mantech's approach to system improvements to the VRVcloud application is the roadmap, mentioned in response to Post Implementation. Mantech's approach to change requests is documented in the change management plan. The same change management plan that was followed during development is followed in implementation and in the post implementation phase, regardless of if the change request for a federal or not federal required change. All requests for change, such as enhancements, federal required change, state statute required change, all follow the same change management process where the change is properly documented and follows the proper channels to ensure the change is prioritized and approved by all necessary parties. Please see section **Develop a Change Management Plan** for additional information on the change management plan.

Once a change management (enhancement request) plan is developed, maintained, and followed by Mantech it will be reviewed by the Unit and confirmed, and the selected Unit stakeholder will provide sign-off.

Provide a Transition Plan from Implementation to Support, Maintenance, and Operations [RFP VI A.4.i.iv]

Mantech will outline the steps and activities for transitioning from the implementation of system to maintenance and operation in a transition plan. The plan will define transition goals, transition activities, identify support resources, assign support responsibilities, and identify support communication channels. Mantech will designate an account manager whose role is to ensure business specifications/requirements are being fulfilled and be an escalation point for questions and support. Once the application is "live" in production, Mantech ensures the same staff are assigned to maintain the application for the first year. This ensures a continuity of knowledge on the project and that the State continues to work with experienced staff. After the first year, Mantech may choose to rotate staff for maintenance, always creating a balance to ensure experienced staff are assigned. This ensures several Mantech staff are experienced with the State's application; having numerous experienced staff available to support the State is part of our business continuity plan.

Once a comprehensive transition plan is developed and followed by Mantech, it will be reviewed by the Unit and confirmed, and the selected Unit stakeholder will provide sign-off.

Obtain Final Sign-Off [RFP VI A.4.i.v]

Mantech will present post-implementation results, address any concerns or questions raised by the Unit, and gain their formal approval to proceed with the project's next phase. Mantech will ensure that all objectives have been met satisfactorily and prepare final sign-off documents, which include, at a minimum, the following: project summary, list of deliverables, acceptance criteria, statement of satisfaction, and signature fields for stakeholders.

Final sign-off documents must be prepared and provided to the Unit for review. All concerns must be mitigated and resolved and be properly documented by Mantech. Once complete, the selected Unit and State of Nebraska stakeholders will provide final sign-off approval of the system.

Support, Maintenance, and Operations [RFP VI A.4.j]

Mantech's methodology to complete the action only after new versions or software updates have been fully tested, found critical error-free, and agreed upon with the Unit is to perform testing of new versions according to the testing plan. Once the testing plan steps for a new release have been performed and approved by the State, only then will new versions of the software complete the action of being implemented.

Mantech's methodology to provide timely system fixes and resolution of issues deemed critical by the Unit is to first ensure the issue management plan is followed. The issue management plan will outline the process of identifying, tracking, and resolving issues that arise throughout the project lifecycle. Please see section **Develop an Issue Management Plan** for additional information on the issue management plan.

Mantech and State will agree upon a regular maintenance schedule. With the hosting in the AWS cloud Mantech has found there is very little need to take the system down to perform "regular" maintenance. With multiple servers in a load balanced environment, there may be a need to take one server down for a short time, but users can still be served on the other server. If any regular maintenance is to occur, it will only be performed outside normal business hours. Mantech will provide proper notification and details regarding when the system is or will be unavailable to users.

Mantech will provide a process for the Unit to identify and improve the system based on defects, feature enhancements, or needed adjustments. During status meetings Mantech will discuss with the State any potential enhancements or adjustments that they are considering, along with the discussion of any defects. Mantech's approach to the proposed evolution, planned releases, and on-going development philosophy of core products and software tools in the VRVcloud application is to maintain a roadmap of future functionality. Mantech's road map for the VRVcloud application focuses on integrating the latest technology into our application along with ensuring that customers participate in the inclusion of future functionality. Mantech is constantly seeking to improve the quality and value of the VRVcloud application. In close collaboration with customers, we develop long term plans to add features, technology, and overall value of VRVcloud.

Mantech will designate an Account Manager for the life of the contract whose role is to ensure business specifications/requirements are being fulfilled and be an escalation point for questions and support. Mantech will ascertain the individual during the development of the Staffing Plan.

Mantech will provide staffing and operation of a Help Desk during normal business hours. Mantech will provide level 0 (customer self-service) by providing access to FAQ documents, self-service for password changes, and online user guides. Mantech will provide level 1(basic support) by providing support to the State when the State requests assistance for tasks such as setting up a new user or adding values to code tables. Mantech will not be taking requests from end users, however on a case-by-case basis Mantech may need to meet with the end user to resolve an issue. In those instances, Mantech requests a representative from the State be present. In our experience most questions that come from the end users are not questions that Mantech should be answering, and that require vetting by the State before talking to Mantech. Most of the questions will be asking to reset passwords, unlock accounts, what is my user id, etc. Mantech is not familiar with Nebraska users, nor are any of the vendors, therefore Mantech should not be unlocking accounts because user XYZ called and asked for it to be unlocked. Mantech will not know who works at what location, and that user XYZ is really user XYZ is the person on the phone. The State will be much more familiar with the user base. Additionally, questions asked by the end users are typically like: *On the intake form the mother listed one address and on the birth form, she listed another address. Which address should we use?* These are questions that should only be answered by the State, and not by Mantech. Mantech has nine production implementations we are supporting and in none of those states do we take requests from the end user, nor should

the State want a vendor interacting with their end users without knowledge from the State. Mantech will provide level 2 (moderate support) that includes when issues are reported to the State by the end user, and the State cannot resolve the issue, Mantech will provide support to the State for the issue resolution. Mantech will provide level 3 (technical/integration) support related to the functionality of the scope of work by providing assistance to the State when issues with integrations or technical issues are reported to the State and the State cannot resolve them. For example, an integration issue may require the party being integrated with to be contacted to ensure their end is operational, for example say the Nebraska cancer registry. Mantech can be present when reaching out to the Nebraska cancer registry, but Mantech would want a State representative on the call to ensure the Nebraska cancer registry is responding, and if not for the State to make connections to the appropriate staff at the Nebraska cancer registry to resolve the issue. Mantech will provide support for as long as the State is contracted for support. Mantech will provide support for all critical system failures or issues 24x7x365. Mantech will provide help desk training to specified Unit staff members any time the State requests.

Important - If any of the Critical Incidents listed directly below occur during the performance period of the "Support, Maintenance, and Operations", Mantech may be subject to liquidated damages as outlined in Section (II)(Z).

- **Out of Business:** The Critical Incident causes the system to be completely down, and the State of Nebraska is unable to conduct business with the system at any point following system implementation. To mitigate Out of Business Mantech is proposing using AWS for hosting and we will configure AWS with physically different locations and/or mirrored sites (including a 1,000-mile requirement), disaster recovery, and 24/7 availability of the environment. The likelihood that both mirrored sites will be down is extremely small. Since Mantech started hosting, we have only one instance where the failover from one mirrored site to another has occurred. When the failover occurred, there were no reported issues from users, and when we met with the State shortly after the failover to discuss it, they had no indication that anything had occurred at all. There was a recent AWS issue where it went out of business for about 12 hours. One of our hosted customers experienced the out of service, the other did not.
- **Time Sensitive:** The Critical Incident pertains to time-sensitive functions, such as recording vital events, processing payments, and issuing or amending certified copies of certificates, preventing the use of such functions at any point following system implementation. To mitigate Time Sensitive Mantech is proposing using AWS for hosting and we will be using a pro-active, auto-scaling policy that responds to the real-time metrics by automatically scaling the servers up or down which allows Mantech to meet not only the Quality of Service (QoS) requirements, but also the QoS requirements for the anticipated user workload over the future lifespan of the system. Mantech will configure the availability and performance monitoring to ensure the State has accurate and timely availability and performance reporting. AWS has numerous monitoring tools, and one of the tools is Cloud Watch with Simple Notification Services (SNS). Cloud Watch provides in depth, detailed metric monitoring including availability and performance. SNS can push a notification in a variety of methods out to notify staff of any issues. Cloud Watch can be set up to monitor numerous availability metrics and these metrics can be set to trigger an alarm that will then send out a message using SNS. The metrics can be monitored on a minute-by-minute basis, or other time and/or event methods. The number, complexity, and detail of the availability/performance monitoring for the application on AWS are too in-depth and complex to define all the options in this response. For availability/performance of the application deployed in the AWS cloud hosting environment Mantech will use metrics from the servers such as CPU usage, memory usage, as well as custom metrics from the JVM

like the average heap memory usage, average response times, etc., to automatically scale the application to meet the growing workload demands.

- **Data Movement:** The Critical Incident pertains to any interfaces required by the Vital Records Unit, such as the interface with the Online Verification System (OVS) or Fast Healthcare Interoperability Resources (FHIR) messaging at any point following system implementation. Note: Per the questions and answers, this requirement only applies to vendor related issues. Therefore, if an interface is not operational due to no fault of Mantech, this item is not applicable. To mitigate Data Movement, Mantech will ensure that any changes to the interfaces are thoroughly tested prior to moving to production, and once in production any issues with the interfaces will be immediately reviewed by Mantech. If the issues are due to Mantech's configuration of the interface, Mantech will take immediate steps to address the issue and that would qualify as Mantech's responsibility for Data Movement. If the issue is due to the external party that is being interfaced with, Mantech will work with the State to ensure the external party interface is operational. That would not be Mantech's responsibility for Data Movement. It is our experience that most of the interface issues are due to changes made by the external party that were not communicated to Mantech. For example, the addition of fields to the interface, changing the authentication method, the external site is down and not capable of interfacing, placing new code in the interface that is not backwards compatible and not notifying Mantech, etc. In these cases, Mantech will prioritize changing our interface to ensure it operates.

1.b. Proposed Development Approach

Proposed Resolution [RFP VI B.1]

More Than a Solution—VRVcloud—A Tool to Meet the Evolving Needs of Vital Records

Mantech has the ability, capacity, and skill to deliver a vital records application to the State of Nebraska that meets all their requirements as evidenced by our numerous successful implementations of vital records applications for other states. Mantech has already performed this same work for the states of Kansas, Oklahoma, Missouri, Arkansas, Massachusetts, Tennessee, Connecticut, Montana, and Washington, as well as the United Kingdom where data entry screens, workflows, reports, etc., were configured to meet State specific requirements. Mantech has never failed a VRVcloud implementation and has always met the requirements of the customer. Mantech's integrity and character in the vital records area is well known, where Mantech is known to work with the State to implement the application the State desires, not one that meets another State's requirements because that is easier for the vendor. Mantech is proposing to deliver, within the budget and time constraints, all listed required functionality in this RFP by customizing the VRVcloud application to meet State specific requirements for the functionality. As an added value and benefit to the State Mantech will deliver our native mobile app. The mobile app allows the entry of the cause of death and certifying death records on Apple and Android phones - where users can download the VRVcloud app from the Apple or Google store.

With the VRVcloud application the State will realize:

- Modern web-based application hosted in the Amazon Web Services cloud, with enhanced user experience for all stakeholders while also including native mobile apps for users to download in the Apple and Android stores.
- Improved timeliness, accessibility, and data accuracy in the registration of vital events with reduced errors. Compliant with all relevant State and Federal legal and regulatory requirements, including FHIR based interfaces with STEVE and NCHS.
- The ability to perform their vital records duties more easily with improved workflows which will increase productivity.
- Ensure their application is executing in a safe, secure hosted environment with optimal performance.

- Gain a flexible system architecture which will allow the State to make modifications as their business needs change.
- Utilize the latest technologies with the added benefit of both a web and mobile app ensuring the State is implementing a 21st century vital records application.

Mantech Advanced Systems International, Inc. (Mantech) is pleased and excited to have the opportunity to submit its proposal for our VRVcloud application as Mantech's solution in response to the requirements of the State of Nebraska's Solicitation for a Vendor-hosted Vital Records Solution. Mantech's proposed resolution is our cloud based VRVcloud application. Mantech will resolve all necessary system features, performance capabilities, functionality, and all requirements as outlined using our VRVcloud application while hosting the application the Amazon Web Services cloud. VRVcloud is a true web-based vital records application that performs all vital records business processes from entering a vital record, to issuing a certified copy and collection of monies and does not require users to download software to utilize the application. VRVcloud is a customizable off-the-self product that is configurable to meet the unique requirements for each State. With our Software as Service option, the State can focus on the business of Vital Records and not worry about maintaining and keeping servers running.

VRVcloud is comprised of Birth, Death, Fetal Death, Marriage (including Same Sex and Civil Partnership), Divorce, Induced Termination of Pregnancy, Customer Service (Point of Sale or Issuance), and Infant Hearing modules with a complete end-to-end solution for each module from the data provider to all back-office functions. All these modules are currently executing in production environments.

Gray Bishop – Tennessee State Registrar and Director – “Mantech’s guidance, patience and knowledge of the business was essential to the successful development and implementation of our electronic registration application. Their team was very attentive and available throughout the project and continues to be with the support/maintenance contract.”

Craig Ward – Missouri State Registrar - “We have been very pleased with Mantech’s product. It has been registering vital records for the State of Missouri since 2010. Mantech worked closely with the State throughout the entire process to ensure the success of the implementation. Mantech has been very accessible and responsive in support of our electronic registration system.”

Experienced Staff: Mantech has been providing vital records solutions for over 25 years. Our established team has more than 150 years of combined experience in the Vital Record solutions market. This allows us to hit the ground running, saving valuable time and cost. Millions of vital records are registered each year using our product.

Jean Remsbecker, Washington State Registrar and Director - “Mantech was responsive, supportive, and committed throughout the entire implementation of the Mantech product in Washington State, which was completed in 2019. We appreciated working with the same staff during the entire six-year project.”

Agile: Mantech's Agile approach to configure and customize VRVcloud provides for higher customer satisfaction, better final product quality and a faster implementation. Using this approach, Mantech immediately sets up a development site on the cloud. Giving the State access to that site allows the State and their data providers the ability exercise functionality and provide feedback early in the process. This reduces the risk of the State not meeting their expectations and allows issues to be found early in the process, where they can be easily remedied.

Extreme Interoperability: Mantech's VRVcloud application interfaces with multiple third-party applications (**Exhibit 1**). Mantech implemented one of the first Electronic Health Record (EHR) exchanges between the hospital and VRVcloud application. Mantech has also implemented obtaining the cause of death data from medical examiner software using Health Level 7 (HL7) Fast Healthcare Interoperability Resources (FHIR). Mantech has also integrated with document management (imaging) applications.

Mobility: The VRVcloud application is compatible with a variety of mobile devices such as smartphones, including iPhone and Android. Additionally, the VRVcloud application is compatible with iPads and Android tablets, as well as other slate computers.

Mantech has a unique native mobile app allowing users to enter and certify cause of death, and which is fully integrated with the mobile phone functionality. See the screenshot to the right where we are showing the physician queues when they open the app on their phone, additionally on their phone icon there is an indication of how many death records are in the queue for them. We have deployed the mobile app in two States and are working to deploy to a third State. In the same manner as users install other apps such as Facebook, they download and install our mobile app from the app store. Notifications on the phone allow the user to easily view work waiting for them. Once the user taps on the icon to open the app they are taken to their work queues:

Physician feedback, State of Kansas - "I just have to say this is the coolest thing ever...Thank you. This will make my life easier."

Security/Scalability/Flexibility: VRVcloud is designed using industry standard architecture making the product extremely flexible, secure, and scalable. Mantech's VRVcloud has been reviewed for world-class security hardening.

Mantech's VRVcloud application has the scalability to support over 10,000 diverse concurrent users, as was proven when it was deployed nation-wide in the United Kingdom. This allows the system to adapt as the State's user base and resource needs grow.

Colette Vaianelia – Head of IT Operations (Civil Registration UK) - "We have been using the Mantech's application to register Vital Events for the United Kingdom. We have forged a strong relationship with the team at Mantech who have provided excellent service whether supporting the application, developing new functionality to meet the requirements of legislative changes, and assisting us in system integration."

Mantech understands the need for the application to be flexible to meet the continuous legislative and user requirement changes to meet the State's business needs. Data collection screen contents, layout, edit rules, and more can be easily designed and configured by the Mantech team WITH NO CODE CHANGES using the VRVcloud Dynamic Screen Engine. This means you don't have to wait days or weeks for the change to be implemented in production.

Cloud Hosting: Mantech has the expertise to provide Software as a Service (SaaS) hosting in the cloud using the industry leading Amazon Web Services (AWS) cloud. This service provides detailed auditing, cybersecurity monitoring, and surveillance in real-time. It provides audit and infrastructure logs, with automatic alarm and notification triggers which will be configured to meet the State's requirements.

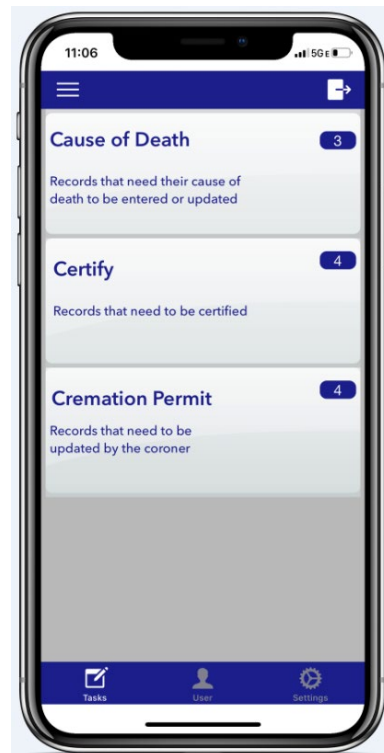


Exhibit 34: Phone Showing Mobile App.

With Mantech providing SaaS, **ALL** your vital records needs are met. This relieves State staff from all technical duties allowing them to focus on their core vital records business to service their customers.

Kay Haug - State Registrar and Director Bureau of Epidemiology & Public Health Informatics - "Mantech has hosted our vital records application for over two years and in that time, they have rapidly responded to security threats and ensured peak performance of the application. We are extremely pleased with Mantech's support, and they are highly recommended for your VR management needs."

VRVcloud Module Component Highlights

In each VRVcloud module there is core functionality that stretches across each module, such as:

- Seamless navigation between modules
- Defined user roles and application privileges
- Customizable field level security by user role
- NCHS and State defined edit rules
- Streamlined data entry
- Workload Management – Dashboards
- Geographic Coding
- Export/Import Configuration Interface
- Reports and Printed Outputs, including Certificates
- Security/Login
- Customizable look-up tables
- Code Table Maintenance
- Birth Death match

Each VRVcloud implementation is customized to meet the State's unique legislative and regulatory requirements, and workflow processes. Below are some areas that are typically unique to States that we would be customizing:

- Foreign born records
- Delayed birth records
- Paternity establishment
- Adoptions
- Gender neutral
- Surrogacy/multiple parents
- Moving records between multiple data partners
- Signing/Certifying records
- Correcting/amending records
- Cremation/burial permission
- Processing from work queues
- Court order filings
- Data sharing
- Native Mobile Apps
- FHIR integration

Mantech will customize the VRVcloud application to provide the State with a fully functional and operational COTS, web-based Vital Statistic Records Management System that will exceed their requirements. Mantech will work with the State to directly align with State and Federal guidelines, to collect vital statistic data and other data points needed for federal reporting and evaluation

purposes. We have performed this for eight other States and will bring this experience to the State of Nebraska.

The VRVcloud application will securely interface/communicate with various state agency systems for sharing HIPAA related data, using FHIR when the State agency systems can accommodate it. The VRVcloud application has a robust service for file generation (export/import) capability to produce and consume exports/imports including CSV and XML files. Additionally, the VRVcloud application utilizes secure web services, including Mantech exposing customized web services to external agencies. All of functionality in the VRVcloud application, including these services, are provided using a role-based control for the functionality.

The VRVcloud application provides numerous search screens for users to search and view real time data at the Statewide and Local program level. Additionally, there are standard reports and ad hoc reporting to report real time data at any level.

Mantech was an active participant in the National Vital Statistics System (NVSS) testing of the NCHS and STEVE FHIR protocols where we successfully bidirectionally exchanged data with both NCHS and STEVE, including certification by NCHS for the FHIR transmission. This is in addition to the production implementation of a FHIR exchange between the VRVcloud application and an ME application. The VRVcloud application will be delivered using HL7 FHIR protocols for the bidirectional exchange of data between VRVcloud and State-run Public Health Agencies (PHA) Vital Records offices, the U.S. Center for Disease Control and Prevention (CDC), and the National Center for Health Statistics (NCHS). When agencies do not utilize FHIR Mantech has provided custom integration using XLS, CSV, XML, TXT, RTF, PDF, IJE, JSON, or HL7.

Mantech will deliver a hosted, robust secure system. Mantech uses AWS for the hosting of our VRVcloud application. AWS is the world's most comprehensive and broadly adopted cloud platform, offering over 200 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster. With Mantech using AWS the State obtains all the advantages of a third-party, industry-leading cloud solution. That can be compared to some vendors who want to host their application in their own data centers. These “vendor hosting” options can't compete with the security and flexibility of AWS. AWS has significantly more services, and more features within those services, than any other cloud provider—from infrastructure technologies like compute, storage, and databases—to emerging technologies, such as machine learning and artificial intelligence, data lakes and analytics, and Internet of Things. As the State demand grows, we will be able to take advantage of these options.

The VRVcloud application provides secure access through desktops, laptops, or tablets each running their appropriate operating system. The VRVcloud application dynamically adjusts to the screen size of the device. Access is provided through industry standard browsers such as Chrome, Mozilla Firefox, Microsoft Edge, and Safari to ensure users of all levels and types of hardware can access and utilize the application.

The VRVcloud application already provides the ability to interface with the latest versions of STEVE (also using FHIR), Electronic Verification of Vital Events (EVVE), Online Verification System (OVS) from SSA, Validation and Interactive and Edits Web Service (VIEWS), code medical and statistical software such as SuperMICAR, ACME, TRANSAX, and Standardized Occupation and Industry Coding (SOIC), and VitalChek.

To ensure only authorized users can perform functions, user access rights are set up through role-based assignments. Each role is assigned specific access and security rights. For example, a role can be defined to have access to a functional area such as data entry and reporting. Another role can be defined to have access to a functional area such as administration and code table maintenance. When a user is assigned to a role, they acquire the access to that role's defined

functions. A user can be assigned to one role or many roles. They inherit the highest access to any role to which they are assigned. For example, if they are assigned to one role that only has read access on the record and another role that has write access to the record, they would inherit the write access to the record. Mantech works with the State to identify all their roles and role functions, and then works with the State to assign the users to the correct roles. If needed, the State can add additional roles with distinct functionality, or may give an existing role more access.

VRVcloud allows role-based users to create, complete, file, reject, refile, and register records depending on the State's requirements. For example, the birth record workflow begins when the user clicks a navigation option to create a new record, which opens the first screen to start the entry process. The layout of the screens closely mirrors the layout of worksheet(s)/certificate to make data entry quick and easy. In the following example, notice that section names are prefixed with a letter-number combination. This combination references a number on a worksheet, where M refers to the Mother's Worksheet and F refers to the Facility Worksheet.

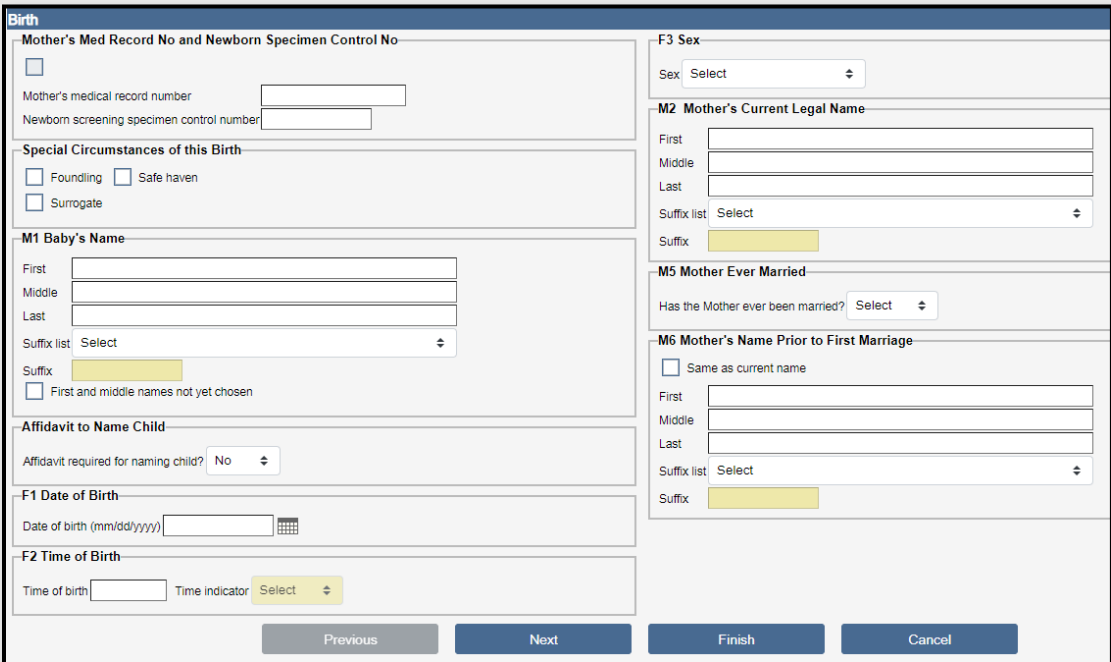


Exhibit 35: Birth Data Entry.

When the user enters the required information on this first page, the system performs a duplicate check by searching records already in the database to determine if the record may already exist. The information used for this search is determined by the State, and it typically includes more than one type of search. For example, while most records may use a search based on name and date of birth, a different set of criteria may be used for foundling or safe haven babies. If no potential duplicate record is found, the user may continue to add information to the record. However, if a potential duplicate is found, the user is notified as shown below. The user can decide to continue entry of the record, or they can abort entry to avoid duplicate entry.

WHALES Warning		
Please verify this is not a duplicate record.		
Criteria by which record was matched:	Module	Click a link to see existing record's details
Birth Duplicate Check (by name) (Record #1):	Birth	(Details)
IGNORE AND CONTINUE ENTRY		ABORT ENTRY OF RECORD

Exhibit 36: Duplicate Record Confirmation.

VRVcloud includes both NCHS-recommended fields and rules and state-specific fields and rules where state-specific fields and rules are included in validations for “regular” in-state records, but not for other types of records, such as delayed. The rules include soft edit rules and hard edit rules to alert the user of a potential issue. Soft edit rules such as the one shown below allow the user to continue data entry after they have been alerted to the issue although they will need to provide this information before VRVcloud will allow them to file the record.

dev.vrvweb.com says

Mothers Weight at Delivery cannot be left blank. If Mothers Weight at Delivery is not known enter 999. If it is left blank the record will be saved as unfinished.

Click OK to continue to the next field, click CANCEL if you would like to correct your entry.

OK Cancel

Exhibit 37: Soft Edit Message.

The hard edit rules such as the ones shown below do not allow the user to continue until they fix the problem.

F1 Date of Birth

Date of birth (mm/dd/yyyy)

Date of birth is required. You must enter the child's date of birth to continue.

Exhibit 38: Hard Edit Message Example 1.

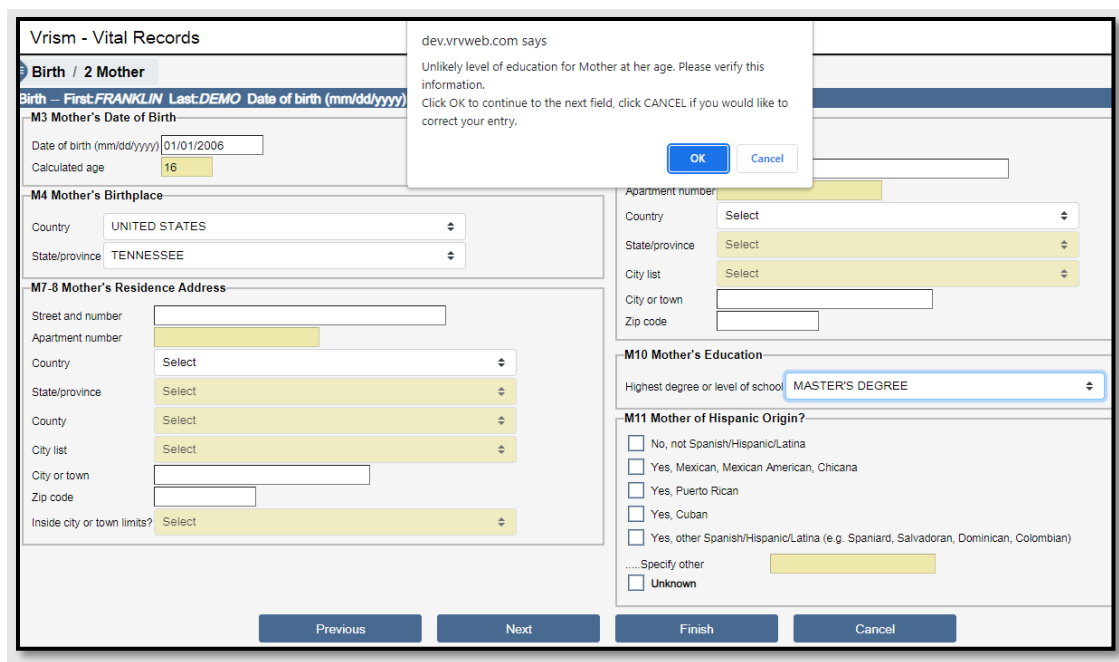
dev.vrvweb.com says

Child's date of birth cannot be after today's date.

OK

Exhibit 39: Hard Edit Message Example 2.

Below shows an example of an NCHS cross-field edit check comparing the mother's age and her education level. This is a soft edit rule because although unlikely, it is possible that the mother is 16 and has a higher-than-expected degree.



Vrisim - Vital Records

dev.vrvweb.com says
 Unlikely level of education for Mother at her age. Please verify this information.
 Click OK to continue to the next field, click CANCEL if you would like to correct your entry.

Birth / 2 Mother

Birth — First: *FRANKLIN* Last: *DEMO* Date of birth (mm/dd/yyyy)

M3 Mother's Date of Birth

Date of birth (mm/dd/yyyy) 01/01/2006
 Calculated age 16

M4 Mother's Birthplace

Country UNITED STATES
 State/province TENNESSEE

M7-8 Mother's Residence Address

Street and number
 Apartment number
 Country Select
 State/province Select
 County Select
 City list Select
 City or town
 Zip code
 Inside city or town limits? Select

M10 Mother's Education

Highest degree or level of school MASTER'S DEGREE

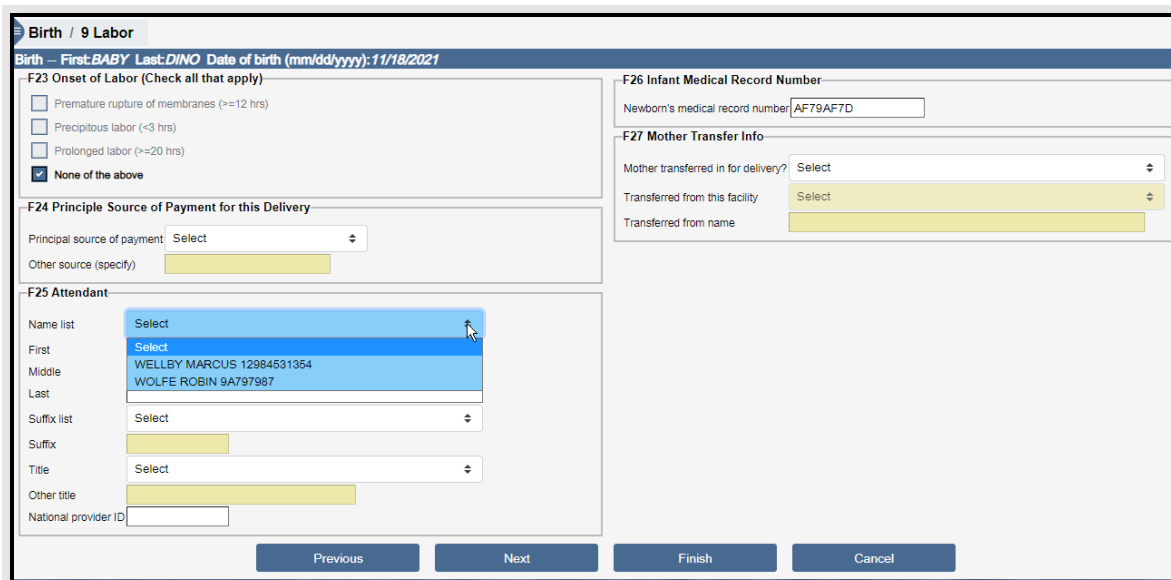
M11 Mother of Hispanic Origin?

☐ No, not Spanish/Hispanic/Latina
☐ Yes, Mexican, Mexican American, Chicana
☐ Yes, Puerto Rican
☐ Yes, Cuban
☐ Yes, other Spanish/Hispanic/Latina (e.g. Spaniard, Salvadoran, Dominican, Colombian)
Specify other
☐ Unknown

Previous Next Finish Cancel

Exhibit 40: Cross Screen Edit Message.

In addition to edit rules, the use of disable rules and auto population of data when a selection is made from a list results in better data quality, and the use of auto-narrowing reduces the number of entries in a list, making it easier to find the desired entry. The following screenshot shows disabled fields in the Principle Source of Payment for this Delivery and in the Mother Transfer Info sections. It also shows that the list of birth attendants has been narrowed from the list of all attendants in the State to only those associated with the facility where the birth occurred. When the user selects an attendant from the list, the attendant's name, title and NPI are copied from the Attendant code table to the corresponding fields on the record.



Birth / 9 Labor

Birth — First: *BABY* Last: *DINO* Date of birth (mm/dd/yyyy): 11/18/2021

F23 Onset of Labor (Check all that apply)

- ☐ Premature rupture of membranes (>=12 hrs)
- ☐ Precipitous labor (<3 hrs)
- ☐ Prolonged labor (>=20 hrs)
- ☒ None of the above

F24 Principle Source of Payment for this Delivery

Principal source of payment: Select

Other source (specify):

F25 Attendant

Name list: Select

First: Select

Middle: WELLBY MARCUS 12984531354

Last: WOLFE ROBIN 9A797987

Suffix list: Select

Suffix:

Title: Select

Other title:

National provider ID:

F26 Infant Medical Record Number

Newborn's medical record number: AF79AF7D

F27 Mother Transfer Info

Mother transferred in for delivery? Select

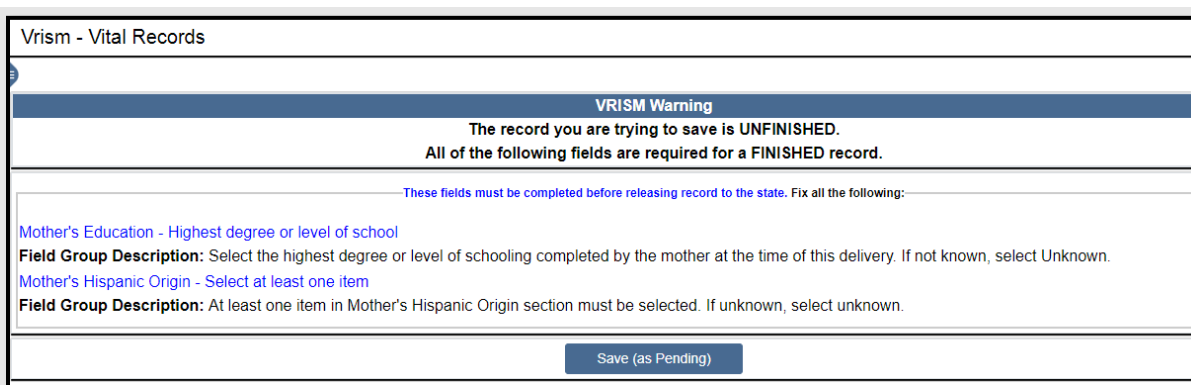
Transferred from this facility: Select

Transferred from name:

Previous Next Finish Cancel

Exhibit 41: Screen Showing Disable Fields That Can Become Enabled Based on Selections.

If the user cannot complete a record in a single session, they can save the information they have entered as an incomplete record. Whenever the user wants to save their work, they simply “click” the Finish button on any page. When they do this, VRVcloud validates the information on the record. If any of the validations fail, a warning page opens showing the user the validations that failed. Clicking the link associated with each item returns the user to the corresponding page where they can resolve the issue, usually entering additional information.



Vrism - Vital Records

VRISM Warning

The record you are trying to save is UNFINISHED.

All of the following fields are required for a FINISHED record.

These fields must be completed before releasing record to the state. Fix all the following:

[Mother's Education - Highest degree or level of school](#)

Field Group Description: Select the highest degree or level of schooling completed by the mother at the time of this delivery. If not known, select Unknown.

[Mother's Hispanic Origin - Select at least one item](#)

Field Group Description: At least one item in Mother's Hispanic Origin section must be selected. If unknown, select unknown.

Save (as Pending)

Exhibit 42: Warning Screen When Users Save a Record.

When the user clicks the Save (as Pending) button, VRVcloud saves the record and presents a Successful Transaction page to the user. This page includes sections that allow the user to perform several follow-up tasks. For example, based on the State's requirements, they may have the option to print documents, including a working copy. (Note: the same document can be printed from a navigation option whereby the user finds the record they want to print and then generates the document.) Another section that may appear on the Successful Transaction page is only shown if the record being saved is one of a multiple delivery. In this case, the user would have an option to add another birth (or fetal death) record, copying State-defined information from this record to the new one. The following shows a Successful Transaction page with a Print

Confirmation section, including Certificate of Live Birth – Draft which is another State’s version of a working copy. The Other Options section contains only the ability to “Return to Record”.

Successful Transaction
Your transaction has been saved successfully.

Record Details

Child's first name	VICTORIA
Child's last name	JONES
State file number	
Child's date of birth	06/01/2022

Print Confirmation
Your actions have triggered the following documents to be printed.
Please select all documents you wish to print.

Mother Copy / Application for Certified Copy: ☐
Skip this print option: ☐

Certificate of Live Birth - Draft: ☐
Skip this print option: ☐

[Print](#)

Other Options
Following options are available:

[Return to Record](#)

[Main Menu](#) [Repeat Task](#)

Exhibit 43: Screen Showing Options Presented to the User Based on What Was Entered.

If the user saves an incomplete record, they can finish it later by selecting the record they want to update from their pending record queue as shown below or from the Update navigation option.

Pending

Details	Last Name	First Name	Middle Name	DOB	Mother's Maiden First	Mother's Maiden Last	Facility	County	SFN	Certificate indicator	Status	Action
ROCKETEER	SUSAN	ANNETTE	11/04/2021	BETHANY	SMITH	LIVINGSTON REGIONAL HOSPI...	OVERTON				Not submitted	
JONES	BABY		01/27/2022	MOM	JONES	LIVINGSTON REGIONAL HOSPI...	OVERTON				Not submitted	
DEMO	FRANKLIN		06/01/2022	MARYANN	DEMO	LIVINGSTON REGIONAL HOSPI...	OVERTON				Not submitted	
JONES	VICTORIA		06/01/2022	JANET	JONES	LIVINGSTON REGIONAL HOSPI...	OVERTON				Not submitted	

1 to 4 of 4 Rows per page: 50

Exhibit 44: Showing Queues Available to the User, Including Number of Records in Each Queue.

When the record is complete, there is no warning page. Instead, the user goes right to the Successful Transaction page which now includes an option to “File” the record as shown in the Other Options section below.

Successful Transaction	
Your transaction has been saved successfully.	
Record Details	
Child's first name	VICTORIA
Child's last name	JONES
State file number	
Child's date of birth	06/01/2022
Print Confirmation	
Your actions have triggered the following documents to be printed.	
Please select all documents you wish to print.	
Mother Copy / Application for Certified Copy: ☐	
Skip this print option: ☐	
Certificate of Live Birth - Draft: ☐	
Skip this print option: ☐	
Print	
Other Options	
Following options are available:	
Return to Record	
File Record	
Main Menu Repeat Task	

Exhibit 45: Screen Presented to User Based on Data Entered Showing Available Options.

When the user files a record, multiple workflows are initiated depending on the requirements of the State. Workflows can include a registration process and a review process.

If the State requires a review process for any or all records, VRVcloud workflow routes the record to the proper user role to complete the review process. The outcome of the review could be to accept the record as-is or reject the record. If rejected, the reason rejected is added to the record, and the record is returned to the data provider to update and refile. Records that pass validation (or pass validation and are accepted) are automatically registered. This includes flagging the record as registered, adding the registration date, assigning a unique State-defined State File Number as to the record as shown below, and flagging the record to be sent to NCHS and/or mother's residence state.

VRVcloud supports the entry of multiple types of birth records, such as delayed, older, foreign born and Inter Jurisdictional Exchange (IJE). Depending on the type of record being entered, a different set of required fields and rules are implemented to accommodate the requirements for the type of record.

For corrections, the original/current record is modified with or without creating a supplemental record depending upon the State's requirements. For amendments, the original/current record is modified creating a supplemental record which becomes the new current record version that is issuable and searchable. The previous record version is flagged as not current, not issuable and is searchable to authorized users. For adoptions, the original/current record is modified creating a supplemental record which becomes the new current record version that is issuable and searchable. The previous record version is flagged as sealed, not issuable and is searchable to limited users such as the State Registrar. The VRVcloud application also allows for the rescind of adoptions and amendments. Once rescinded, the previous version of the record becomes the legal version. For the correction of birth sex, the State will determine if a free form text field would

be the best implementation to capture sex. Mantech has several implementations to capture “alternate” sexes, including capturing sex type “X”, along with various non-gender parent labels. Mantech will configure the application to meet the State’s requirements for capturing sex and all other data entry requirements.

When a record is modified, the user is required to provide information regarding the modification. The information that is required depends on the State’s requirements and could include a reason, basis, a comments field for additional information and/or an affidavit/correction number. When a record is modified the system automatically:

- Adds the date of the modification to the record.
- Sets flags to indicate how the record was modified (e.g., corrected, amended) and export flags to indicate whether the modified record should be extracted (e.g., STEVE, NCHS, IJE).
- Updates the record history to reflect that on a specific date, a modification was made to the record by a specific user.
- Maintains an audit history of the changes. These changes are shown on the Record Changes tab of the record details as shown below.

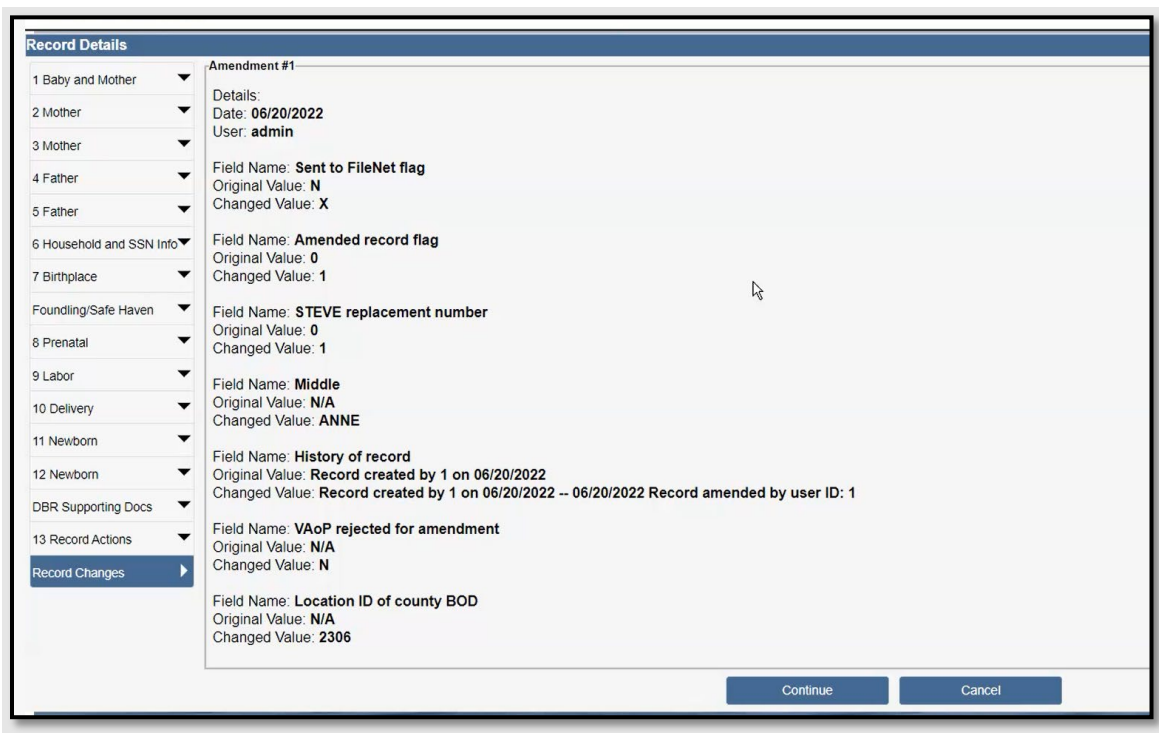


Exhibit 46: Screen Showing Changes Made to the Record.

For records that are not validated and are in progress, the VRVcloud application maintains a queue of records that were entered but not completed. The user would simply select the record from the queue, or they may perform a search for the record, and then complete the record as they would have when performing the initial data entry. There is no need to go to a special workflow to complete a record that has not been validated.

Similar data entry screens and workflows exist for all modules.

Mantech does not provide a “static” application, each component is continuously updated, upgraded, and then placed in production. Our first implementation of VRVcloud was in 2005 (prior

to 2005 Mantech had a client server application), and since then modules have been continuously placed into production environments. This is to ensure the VRVcloud application continuously meets changing State requirements.

Our reputation, experience, and efficiency for delivering vital records applications is evidenced in the list of successful implementations below:

Customer	Approximate Births per year	Approximate Deaths per year	Functionality in production
State of Arkansas	37,520	31,756	Birth, Death, Fetal Death, Infant Hearing continually upgraded in production since 2010. Mobile app currently being customized for the State.
State of Connecticut	35,221	N/A	Birth continually upgraded in production since 2015.
State of Kansas	36,519	26,245	Birth, Death, Fetal Death, Marriage, Divorce, ITOP continually upgraded in production since 2005. Mobile App deployed in 2021.
Commonwealth of Massachusetts	70,702	55,200	Birth, Death, Fetal Death, Customer Service continually upgraded in production since 2012.
State of Montana	11,175	11,684	Birth, Death, Fetal Death, Marriage, Divorce, Customer service. Fetal Death and Marriages implemented in 2024. Death implemented in 2025. Remaining modules scheduled for 2026.
State of Missouri	73,034	59,873	Birth, Death, Fetal Death continually upgraded in production since 2010. Mobile app soon to be deployed.
State of Oklahoma	50,214	39,276	Birth, Death, Fetal Death continually upgraded in production since 2010.
State of Tennessee	81,016	67,857	Birth, Death, Fetal Death, Marriage, Divorce, ITOP, Customer Service continually upgraded in production since 2018.
State of Washington	87,562	54,769	Birth, Death, Fetal Death, Marriage, Divorce, ITOP, Customer Service continually upgraded in production since 2016.
United Kingdom	697,852	525,048	Birth, Death, Fetal Death, Marriage, Divorce since 2007.

Exhibit 47: Successful Customer Implementations.

Below are some of the advantages of the VRVcloud application versus competitors:

VRVcloud	Other Vendors
Real time edits – When a user leaves the field a message is immediately displayed if there is an error or warning about the data entered.	Press a Validate Button – the user enters all the data on the page and presses a Validate button to check for errors. If there is an issue, they then correct the data and must press Validate again. In which case another error may be displayed, and the process is repeated. Why not tell the user right after they enter the data there is an issue rather than having the user press another button?
Queues that automatically display and are updated in real time – The work queues for users are displayed after they log in, with the highest priority queue shown first. The user knows right away if there is something urgent to work on and has a full display of their queues with record counts displayed to know what work they have. Queues are automatically updated.	Press a button or menu option to display the queue – because they do not automatically update the queue in real time it is necessary for the user to press a button or menu option to display the queue, at which time it will be updated with their work. Then the user performs work and then they have to go back and press the button or menu option again to see their queues. Why not show the queues at a glance, with the number of records waiting automatically?
World class hosting – VRVcloud is hosted using Amazon Web Services (AWS). AWS is the world's most comprehensive and broadly adopted cloud platform, offering multiple geographic regions for disaster recovery. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies use AWS.	Vendor hosted – The vendor uses their “in-house” hosting option. Compare how AWS spends an enormous amount of time and money to develop and deliver security tools, performance advancements, and other productivity components to what a vital records vendor in-house hosting solution will be spending. AWS continues to be a world leader in hosting solutions, and the State should want the best hosting solution now and for the future.
Meet YOUR State requirements. Throughout the proposal we emphasize we will meet the State's requirements. We won't bend the State's requirements to another State's implementation.	Take it or pay for it. Vendor proposal assumes all workflows required by the State that are not currently in their product will go through a change request process and be paid for separately, or the State will change their business practices to what is already implemented.

Exhibit 48: VRVcloud Advantages.

Innovation and Creativity [RFP VI B.2]

As an innovative and creative feature Mantech will deliver our native mobile apps for entering the cause of death and certifying death records on Apple and Android phones, which is fully integrated with the mobile phone functionality. Users can download the VRVcloud app in the Apple or Google store on their phone and use the app like other mobile apps. See the screenshot below where we

are showing the physician queues when they open the app on their phone. Additionally on their phone icon there is an indication of how many death records are in the queue for them. We have deployed the mobile app in two states and are working to deploy to a third state. In the same manner as users install other apps, they download and install our mobile app from the app store. Notifications on the phone allow the user to easily view work waiting for them. Once the user taps on the icon to open the app they are taken to their work queues.

Mantech will customize the mobile apps to reflect the workflow of the State's requirements for the entry of the cause of death and death certification. To be consistent with cause of death data entry and certification, Mantech implements very similar workflows for the mobile apps and the hosted web application. This ensures users can utilize either the mobile app or the hosted web application and will be familiar with the process. Mantech has implemented our mobile apps for physicians, medical examiners, coroners, and their assistants in other States with very positive reviews. Please note this is different than running the web application on the phone's browser, which other vendors claim is "mobile capability". Running the application on the mobile browser will not allow it to take advantage of notifications on the phone, and the ease of use having an icon on the phone to launch the application, using facial recognition to log in, and other native phone features. One of the reasons we developed the mobile app was the difficulty getting physicians to perform their vital records work. With the ease of use of the mobile app there is no excuse they can make to not enter in cause of death and certify records that are waiting for them. See the mobility section in the precious response for additional information.

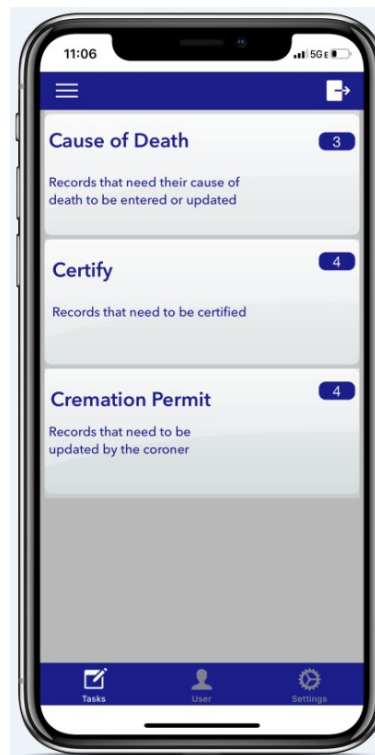


Exhibit 49: Phone Showing Mobile App.

1.c. Technical Considerations [RFP VI.C]

State Vital Records Staff Capacity: The success of this project heavily depends on the involvement of the State's vital records staff. While the State may have hired a project manager and ancillary staff and may also rely on its IT group for support on this project, the vital records staff are indispensable. They are the only ones who can make key decisions that directly impact the project's critical path. However, these staff members will likely still be required to perform their regular duties while simultaneously managing the additional workload of this project. This dual responsibility could slow down decision-making and potentially lead to delays. Moreover, some decisions—such as reviewing and revising business practices—may require revisiting State statutes, which is inherently time-consuming and challenging to estimate. Mantech should not be responsible for tracking and documenting the State staff who are not actively engaged and meeting deadlines. Therefore, Mantech should not have to manage getting these types of delays agreed on with the State to obtain schedule relief to avoid damages.

Opportunities for Business Process Improvements: A significant advantage of implementing a new vital records system is the opportunity to reimagine and improve existing processes. For example, while every State will handle delayed birth registrations, each has unique rules and workflows. In one state we worked with, they identified opportunities to simplify their delayed birth process after reviewing how other states managed it. However, this required legislative changes, which took additional time. With a 12- and 15-month timeline, these types of meaningful process improvements may not be feasible, as the focus will primarily be on meeting the schedule. This

could result in missed opportunities to modernize and enhance the State's vital records operations, limiting the long-term value of the project. It is in the State's best interest to remove the damages and allow Mantech and State to have a flexible schedule without damages.

Liquidated Damages and Vendor Behavior: The inclusion of liquidated damages for not meeting the schedule creates additional pressure on vendors to prioritize the timeline over the State's best interests. Vendors will focus on adhering to the schedule, even if it means not presenting alternative approaches or improvements to business processes. This dynamic may discourage collaboration and innovation. Additionally, vendors may aggressively document delays caused by the State and others to seek schedule relief and avoid penalties. While the State may believe it can avoid delays in this schedule, there are numerous factors beyond the control of either party that could impact the timeline. For example, delays in the FHIR certification process with NCHS could occur due to NCHS resource availability. Mantech should not be responsible for tracking and documenting external agencies that are not actively engaged and meeting deadlines. Therefore, Mantech should not have to manage getting these types of delays agreed on with the State to obtain schedule relief to avoid damages.

Challenges of Reverse-Engineering a Schedule: Vital records application development is like any other software development project: it is inherently challenging to "back into" a schedule. Building a timeline without complete detailed requirements introduces risks to quality and increases the likelihood of overlooking critical needs. A more traditional approach—finalizing requirements before developing a realistic schedule—works better.

Potential Reasons for the 15-Month Timeline: We understand that the State may have specific reasons for the 15-month schedule, such as Federal grant funding with a fixed expiration date, expiring maintenance agreements on the current application prompting the need for a quick transition, or others. While these factors are important to acknowledge, they do not negate the risks associated with an aggressive schedule. Mantech has worked with other State who had expiring funds and was able to come to agreements on partial completeness that allowed the State to realize the funds, but still allowed for the State to pursue a realistic schedule.

Mantech's Commitment: Mantech is committed to delivering the project within the 15-month timeline and will execute the schedule as required. We felt it was our obligation to present to the State the challenges of their implementation schedule.

1.d. Project Work Plan, Management, and Implementation [RFP VI.D.]

Work Plan [RFP VI.D.1]

Mantech understands the importance of delivering a comprehensive, robust, and timely solution for the State of Nebraska's Vital Records Management System as outlined in Section VI of the RFP. Our approach to achieving these objectives and averting delays is structured around proven project management methodologies, rigorous quality assurance processes, and clear communication channels. Below is a detailed outline of our work plan:

- **Initiation and Planning Phase**

- Kick-Off Meeting: Conduct a formal kick-off meeting within two weeks of contract execution to establish project goals, define roles, and review project timelines and expectations.
- Project Governance Plan: Develop a governance framework including escalation paths, decision-making protocols, and meeting schedules to ensure accountability.
- Requirements Validation: Collaborate with stakeholders to validate functional and technical requirements outlined in Section VI to prevent scope ambiguities.
- Work Breakdown Structure (WBS): Create a detailed WBS and project schedule using milestones aligned with critical deliverables, including User Acceptance Testing (UAT) and go-live preparations.

- **Design and Configuration Phase**
 - System Architecture Design: Develop detailed system architecture, ensuring alignment with security, compliance, and accessibility requirements.
 - Customization and Configuration: Utilize the *VRVCloud* flexible platform to configure workflows, forms, and integrations to meet Nebraska's specifications.
 - Stakeholder Reviews: Conduct design review sessions to confirm stakeholder alignment and approval at each stage.
- **Development and Integration Phase**
 - Modular Development: Implement an agile, iterative development process to build and test system modules incrementally, prioritizing high-impact functionalities.
 - Integration Testing: Collaborate with third-party system providers to ensure seamless integration of data flows and compliance with specified standards.
 - Data Migration: Execute data migration using industry best practices, ensuring data integrity and minimal disruption.
- **Testing Phase**
 - Environment Setup: Establish production, testing, and training environments in compliance with RFP requirements.
 - User Acceptance Testing (UAT): Facilitate UAT sessions, incorporating feedback to refine the system and ensure it meets operational expectations.
 - Performance Testing: Conduct load, stress, and security testing to ensure the system performs reliably under anticipated workloads.
- **Training and Documentation Phase**
 - Training Plan: Deliver role-specific training for internal and external users, including documentation for end-users, system administrators, and technical support teams.
 - Knowledge Transfer: Provide comprehensive operational documentation to the State.
- **Implementation and Go-Live Phase**
 - Go-Live Readiness Assessment: Conduct a readiness assessment to ensure all technical, operational, and support systems are in place.
 - Burn-In Period Support: Monitor system performance during the burn-in period, addressing any issues proactively.
- **Maintenance and Support Phase**
 - Ongoing Support: Deliver continuous support, system enhancements, and regular updates to meet evolving needs.
 - Annual Testing and Compliance: Perform annual penetration testing and compliance reviews to ensure long-term security and performance.
- **Assurances for Meeting Requirements and Averting Delays**
 - Experienced Team: Our project team includes professionals with extensive experience in deploying cloud-based vital records systems, ensuring a smooth implementation.
 - Proven Solution: *VRVCloud* is a mature, SaaS-based platform with built-in compliance and scalability to meet Nebraska's requirements.
 - Risk Mitigation Strategies: We will employ a proactive risk management plan, identifying and mitigating potential project risks through continuous monitoring and communication.

- Resource Commitment: Dedicated resources, including project managers and technical experts, will ensure uninterrupted progress and resolution of any challenges.
- Transparent Communication: Regular status updates, stakeholder meetings, and detailed progress reports will keep all parties aligned.
- By leveraging our proven methodologies, VRVCloud capabilities, and our commitment to collaboration, we are confident in our ability to meet all project requirements and deliver a highly effective solution within the stipulated timeline.

Project Timeline [RFP VI.D.2]

Detailed Project Timeline as requested by RFP to conform with the required timeframes outlined in RFP Section (VI)(E)(2).

Phase	Task Description	Start Date	End Date	Duration	Milestones/Deliverables
1. Kick Off					
Project Kick-off	Conduct formal kick-off meeting	Week 1	Week 1	1 week	Kick-off meeting completed
Requirements Validation	Confirm functional and technical requirements	Week 2	Week 4	3 weeks	Finalized Requirements Validation Document
Project Plan Development	Develop detailed project plan and governance model	Week 2	Week 5	4 weeks	Approved Project Plan
2. Design Phase					
System Design	Create system architecture and module designs	Week 6	Week 10	5 weeks	System Design Document
Stakeholder Design Review	Review designs with stakeholders	Week 11	Week 12	2 weeks	Stakeholder Approval
3. Development Phase					
Core Module Development	Develop the core system module (e.g., User Management, Dashboard)	Week 13	Week 20	8 weeks	Core Module Complete and Internally Tested
Birth Records Module	Develop Birth Records module, including compliance with HL7	Week 21	Week 28	8 weeks	Birth Records Module Delivered
Death Records Module	Develop Death Records module, including integration with external systems	Week 29	Week 34	6 weeks	Death Records Module Delivered
Marriage/Divorce Records Module	Develop Marriage and Divorce Records module	Week 35	Week 38	4 weeks	Marriage/Divorce Module Delivered
Reporting and Analytics Module	Develop Reporting and Analytics functionality	Week 39	Week 40	2 weeks	Reporting Module Delivered

Phase	Task Description	Start Date	End Date	Duration	Milestones/Deliverables
Integration Testing	Test integration of all modules with third-party systems	Week 41	Week 43	3 weeks	Integration Test Report
4. UAT Preparation					
UAT Environment Setup	Establish UAT environment	Week 44	Week 46	3 weeks	UAT Environment Ready
UAT Module Delivery	Deliver all modules for UAT	Week 46	Week 46	1 week	All Modules Delivered for UAT
5. UAT Execution					
UAT Execution for Core Module	Conduct UAT for the Core System Module	Week 47	Week 48	2 weeks	UAT Feedback Incorporated for Core Module
UAT Execution for Records Modules	Conduct UAT for Birth, Death, Marriage/Divorce Modules	Week 48	Week 50	3 weeks	UAT Feedback Incorporated for All Records Modules
6. Training & Documentation					
Training Material Development	Create role-specific training materials	Week 51	Week 52	2 weeks	Training Materials Delivered
Onsite Training	Conduct onsite training sessions for end-users and admins	Week 53	Week 54	2 weeks	Training Sessions Completed
7. Implementation Phase					
Production Environment Setup	Deploy the system to the production environment	Week 55	Week 56	2 weeks	Production Environment Ready
Go-Live Preparation	Conduct readiness assessment and address gaps	Week 57	Week 58	2 weeks	Go-Live Checklist Completed
System Go-Live	System officially goes live	Week 59	Week 59	1 week	System Go-Live
On site support	Mantech on site	Week 59	Week 59	1 week	
8. Burn-in Period					
Monitoring and Issue Resolution	Monitor system performance and address issues during burn-in period	Week 60	Week 71	12 weeks	Stable Post-Implementation System
Post Implementation	Review teleconference meeting to occur within two (2) weeks following the acceptance of the Burn-in Period	Week 61	Week 72	2 weeks	Post Implementation Teleconference
Post Implementation	Plans as outlined in Section (VI)(4)(i) to be provided within four (4) weeks	Week 72	Week 76	4 weeks	Post Implementation Plans

Phase	Task Description	Start Date	End Date	Duration	Milestones/Deliverables
	following the teleconference meeting				
9. Maintenance & Support					
Ongoing Support	Provide continuous support, updates, and enhancements	Week 70	Ongoing	Continuous	Monthly Support Reports
Key Module Delivery Dates					
Core System Module: Week 20					
Birth Records Module: Week 28					
Death Records Module: Week 34					
Marriage/Divorce Records Module: Week 38					
Reporting and Analytics Module: Week 40					
All Modules Delivered for UAT: Week 46					

Exhibit 50: Project Timeline.

This timeline demonstrates a structured approach with detailed dates for module delivery, ensuring all components are delivered for UAT and production within the required timeframe to meet the Go-live date.

Project Management [RFP VI.D.3]

Mantech's project management approach draws heavily from the Project Management Institute's (PMI) Project Management Body of Knowledge (PMBOK). This includes the five standard phases of initiation, planning, execution, monitoring, and closing. Each of these phases is tailored to meet the State's requirements for project management.

Our project management approach will ensure the VRVcloud application will exceed the State's requirements. Mantech will review the functional and technical requirements with the State and further define them into a complete, detailed set of requirements that will be used as the baseline requirements. To further document and detail the functional and technical specifications, Mantech's project methodology uses an iterative, agile configuration cycle, in which prototypes of the VRVcloud application are reviewed early and often thus allowing the State to work with the application to ensure it meets their requirements. It is our experience working with vital records staff that they are much more adept at understanding how their requirements should be implemented in the application by viewing the implementation, than they are at reviewing requirements documentation. Therefore, our project management approach adjusts to emphasize hands on working prototype collaboration. By allowing early access this allows staff the ability to exercise functionality and provide feedback early in the process. There will not be any surprises as to how the requirement is implemented in the VRVcloud application. This is an added benefit to the State and will prove its value when users are able to view working functionality early and often, exercising the application through the project life cycle. While other vendors will require the State to "sign off" on a set of requirements documents prior to the State viewing the working functionality, Mantech will be demonstrating working functionality of the VRVcloud application for the State to then exercise their requirements, rather than looking at mockups and requirements documents.

To achieve this, Mantech will host a series of participatory design sessions (Joint Application Design/Development) using webinars and onsite visits to allow our business analysts to interact with the State's SMEs to review and concur on configuration-related issues. Mantech conducts webinar meetings to facilitate remote attendance for viewing the application prototypes. With the

ability to quickly prototype functionality, Mantech will demonstrate functionality via screens that will closely match the final application with the prototyping sessions. Mantech will also perform a detailed requirements analysis including the comparison of implementations from other States to review functionality, allowing the State to compare and contrast their vision of how they want specific functionality to work compared to other State implementations. Then, in collaboration with Mantech, the State will make the decision on the best design to meet their requirements. As an added benefit Mantech will work with the State to take advantage of this opportunity to refine requirements that their old application may have met, but where a better method to meet the requirement may exist, while also implementing new functionality.

Mantech will also configure State user access to the cloud environment so they can view the latest prototype on their own and provide feedback at their convenience and not just during meetings. In cooperation with Mantech, States have also used the cloud environment to work with external users to view and comment on working functionality to allow the State an easy transition for acceptance by the external user community. For example, allowing a larger funeral home to do some testing of the application early on and provide feedback.

The results from the participatory design meetings are captured in functional requirements documents. These documents then become the basis for the acceptance testing. Our ability to quickly prototype functionality allows us to include screenshots that accurately capture the “look and feel” of the application in the design documentation. This can be compared to other vendors who may deliver a narrative waterfall requirement process where all the requirements are documented in a descriptive manner possibly using wireframes and other methods that are not fully reflective of the final product. Mantech will produce the Final Design Document covering four primary functional requirement areas: Detailed Design, Workflow, Printed Output, and Import/Export. Together these artifacts will document how the State’s requirements will be met. The Detailed Design document includes details concerning every data entry screen element. The Workflow document includes every action on the vital record, including placement and removal of records from queues. The Printed Output document describes everything printed on each printed artifact, including all reports. The Import/Export document includes all data imported and exported in the application, including integrations. In addition to the Final Design Document, Mantech will deliver a requirements traceability matrix, ensuring the requirements of the Request for Proposal (RFP) are captured and documented in the Final Design Document.

Once the Final Design Document is completed and agreed upon, Mantech will deliver validation sessions to the State to walk through the document and ensure all requirements can be validated with a demonstration in the VRVcloud application, or if not possible, identify how the requirement was met.

The framework to complete the Birth, Death, Fetal Death, Marriage, Divorce, ITOP and Customer Service within the specified time frame is to move forward with one module independently, and when appropriate, to adjust and overlap module development. For example, Mantech’s experience with other State’s staff indicates the staff that work with Birth and Fetal Death are typically the same individuals, and Death is typically a different set of staff, with some redundancy. We understand most States have limited staff and that those staff still have their regular duties to perform. This approach will allow the project schedule to adjust for staff participation and allow for the State staff to continue to perform their regular duties and still participate in the process. For example, while the Death staff may be occupied, Birth staff may be available to participate in a demonstration or a requirement meeting. To implement all the modules effectively, Mantech will remain flexible on the module in development at any given time.

A key distinguishing feature of the VRVcloud application is the Dynamic Screen Engine (DSE). The DSE provides the ability through configuration, rather than coding, to instantly add, remove,

and organize data entry fields, change screen labels, edit rules, and alter the data entry process. On day one, Mantech will demonstrate changes in the application using this feature. The State will be able to preview the solution much earlier than possible with other vendors. The State can put this to the test during the product demonstration portion of the evaluation to view the added benefit and value of this capability. The State can ask vendors to demonstrate the capability of adding a field to a screen. For example, ask the vendor to add a check box to the birth entry screen under the date of birth. The check box should have the label "COVID Vaccinated". Ask the vendor that if the box is checked, to enable a field beneath the check box for the user to enter the date of vaccination labeled "Date of Vaccination". Ask the vendor to add an edit rule that if the Covid box is checked and the date of vaccination is blank to display a message such as "You must enter a date of vaccination if vaccination is selected. Either enter the date or return to the COVID Vaccinated field and uncheck the box." Ask them to add another edit that if the date vaccinated is in the future to display "The date vaccinated may not be in the future". Mantech can perform this activity in the VRVcloud application in about 10 minutes using the DSE with no developer involved at all. When completed, the fields will have been added to the database and will be available for the State to begin collecting COVID Vaccination results on the **next birth record entered**. Why is this a benefit and a value? When working with a vendor to design an application it is going to be of great benefit to see how the application works instead of viewing a requirements document. While other vendors are providing screen mock-ups Mantech will be showing the State working VRVcloud screens with the desired functionality. Other vendors will be discussing "what if" scenarios while Mantech is making screen changes for the State to view the "what if" scenario in the VRVcloud application. For example, in the COVID case described above the State may determine that they do not want the COVID question under the date of birth and want to move it to another screen. Mantech will do that in minutes while other vendors will be making changes to their screen mockups for the State to review.

The value of the DSE is not only during the application implementation, but throughout the lifecycle of the application. For example, this capability was very useful in Missouri when they needed to add fields indicating the death was a mass casualty when the Joplin tornado devastated a part of the State. In less than a day, and at **no cost** the State added fields and edit rules that allowed the death record to capture that it was a death due to the tornado (along with other information), and the changes went into production with only guidance from Mantech. Today most vendors have preconfigured mass casualty fields, but the example shows the value of this capability to the State. Additionally, note the benefit of having business analysts adding and configuring fields versus other vendors who require developers and to deploy a build to perform the same functionality. The cost savings using the DSE will be realized not only during implementation but for the entire time the VRVcloud application is in production.

Risk Management

Please see our response to **Develop a Risk Management Plan**.

Communication Management

Mantech will deliver a Communications Management Plan following the contract start date that will exceed the State's requirements. The Communications plan define what information should be communicated, who should receive that information, when that information should be delivered, where (e.g., email, social media, mail) communication will be shared, and how those communications will be tracked and analyzed. Mantech considers communication a key element to the success, in particular the ability of staff to converse about vital record procedures. Communication channels for Mantech staff are already set up, and when those systems are overloaded, e.g., email is not available, Mantech can use other methods of communication such as webinars, alternate email addresses, and telephone. Mantech will work with the State to incorporate State staff into the communication plan. For example, the plan will include for the

deliverables who to communicate with, how to communicate with the audience (stakeholders may use email, other State staff will require email and a walk through, the frequency, and the communication method.

Staffing plan

Please see our response to **Develop a Staffing Management Plan**.

Background Checks on Any Personnel Accessing Sensitive and Confidential Information

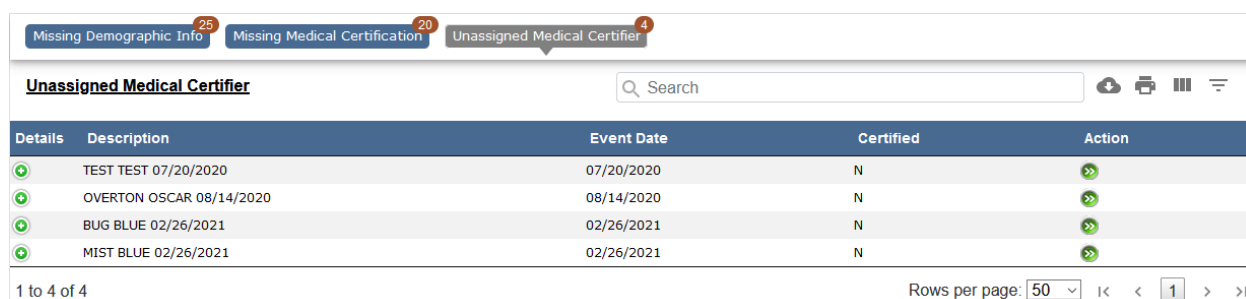
Upon written request from the State, Mantech will provide written confirmation that any individual assigned to work on the project has successfully passed a background check. Upon written request, any new staff that are assigned throughout the duration of the contract will be confirmed to have successfully passed a background check.

Any Tool(s) Used for Project Management, Document Management, Status Reporting, and Project Collaboration

Mantech uses collaborative tools as much as possible during implementation and maintenance of the VRVcloud application. The VRVcloud application utilizes embedded collaborative tools. For the implementation and maintenance some collaborative tools used are:

- Microsoft Project for scheduling coordination, project management, and status reporting.
- Microsoft Word, Excel, and Project for status reporting.
- Microsoft PowerPoint for status reporting.
- NextCloud for document management/collaboration.
- Gmail for project communication, collaboration, status reporting.
- Zoom and Google meet for online collaboration.

Mantech uses NextCloud for electronic document repository. NextCloud is a fully managed, secure content creation, storage, and collaboration service. With NextCloud the State can easily create, edit, and share content, and because it's stored centrally can, access it from anywhere on any device. NextCloud makes it easy to share content, provide rich feedback, and collaboratively edit documents.



Details	Description	Event Date	Certified	Action
+	TEST TEST 07/20/2020	07/20/2020	N	➡
+	OVERTON OSCAR 08/14/2020	08/14/2020	N	➡
+	BUG BLUE 02/26/2021	02/26/2021	N	➡
+	MIST BLUE 02/26/2021	02/26/2021	N	➡

Exhibit 51: Some of the Medical Examiner Queues.

In addition to the tools listed, the VRVcloud application utilizes embedded collaborative tools for automatic notification and activity tracking. Queues are used to indicate to users their assigned activities, such as records that require attention. The VRVcloud application has configurable work queues that automatically assign work/tasks to queues and automatically move the completed work out of the queue, including notifying appropriate staff when activities are assigned or completed. For example, queues can be configured to indicate records waiting for the physician to enter the cause of death. Work queues are an integral part of the VRVcloud application and Mantech works with the State to identify, document, and implement appropriate work queues for all users. For ease of use, the queues are paginated where the number of records to be displayed before pagination is configurable by the user. The queues are automatically refreshed so the user

does not need to refresh the queues manually. The queues can be sorted by simply selecting the sort field on the queue. The screenshot below shows how many records are in each queue. For example, for this user there are 3 queues with 25 in the Missing Demographic Info queue, 20 in the Missing Medical Certification queue, and 4 in the Unassigned Medical Certifier queue. At the bottom of the screen the user can determine the rows (records) to display per page, and if there are more records to display can scroll through the records.

By selecting the field to sort on the list is sorted. The screenshot above had the Event Date selected to sort on, and the following screenshot shows the records sorted by Description.

TN Vital Records 

Bookmarks
 Death 
 Update Create

Other
 

News
 There is no news for System Administrator

Missing Demographic Info ²⁵

Missing Medical Certification ²⁰

Unassigned Medical Certifier ⁴

Unassigned Medical Certifier





Details	Description	Event Date	Certified	Action
	BUG BLUE 02/26/2021	02/26/2021	N	
	MIST BLUE 02/26/2021	02/26/2021	N	
	OVERTON OSCAR 08/14/2020	08/14/2020	N	
	TEST TEST 07/20/2020	07/20/2020	N	

1 to 4 of 4 Rows per page: 50 < < 1 > >

Exhibit 52: Some of the Medical Examiner Queues Sorted Differently.

The order of the display of the queues can also be sorted. For example, a queue listing records that have not been registered within X days from the death can be the first queue displayed (X is a configured (pre-determined) number of days). This brings attention to the user that these records will be in violation, or are in violation, of State rules if they are not completed within the State's required time frame.

In addition to the queues, the *VRVcloud* application also facilitates resolving identified problems by automatically, or manually, using emails, letters, and notes in the record. When a user is set up, their preferred method of communication is identified in the user table. For example, for a death physician whose configuration shows that their preferred method of communication is email (there could be multiple email addresses for the physician), a predefined email would be sent to each email address provided for the physician when a funeral director assigns the physician a death record. If the funeral director also indicated their preferred method of communication is email, when the physician certifies the death record another predefined email can be sent indicating the physician's portion of the death record is completed. The emails can be configured with both static text and data from the death record, and the emails are configurable by the State. Multiple emails can be configured for multiple workflows and depending upon the status of the record the appropriate email will be sent. Additionally, in the case where the hospital has submitted a record to the State and the State wants to reject the record, the State can include a note in the record of why it is being returned. The record would then be placed on a returned record queue at the hospital with the note. When the birth clerk logs in they will see the queue with the returned record and can make changes to the record, indicating in the note what was resolved, and then resubmit to the State.

Letters can also be either automatically or manually generated. For example, when processing a record if an issue is identified a letter can be automatically generated and printed, along with tracking the letter and associating it with the record. The actual letter, in PDF form, can be attached to the record ensuring what was sent is kept as evidence of communication. When the letters are returned, the record can continue, or the process can be closed. The letters, similar to the emails, can be configured by the State and can contain data from the record along with static text.

When entering data, collaborative tools can be configured for the field. For example, calendars can be presented for date entries. The *VRVcloud* application also guides the user with the completing the address by limiting selections based on previous selections. For example, once a State is selected the counties are limited to counties in that state, and once a county is selected the city list is limited to cities within the selected county. The *VRVcloud* application also has a job (event) scheduler that allows users to schedule jobs such as imports, exports, and reports to be executed on a scheduled basis that includes a recurring frequency. If the State is looking to verify the address with address validation software, and to return additional information with the address, such as the latitude and longitude, the *VRVcloud* application can send the address data and receive information from the address validation service in real time. Mantech has already integrated the *VRVcloud* application with several GIS/address validation software such as ArcGIS, Melissa data, and Match Code. The *VRVcloud* application can populate GIS/address data into the record for any address, for example, the residence of the parents. The validation can be done automatically and return suggestions if the address is not found or can be executed manually with the user selecting to validate the address, or even a combination where it is not automatically executed but we notify the user the address has not been validated and then they can choose to do so.

Project Manager:

Mantech designates Rob Ferguson as the Project Manager to coordinate and schedule implementation, configuration, and associated deliverables. Rob has more than 17 years of experience working on vital records implementations. As the Project Manager Rob will be a single point of contact to represent and oversee the day-to-day activities of the project. Under Rob's leadership the vital records team has consistently and successfully implemented vital records solutions. Rob's experience includes implementing six different state vital records applications into production as the project manager (CT, MA, MO, TN, WA, and the UK). Rob brings all this vital records experience and knowledge to the project, providing significant experience and risk reduction, along with a PMP certification. He has worked with hospitals, funeral homes, doctors, local health departments, and State employees. Rob's experiences provide him with an understanding the issues to implementing a vital records software solution.

Project Management Approach:

Mantech will employ a project management approach that will satisfy the scope of work and incorporate all activities described in the RFP. Please see our response to Project Management in this section for additional information on the project management approach.

Project Update Meetings:

Mantech project management will participate in weekly project update teleconference meetings with Unit resources. If deemed necessary by the Mantech project manager or Unit resources, Mantech will include other Mantech project resources to join the weekly call(s).

Project Monthly Status Report:

Mantech will submit a monthly status report to the Unit based on agreed upon metrics. Mantech will deliver a monthly status report five days prior to the end of the month to include all the State's requirements for a monthly report.

Project Executive Level Meetings:

Mantech will facilitate executive level review meetings to update executive stakeholders on project status and to formalize any agreed upon changes to the project plan.

Perform Implementation [RFP VI.D.4]

The system go-live date shall be no later than fifteen (15) consecutive months after the kick-off meeting. Mantech understands the State highly desires completion to occur within twelve (12) consecutive months after the Kick-off meeting and will only accept a project timeline that is no longer than fifteen (15) consecutive months.

1.e. Deliverables and Due Dates [RFP VI.E.]**Deliverables****Functional Specifications [RFP VI.E.1.a]**

Mantech will successfully execute or comply with each Functional Specification as indicated in Attachment 2 – Functional Specifications and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see **Establish Review and Acceptance Process** section for additional information.

Technical Specifications [RFP VI.E.1.b]

Mantech will successfully execute and comply with the Capabilities and/or Requirements as indicated in Attachment 3 – Technical Specifications and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see **Establish Review and Acceptance Process** section for additional information.

Project Initiation [RFP VI.E.1.c]

Mantech will successfully execute project initiation and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the a the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see the **Establish Review and Acceptance Process** section for additional information.

Design and Configuration [RFP VI.E.1.d]

Mantech will successfully execute design and configuration and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the a the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see the Establish and Review Acceptance Process section for additional information.

Development and Testing [RFP VI.E.1.e]

Mantech will successfully execute development and testing and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the a the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see the Establish and Review Acceptance Process section for additional information.

Data/File Migration [RFP VI.E.1.f]

Mantech will successfully execute data migration and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the a the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see the Establish and Review Acceptance Process section for additional information.

Training [RFP VI.E.1.g]

Mantech will successfully execute training and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the a the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see the Establish and Review Acceptance Process section for additional information.

Implementation [RFP VI.E.1.h]

Mantech will successfully execute implementation and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the a the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see the Establish and Review Acceptance Process section for additional information.

Post-Implementation [RFP VI.E.1.i]

Mantech will successfully execute post-implementation and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the a the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see the Establish and Review Acceptance Process section for additional information.

Support, Maintenance, and Operations [RFP VI.E.1.j]

Mantech will successfully execute support, maintenance, and operations and create a document to be utilized for the formal approval of this section, which is to be electronically signed by the selected Unit stakeholder. Each deliverable from Mantech will follow the a the Establish and Review Acceptance Process where each deliverable will be accompanied by a Deliverable Product Acceptance Form (DPAF) that will be signed the Unit stakeholder. Please see the Establish and Review Acceptance Process section for additional information.

Due Dates and/or Completion [RFP VI.E.2]**Kick- Off [RFP VI.E.2.a]**

Mantech will execute a kick-off meeting no later than 2 weeks after contract execution.

User Acceptance Testing (UAT). [RFP VI.E.2.b]

Mantech will have a user acceptance testing environment completed and fully accessible to users no later than twelve (12) consecutive months after the kick-off meeting.

Go-Live [RFP VI.E.2.c]

Mantech will perform and complete all tasks as outlined in Section VI and the related attachments to deliver a system that has a production environment completed and fully accessible to users no later than fifteen (15) consecutive months after the Kick-off meeting. The State highly desires completion to occur within twelve (12) consecutive months after the Kick-off meeting but will consider a project timeline that is no longer than fifteen (15) consecutive months.

Go-Live Week On-Site Support [RFP VI.E.2.d]

Mantech will perform go-live week onsite support.

Burn-in Period [RFP VI.E.2.e]

Mantech will monitor to ensure a burn-in period for 90 Consecutive days without a critical incident as defined in section (II)(Z) following the Go-live.

Post-implementation 2 weeks [RFP VI.E.2.f]

Mantech will conduct post-implementation review teleconferences meeting to occur within two (2) weeks following the acceptance of the burn-in period.

Post-implementation 4 weeks [RFP VI.E.2.g]

Mantech will provide post-implementation plans as outlined in Section (VI)(4)(i) to be provided within four (4) weeks following the teleconference meeting.

Mantech will begin support, maintenance, and operations upon sign-off of the burn-in period that will continue throughout the duration of the contract and any subsequent optional renewals and any extension.

PART II

1.a. Completed Attachment 1 – Functional Specifications

Please see the separately submitted file titled “***RFP 120277 O3 REBID Revised Attachment 1 Functional Requirements File 4 of 7***” for the completed functional requirements required under Attachment 1 of the RFP.

1.b. Completed Attachment 2 – Technical Specifications

Please see the separately submitted file titled “***RFP 120277 O3 REBID Attachment 2 Technical Specifications File 5 of 7***” for the completed technical specification matrix required under Attachment 2 of the RFP.

APPENDIX [RFP SEC. VII.A.3]**1.a. Contractual Agreement Form**

Please see the separately submitted file titled “***RFP 120277 O3 REBID Contractual Agreement Form File 6 of 7***” for the completed functional specification matrix required under Attachment 1 of the RFP.

1.b. Acknowledgment of Sections II, III, and IV**RFP Section II Terms and Conditions**

Please see the separately submitted file titled “***RFP 120277 O3 REBID Acknowledgements Section II-IV File 7 of 7***” for the completed Section II Terms and Conditions.

Please Note: we have taken four exceptions for the State to review, and they are located within the above reference file.

RFP Section III Vendor Duties

Please see the separately submitted file titled “***RFP 120277 O3 REBID Acknowledgements Section II-IV File 7 of 7***” for the completed Section III Vendor Duties.

RFP Section IV Payment

Please see the separately submitted file titled “***RFP 120277 O3 REBID Acknowledgements Section II-IV File 7 of 7***” for the completed Section IV Payment.

1.c. Any license, user agreement, service level agreement, or similar documents [RFP VII. A.3.C]

Mantech provides a perpetual license to the State. There are no annual licensing costs, or any other ongoing license costs for the VRVcloud application. The VRVcloud license is good for any number of users (concurrent or not).

Below is our typical License Agreement:

Mantech Advanced Systems International, Inc. (“Mantech”) will retain all right, title and interest in and to all property developed by it (i) for clients other than the State of Pennsylvania (“State”), and (ii) for internal purposes and not yet delivered to any client, including all copyright, patent, trade secret, trademark and other intellectual property rights created by Mantech in connection with such work (hereinafter the “Contractor Property”). The State acknowledges that its possession, installation or use of Contractor Property will not transfer to it any title to such property.

The State acknowledges that the Contractor Property contains or constitutes commercially valuable and proprietary trade secrets of the Contractor, the development of which involved the expenditure of substantial time and money and the use of skilled development experts. The State acknowledges that the Contractor Property is being disclosed to State to be used only as expressly permitted under the terms of the license described herein. The State will take no affirmative steps to disclose such information to third parties, and, if required to do so under the State’s Law or by legal process, will promptly notify Mantech of the imminent disclosure so that Mantech can take steps to defend itself against such disclosure. Except as expressly authorized herein, the State will not copy, modify, distribute, or transfer by any means, display, sublicense, rent, reverse engineer, decompile or disassemble the Contractor Property.

Mantech grants to the State a fully-paid, royalty-free, non-exclusive, non-transferable, worldwide, irrevocable, perpetual license to make, have made, use, reproduce, distribute, modify, publicly

display, publicly perform, digitally perform, transmit and create derivative works based upon the Contractor Property, in any media now known or hereafter known, but only to the extent reasonably necessary for States exploitation of the deliverables to be developed under the Agreement for the purpose of registering vital records for the State. The State may not use the Contractor Property as part of a commercial time-sharing or service bureau operation or in any other resale capacity. During the term of the contract and immediately upon any expiration or termination thereof for any reason, Mantech will provide to the State the most current copies of any Contractor Property to which the State has rights pursuant to the foregoing, including any related documentation.

Notwithstanding anything contained herein to the contrary, and notwithstanding the State's use of the Contractor Property under the license created herein, Mantech shall have all the rights and incidents of ownership with respect to the Contractor Property, including the right to use such property for any purpose whatsoever and to grant licenses in the same to third parties.

To ensure the customer does not deploy and use the software without having gone through the required processes, the following conditions apply to production usage (other than for pilot testing) of the software: Once the customer utilizes the application in a production environment the software will be deemed as accepted and any milestones/deliverables prior to the acceptance of the software will be deemed completed, unless otherwise mutually agreed in writing. Once the software is placed in a production environment, any warranty period will be deemed as having begun. Once the software is placed in a production environment any maintenance period of the contract will be considered to have commenced and any maintenance terms and conditions applied.

Below is a typical Service Level Agreement (SLA). Mantech will work with the State ensure their requirements are incorporated into the SLA.

SERVICE LEVEL AGREEMENT

WHEREAS, the State is desirous of obtaining a Maintenance and Support Services Agreement (hereinafter, "Agreement") for the Vital Record System (VRVcloud); and WHEREAS, Mantech, is capable of and willing to provide such maintenance and support services; NOW, therefore, the parties agree as follows:

Description of Service Provided

The purpose of this Agreement is to:

- Define agreed service targets.
- Define key service success criteria and targets.
- Provide a mechanism ensuring that the agreed obligations on all parties are described.
- Define methodology for measuring and reporting of service against this Agreement.
- Define the management and review process for this Agreement.

The term of this Agreement is for one (1) year of maintenance starting TBD. The dates depend upon the contract signature date and when the module goes into production. The total price of this Agreement shall not exceed \$XXX. Mantech agrees to submit a monthly invoice for the maintenance cost to the State once this Agreement is invoked.

Mantech will perform all necessary actions to maintain the VRVcloud and environment or restore it to good working order. The maintenance includes preventive and remedial maintenance, technical support, and installation of security changes. All updates will be performed with minimal effect on system performance or impacting agency operations or user productivity.

Unless otherwise mutually agreed in writing by the State and Mantech, maintenance windows will occur between the hours of 10:00 p.m. on one day through 2:00 a.m. (Eastern Time) the following day and will be limited to eight (8) hours in a given week. The occurrence and duration of maintenance windows may be updated by agreement between Mantech and the State. Mantech will provide at least two (2) business days' advance notice of any scheduled maintenance and ensure the window will occur at the agreed-upon time and when a minimum number of users will be using the system.

Service Levels and Targets

Scheduled Maintenance Releases of VRVcloud

Mantech will work with the State to schedule Maintenance Releases (MR) to address issues with the VRVcloud on an agreed upon schedule. MRs shall include:

- Normal and minor bug fixes that have been reported to Mantech and agreed to be addressed in the MR.
- A Request for Change (RFC) delivered subsequent to the previous MR and agreed to be included in the MR. The process for delivery of VRVcloud software introduced as a result of an RFC will be formally agreed by both parties as part of the Change Control process.
- Release notes that document the bugs fixed and RFCs delivered subsequent to the previous MR.
- Relevant documentation effected by the MR.

The State agrees that it shall maintain all documentation for modules utilized in the production environment except when an RFC is initiated. Contractor will include in any RFC the documentation that will be delivered as part of the RFC.

Helpdesk and Incident Management Service Levels

First and Second Level Service

Mantech agrees to provide Second Level Technical Support via a Help Desk facility. The State agrees to provide a First Level User Helpdesk.

Help desk levels:

Support Level	Support Description
First Level User Help Desk	Provided by the State. Takes support requests directly from end users. Resolution by help desk or routing to personnel within the State if functional issue or to technical support for technical problems.
Second Level Technical Support	Provided by Mantech. Only takes support requests from First Level User Help Desk team. Mantech's help desk consists of support via telephone, email, and internet.

Severity Definition. The table below identifies the severity definitions of support requests and associated response/resolution times. These definitions apply to the VRVcloud software and hosting environment.

Severity	Definitions or Examples
Critical	The entire VRVcloud or one of the modules is unavailable.
Major (Severe)	There is a loss of major functionality, or a consistent and reproducible non-conformity that results in a legal or regulatory non-compliance where there is no workaround available.

Severity	Definitions or Examples
Normal (Medium)	There is a loss of some functionality, or a consistent and reproducible non-conformity that results in a legal or regulatory non-compliance where there is a workaround available.
Minor (Low)	There is a consistent and reproducible non-conformity that results in no loss of functionality and no legal or regulatory non-compliance.
Enhancement	Modifications that are made to the VRVcloud application that do not fall in above categories.

If a critical and/or major issue exists with a version of the VRVcloud software recently placed into production, Mantech agrees to roll back to the previous version of VRVcloud.

All support requests will be entered into Bugzilla or currently used bug reporting tool. If Bugzilla is unavailable, then email will be used to report the support request. For critical and major bugs, the State will use Bugzilla, email, and telephone to Mantech's technical support.

Service Priority. The table below identifies the target response time for all support requests. All target times are based on normal business hours: Monday to Friday, 8:00 to 17:00, CST excluding all observed holidays.

Severity	Definitions or Examples	Target Response Time
Critical Application is non-operational or inaccessible.	For calls logging Critical bugs during Mantech working hours	Within 1 working hour after receiving notification of a bug by the State
Major (Severe) Large impact on application functionality	For calls logging Major bugs during Mantech working hours	Within 2 working hours after receiving notification of a bug by the State
Normal (Medium) Moderate impact on application functionality	For calls logging Major bugs during Mantech working hours	Within 8 working hours after receiving notification of a bug by the State
Minor (Low) Little impact on application functionality or system operations	For calls logging Major bugs during Mantech working hours	Within 24 working hours after receiving notification of a bug by the State
Enhancement	All issues logged in Bugzilla as an enhancement	Handled on a case-by-case basis

Observed holidays for Maintenance:

NEW YEAR'S DAY	January 1
MARTIN LUTHER KING'S BIRTHDAY	Third Monday in January
WASHINGTON'S BIRTHDAY	Third Monday in February
MEMORIAL DAY	Last Monday in May
INDEPENDENCE DAY	July 4
LABOR DAY	First Monday in September
COLUMBUS DAY	Second Monday in October
VETERANS DAY	November 12
THANKSGIVING	Fourth Thursday in November
DAY AFTER THANKSGIVING	Fourth Friday in November
CHRISTMAS DAY	December 25
DAY AFTER CHRISTMAS	December 26

If any of the above holidays fall on a Saturday, then Friday will be observed as a holiday. If a holiday falls on a Sunday, then Monday will be observed as a holiday. Issues reported on a holiday or weekend will be addressed beginning on the next Mantech workday. Reporting of the issue outside the supported business times will not be subject to target response times but should be responded to in a reasonable amount of time as agreed to by both the State and Mantech.

First Level Support Procedures

End users will contact the First Level User Help Desk at the State, seeking help with operational issues. The State's First Level User Help Desk will assist the user where possible, including basic troubleshooting of the problem. In particular, the First Level User Help Desk will be invaluable in helping to resolve problems involving user error and questions involving functionality of the application. First level support procedure:

- Enter an issue into Bugzilla with the appropriate information regarding the support request. The State's project manager will work with the First Level User Help Desk to ensure that the problem can be replicated on the test environment.
- If the issue is Critical or Major, Mantech will also be contacted by email and telephone.
- If the issue is Normal, Minor, or an Enhancement, the support request can be made at the State's project manager's discretion.

Second Level Support Procedures

Mantech's assigned staff will monitor support requests. When an issue is identified, Mantech will follow this procedure for Critical and Major support requests:

- Provide a response acknowledging the request by updating the item in Bugzilla.
- If necessary, contact the State's project manager working with the First Level User Help Desk to obtain additional information and details regarding the problem.
- Mantech will commence troubleshooting the support request.
- Issues may be addressed by patch, build, or environment resolution as agreed by both parties.
- Once the support request is addressed, the resolution will be documented in the bug, and the bug will be set to a status of Fixed in Bugzilla.
- If the problem can be fixed without a patch to the software, then instructions for the fix will be provided in the resolution to the bug (or via email) and Mantech will apply the fix.

- If the resolution involves a change to the VRVcloud, a patch or new build to the software will be provided. The release number will be documented in the bug, and the bug will be set to a status of Fixed in Bugzilla. With agreement from the State, the patch or new build will be applied.

Reporting and Management

Support and Maintenance Review Meetings

Bi-Weekly teleconference meetings will take place between Mantech and the State to discuss all issues of VRVcloud and to discuss technical plans, system performance, service levels, and any other matters related to this SLA. The meetings will be held at a mutually agreed upon date and time by Mantech and the State.

The purpose of these meetings shall be as follows:

- Review of Mantech's performance against its obligations under this agreement
- Progress of problems
- Progress of RFCs
- Hosting issues
- Performance and capacity management

Annual Strategic Reviews

Reviews will be conducted annually for the purpose of evaluating the use and performance of the support and maintenance services provided by Mantech and that there is acceptable (industry standard) performance of the application. The outcome of this annual strategic review will be the decision to maintain or alter the level of support for the following year. The State will provide formal notification a minimum of 30 days in advance of the annual meeting.

Escalation

At any point during the operation of the VRVcloud Maintenance Agreement, either party can escalate unresolved concerns and issues. Examples of such concerns include:

- A support request was not responded to within a timeframe.
- An RFC timeline is not met.
- The classification of severity of problems.
- The communication of a fix relating to a critical or major bug is not adequate.

Escalation Rules. The following basic rules should be followed when escalating issues:

- First point of escalation within the State should be to the State's program manager.
- First point of escalation within Mantech should be to Mantech's program manager.
- No upwards escalation should occur without a peer-to-peer discussion.
- Prior to upwards escalation, each peer should inform their counterpart of escalation.
- Once escalated, the senior escalation point must be updated on all progress; resolution of escalated issues should be confirmed by all parties to whom escalation has occurred.

Escalation Path. Where both parties cannot agree to the problem, they should escalate the issue as identified below

Customer		Contractor	
Name	Role	Name	Role
TBD	TBD	Rob Ferguson	Project Manager
		Joe Lopez	Account Manager
		Anna Khizhnyak	DHA Portfolio Lead

Update, Upgrade, Enhancement Support Policy

During the execution of the contract, software required for the optimal performance of the VRVcloud application may change. For example, browser updates, software patches, and other changes may be necessary to ensure the performance and security of the VRVcloud application is maintained. Mantech will notify the State at least thirty (30) days in advance prior to any major update or upgrade, and at least five (5) business days in advance prior to any minor update or upgrade, including hotfixes and installation of service packs unless the update or upgrade or service pack is to cure a critical security issue. In that case Mantech will notify the State as soon as possible and will apply the update or upgrade as soon as reasonably possible.

VRVcloud Upgrades. If a mutually agreeable upgrade that is provided to all Mantech vital records implementations is available for VRVcloud, a plan to deliver the upgrade to the State will be mutually developed at no cost to the State. Mantech will present potential upgrade to the State and determine if and how those upgrades can be applied for the State. Mantech does not force upgrades onto the customer. For example, some vendors may require the State to accept an upgrade to the application based on other customer requirements that the State may not be interested in. Once the State determines they want an upgrade to the VRVcloud application, Mantech works with the State to document the change, manage the change, and implement the change. While working with the State on environment or application changes, Mantech will provide input and advice to any changes, and we may use our prototyping capability to show “what if” scenarios for the State to envision how the change to the application will perform.

Third Party Software Updates/Upgrades. Mantech will maintain the VRVcloud system production environment as delivered with respect to the version of all related hardware/software that may affect the VRVcloud system. Mantech, at its discretion (preferably within 90 days of the update becoming commercially available), will apply updates to hardware/software as described below. Mantech and the State will mutually agree upon when any updates/upgrades will occur.

Updates/Patches. Updates (sometimes referred to as patches) are software “fixes” issued by third party software vendors to address a performance or security issue. For example, there may be an update/patch to the operating system issued by Microsoft. If the update is for a security issue, Mantech will apply the update as soon as reasonably possible, while ensuring the update does not affect the application functionality or performance.

Upgrades. Upgrades are new versions of software issued by third party software vendors that replace older versions over the course of time. An example of an upgrade would be a new version of the database software becoming available. Mantech’s policy with upgrades is that we take them on a case-by-case basis. There could be perfectly valid reasons for not moving to a newer version simply because one is available. Mantech and the State will coordinate on when and how to perform third-party upgrades, along with schedule for the upgrade. Depending on the upgrade, it may be as simple as some research and testing by Mantech to ensure the VRVcloud application operates with the upgrade, or it may require a coordinated effort between Mantech and the State to implement the upgrade. Mantech is not aware of any situation where a software upgrade that was requested was denied. Also, because we are using AWS for hosting, it will ensure that as technology becomes obsolete that we will migrate to newer, and most likely, more secure versions of the software. AWS policy is that when software versions are no longer supported by the manufacturer, they will no longer be supported in the AWS cloud. For example, we could not implement an older, not supported version of Oracle because AWS will not allow it.

Environment Hardware. AWS is responsible for the hardware that run AWS services. AWS will notify Mantech of any hardware upgrades/replacements that are necessary, and Mantech will notify the State of the upcoming hardware changes. For firmware security patches AWS will

automatically apply the patches to the hardware. AWS will not allow obsolete or unsecure hardware to execute in the AWS cloud.

Non-Mantech Required Software/Hardware. The State may require the VRVcloud application to interface with third-party software/hardware such as the OnLine Verification System (OVS), VIEWS II, and others. Because Mantech does not own or maintain this software/hardware, Mantech will not be held responsible for any downtime caused by this type of third-party software/hardware. Additionally, any performance, security, accessibility, uptimes, or any other SLA or contractual requirements that this type of third-party software/hardware violates, or causes the VRVcloud software/hardware to violate, will not be the responsibility of Mantech; and Mantech will not be held accountable for any such violations. Mantech will make reasonable efforts to apply updates or upgrades to this type of third-party software/hardware.

Enhancements

If the State desires to make an enhancement to the VRVcloud application, the State and Mantech will work together to develop a Request for Change (RFC). The RFC will document the change and will be presented to Mantech. Mantech will then provide an evaluation of the RFC and possibly a price to execute the enhancement.

Availability and Performance

Since Mantech is proposing using AWS for hosting, we will have access to various monitoring tools. The monitoring tools are referred to as Cloud Watch along with Simple Notification Services (SNS). Cloud Watch provides in depth, detailed metric monitoring including availability and performance. SNS can push a notification in a variety of methods out to notify staff of any issues. Cloud Watch can be set up to monitor numerous availability metrics and these metrics can be set to trigger an alarm that will then send out a message using SNS. The metrics can be monitored on a minute-by-minute basis, or other time and/or event methods. The number, complexity, and detail of the availability monitoring for the application on AWS are too in-depth and complex to define all the options in this SLA. For availability, the application deployed in the AWS cloud hosting environment will use metrics from the servers such as CPU usage, memory usage, as well as custom metrics from the JVM like the average heap memory usage, average response times, etc., to automatically scale the application to meet the growing workload demands. Using a pro-active, auto-scaling policy that responds to the real-time metrics by automatically scaling the servers up or down allows Mantech to meet not only the Quality of Service (QoS) requirements, but also the QoS requirements for the anticipated user workload over the future lifespan of the system. Mantech will configure the availability and performance monitoring to ensure the State has accurate and timely availability and performance reporting. This will ensure performance optimization of the VRVcloud application and environment. Mantech will target a minimum availability of 99% uptime for 24x7x365, to include all unscheduled outages and exclude all scheduled maintenance times.

Database Management:

Disaster Recovery. For the production environment, our hosted solution with AWS provides numerous disaster recovery options for the database and application servers. For this proposal, Mantech will employ a recovery plan that is a mix of hot and cold backups. If the server hosting the application or database suffers a critical hardware failure, a replacement server can be launched from an image snapshot within minutes, and the backed-up server configuration retrieved from AWS S3 storage can be re-applied to the new servers without the need to re-install server software or configure it manually. This process is automated using cloud monitoring tools provided by AWS that allow automatically replacing a server with its image based on health check metrics from the server.

System Redundancy. For complete system redundancy, the main infrastructure components such as the databases will be deployed into multiple Availability Zones, which are physically separated. AWS provides synchronization between database zones, and a stand-by mirror environment of the application servers will be configured and linked to the mirrored database. In case of a disaster, the load balancer will automatically switch in seconds to serve content from the mirrored environment where the State can then access the VRVcloud application in the same manner as before the disaster recovery procedure was implemented. Most likely users will not even be aware that an issue occurred. In the event that the mirrored site is not available, users will be directed to an alternative site with a status message concerning the availability of the application, while Mantech is communicating with the State on a regular basis until the application is available. We believe this will far surpass the State's recovery time requirement along with their availability requirement.

Backup and Recovery. Mantech will automatically back up all system data daily using automated AWS tools and techniques, including automated verification procedures that confirm the execution of backups and provide notices of any backup issues. Backing up system data will not only include the database, but server images and other data pertinent to the environment. The backup will include full database backups daily, differential database backups hourly, and transaction log backups every 10 minutes. To recover from a failure, the transaction log backups and differential backup will be used to bring the database from a full backup restore up to the last transaction logged before failure, ensuring minimal or in most cases no loss of data. As a redundancy, the backup files are automatically copied to an off-site location in the AWS S3 storage for retrieval in case of a server disk failure. In case of a failure, new servers can be launched from the server image, and the configuration retrieved from S3 can be re-applied within minutes to the new server without the need to re-install server software or configure it manually. The application in the AWS cloud can recover in hours and AWS S3 storage is designed for 99.9% availability over a year, ensuring access when required.

Capacity. Mantech is proposing a capacity capable of handling than 5,000 active users (1,000 concurrent) per year with an assumption of a 2% increase in vital events and a 1% increase in active users each year.

COST SHEET [RFP SEC. VII.A.4]

Please see the separately submitted file titled “***RFP 120277 O3 REBID Cost Sheet***” for all pricing and rate information required under this solicitation.

This file contains all required pricing information corresponding to project deliverables and optional services as specified in the RFP Cost Sheet template.



August 4, 2025

Subject: Bank Reference for ManTech International Corporation

To Whom It May Concern:

This letter serves as a bank reference for ManTech Advanced Systems International, Inc., a subsidiary of ManTech International Corporation.

PNC Bank, National Association ("PNC" or the "Bank"), is pleased to confirm a long-standing and healthy banking relationship with ManTech International Corporation and its subsidiary entities, which has spanned over 10 years.

Based on our established relationship and assessment of their financial standing, we can affirm that ManTech maintains adequate financial resources to effectively perform its Government contracts.

Kind regards,

A handwritten signature in blue ink, appearing to read "Steven Day".

Steven Day, SVP

The PNC Financial Services Group

1750 Tysons Blvd McLean VA 22102

www.pnc.com

Attachment 1 - Functional Specifications

RFP#: 120277 O3

Vital Records Management System

State of Nebraska, Department of Health and Human Services

Important Scoring Dynamic

Attachment 1 - Functional Specifications shall be subject to a "Pass" or "Fail" assessment. Bidder to review Section (I)(P)(2) of the Request for Proposal (RFP) document for understanding the methodology that will be applied. The Items hig hlighted in with an asterisk

GOLD*

 document represent the capability and/or requirement that will be subject to the "Pass" or "Fail" assessment, as these are "must" requirements.

No Additional Costs - All related Costs are to be captured in the Cost Sheet (In the prescribed format)

Please note: All associated costs must be captured in the Cost Sheet in the prescribed format and NOT within Attachment 2. Failure to adhere to these instructions shall result in the bidder's proposal as being deemed a "Non-Responsive Solicitation Response".

General Instructions

To accurately complete this document, the bidder is to respond to each functional specification listed on the "Functional Specifications" tab. All functional specifications are listed within the "Functional Specifications" tab; each functional specification has a corresponding business set in Section (VI)(A)(3) of the RFP document.

The bidder must complete this document, “Attachment 2 - Functional Specifications,” and submit as a part of the bidder's Solicitation Response in an Excel format only - See Section (VII)(A)(2) of the RFP for submittal instructions. DO NOT ALTER THE FORMAT OF THIS DOCUMENT OR ANY OF THE EXISTING CONTENT WITHIN THE TABS (ROWS, COLUMNS, SPECIFICATIONS, ETC.). Bidder may expand the row heights within the "Functional Specifications" tab to enter entire Vendor Response. The only content that the bidder may enter in this Excel spreadsheet is within the "Functional Specifications" tab. Do not add information to the "Instructions" tab or add any additional tabs.

Specific instructions to complete Functional Specifications tab:

Bidders must complete both Column D and Column E for every item listed under System Modules and Functional Specifications using the instructions below.

Column D - Vendor Selection. The bidder to use the dropdown box in "Vendor Selection" to confirm how their solution proposes to meet each specification.

Drop-down options:

- ☐ YES = Met and supported
- ☐ CONFIG = Met with configuration (activate, arrange, or adjust functionality without changing the system's core code in order to meet the Specifications)
- ☐ CUS = Met with customization (change the system's core code in order to meet the Specifications)
- ☐ TPS = Met via third-party software
- ☐ NA = Not available

Column E - Vendor Response. For each respective System Module and Functional Specification and depending on which dropdown option is chosen from Column D - Vendor Selection, the bidder will provide the corresponding response to include the information listed as shown below.

If YES is selected, the bidder should describe how their system will address the specification.

If CONFIG is selected, the bidder should describe how they will address the specification, the level of effort, the target time frame of delivery, and how much input from the Unit will be needed in order to satisfy the specification prior to go-live.

If CUS is selected, the bidder should describe how they will address the specification, the level of effort, the target time frame of delivery, and how much input from the Unit will be needed in order to satisfy the specification prior to go-live.

If TPS is selected, the bidder should:

- ☐ Provide the vendor’s name and name of the third-party software;
- ☐ Describe how they will address the specification;
- ☐ Describe how the third-party would handle licensing, maintenance, and first-time installation;
- ☐ Describe how the third-party software would get stored (e.g.: At the state level or would individual users need to download?).

DHHS Vital Records Department
Modernization Requirements

REVISED Attachment 1 - Functional Specifications
RFP: 120277 O3 REBID

Vital Records Management System

The items highlighted in gold and notated with an asterisk (*) within this document represent the capability and/or requirement that will be subject to the “Pass” or “Fail” assessment, as these are “must” requirements.

Bidder Name: ManTech Advanced Systems International, Inc. (Mantech)

	Ref	System Modules and Specifications	Vendor Selection	Vendor Response
1		GENERAL		
1.1		COMPONENT		
1.1.1		The system must include the following modules:		
1.1.1.1*		Birth;	YES	The VRVcloud system includes all required modules, including a dedicated Birth Module that is specifically designed to handle all aspects of birth record management that includes adoptions, foreign borns, delayed births, paternity, etc. This module enables efficient and secure data entry, validation, issuance, and amendment of birth records, ensuring compliance with state and federal regulations. The Birth Module supports real-time data validation, customizable workflows, interoperability and secure certificate issuance, making it a comprehensive solution for managing birth records within the state's vital records system.
1.1.1.2*		Death;		The VRVcloud system also includes a robust Death Module that supports comprehensive management of death records from initial reporting through certification. This module allows authorized users to enter, validate, and amend death records with strict compliance to regulatory standards. It includes features for data entry, review workflows, secure certificate issuance, and integration with state and national reporting systems (e.g., NCHS, STEVE, and FHIR). The Death Module ensures accuracy and security, facilitating efficient processing
1.1.1.3*		Marriage;	YES	and issuance of death records in accordance with Nebraska's requirements
1.1.1.4*		Dissolution of Marriage;		The VRVcloud system includes a Marriage Module designed to streamline the management and processing of marriage records. This module enables authorized users to enter, validate, and issue marriage records with all necessary legal details and secure certificate issuance capabilities. It includes workflows for data entry, approvals, and amendments to ensure accuracy and compliance with state standards. The Marriage Module also supports real-time validation and reporting functions, allowing for seamless data integration with
1.1.1.5*		Fetal Death;	YES	other state and federal systems as required
1.1.1.6*		Induced Termination of Pregnancy (ITOP);		The VRVcloud system includes a Divorce/Dissolution of Marriage Module that facilitates the secure management of divorce records, ensuring compliance with legal and regulatory standards. This module enables the entry, validation, amendment, and issuance of records related to divorce and marriage dissolution, providing an efficient workflow for authorized users.
1.1.1.7*		Order Management.	YES	The VRVcloud system includes a Fetal Death Module specifically designed to manage fetal death records with sensitivity and compliance to state and federal standards. This module allows authorized users to enter, validate, amend, and issue fetal death records, ensuring that all data is accurately documented and securely handled.
1.1.2*		The system must contain a report builder tool or associated utility.		The VRVcloud system includes an Induced Termination of Pregnancy (ITOP) Module to manage and securely document records related to induced termination of pregnancy in compliance with state and federal reporting requirements. This module provides a structured, confidential, and secure environment to ensure that all data is accurately recorded and accessible only to authorized personnel.
1.2		SYSTEM	YES	The VRVcloud system includes a comprehensive Order Management Module that facilitates the tracking, processing, and fulfillment of requests for certified copies of vital records, including birth, death, fetal death, marriage, and divorce certificates. This module enables efficient order handling from initiation through fulfillment (e.g. calculation of money due, payment received, and refund processing), ensuring accuracy, transparency, and compliance. The module also includes the process to track security paper that includes restocking and usage

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1.2.1*	The system must not require the purchase of any additional proprietary applications.	YES	The VRVcloud system is a fully self-contained solution that does not require the purchase of any additional proprietary applications. All essential functionalities, including data management, reporting, security, and user interface tools, are built into the system. This means that Nebraska DHHS can operate the VRVcloud platform without any dependency on third-party proprietary software, reducing additional costs and ensuring seamless integration of all features within a single, unified system.
1.2.2*	The system must support multiple environments, specifically, System Integration Testing (SIT), User Acceptance Testing (UAT), Training, Development, and Production.	YES	The VRVcloud system fully supports multiple environments to facilitate a smooth implementation, testing, training, and production experience. The supported environments include: System Integration Testing (SIT): A dedicated environment for verifying system integrations with other applications, ensuring that all components work cohesively. User Acceptance Testing (UAT): An environment for end-users to validate that the system meets all functional and business requirements before going live. Training: A separate environment designed to allow users to practice and become familiar with the system without impacting production data. Development: An environment for ongoing development activities, including configuration, customization, and enhancements. Production: The live environment where the operational system is accessible to authorized users, providing all functionalities for managing vital records. These distinct environments ensure robust testing, effective training, and secure operation, supporting Nebraska’s requirements for a structured and reliable system deployment.
1.2.3	The system should be configurable to present module fields in the order listed on its corresponding form.	YES	The VRVcloud system is fully configurable to allow administrators to customize the order of module fields on each corresponding form. This flexibility enables Nebraska DHHS to arrange fields according to its preferred layout or operational workflow requirements.
1.2.4*	The system must have images be seamlessly accessible within the application.	YES	The VRVcloud system supports seamless accessibility of images within the application, allowing users to view, upload, and manage images within relevant modules. This capability ensures that any images associated with vital records (such as scanned documents, identification, or supporting evidence) are easily accessible and viewable by authorized personnel without the need to switch between applications or external viewers. <u>Key features include:</u> Embedded Image Viewer: Images can be viewed directly within the VRVcloud interface, providing a seamless experience without requiring additional software or plugins. Image Upload and Management: Authorized users can securely upload, store, and associate images with specific records, ensuring that all relevant documentation is easily accessible. Role-Based Access: Access to images is controlled by user roles and permissions, maintaining compliance with data privacy and security standards. This functionality enhances efficiency and supports Nebraska DHHS staff in managing vital records more effectively, with all images

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1.2.5	The system should provide functionality to disallow any other screen shot tool, such as the “Snipping Tool” or the like.
1.2.6	The system should provide a managed print function.
1.2.7	The system should capture an audit log when the print function is used.
1.2.8*	The system's implementation and functionality must adhere to the technical specifications outlined in the accompanying Technical Specifications-Attachment 3.

NA	Unfortunately, it is not fully possible to prevent screen capture tools from working on a browser-based application. Here’s why and what options are available: Operating System Limitations: Browser-based applications have limited control over the operating system. Tools like the Windows Snipping Tool, macOS Screenshot, and third-party screen capture software operate outside the browser’s control and can capture anything displayed on the screen. Browser Security Constraints: Web browsers are designed to provide a safe and consistent user experience across different sites, so they don’t allow websites to block or control external applications, including screen capture tools. Possible Mitigation Techniques: Watermarking: Displaying a semi-transparent watermark with user information (e.g., username, timestamp) on sensitive screens can deter users from capturing and sharing screenshots, as the watermark will make it easy to trace the source. JavaScript Obfuscation: Obscuring sensitive data when the user clicks away from the browser window or switches tabs (e.g., blurring or hiding content) can help, but it’s not foolproof as it doesn’t prevent screen capture. Security Policies in Managed Environments: In highly controlled environments (e.g., corporate or government settings), IT administrators can enforce group policies to disable screenshot tools on managed devices, though this only works for specific environments and devices. Browser-Specific Extensions: Some web applications use extensions to manage screen content security, but this approach requires the user to install the extension, which is not practical or enforceable for all users. Summary: While there are deterrents and mitigations, there is no reliable method to completely block screen capture tools for a browser-based application. Implementing watermarks or obfuscation techniques can help reduce the risk, but a fully secure solution would require moving to a controlled environment or a dedicated application with more control over the operating system.
YES	The VRVcloud system includes a Managed Print Function that allows for controlled and secure printing of sensitive records, such as birth, death, marriage, and divorce certificates. Key features of the managed print function include: Role-Based Access Control: Printing permissions are assigned based on user roles, ensuring that only authorized personnel can initiate print jobs for sensitive documents. Audit Logging: Each print action is logged in the system, capturing details such as the user, timestamp, document type, and record ID. This provides a traceable history of printed records to support compliance and security audits. Watermarking and Security Features: For additional security, the print function can add watermarks or other security markings (e.g., "Confidential" or user information) to printed documents, discouraging unauthorized distribution. Print Queue Management: The system includes options for queueing and tracking print jobs, allowing administrators to monitor and manage print activity in real-time.
YES	The managed print function enhances data security and accountability, ensuring that all printed records are handled in a controlled and
YES	The VRVcloud system includes comprehensive audit logging that captures details every time the print function is used. This feature provides a secure and traceable record of all print actions, ensuring accountability and compliance. Key aspects of the print audit log include: User Information: Logs the identity of the user who initiated the print action. Timestamp: Records the exact date and time of each print event. Document Details: Captures information on the type of document printed (e.g., birth certificate, death certificate) and relevant record identifiers. Location: Optionally records the location or IP address of the user, providing additional context for each print event. These audit logs help Nebraska DHHS maintain full oversight of printed documents, supporting security policies and ensuring adherence to regulatory standards. This level of traceability enhances data security by enabling administrators to monitor and review all print activity
YES	Mantech's implementation and functionality adhere to the technical specifications outlines in the Accompanying Technical Specifications - Attachment 2. Please see Attachment 2 for additional information.

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1.2.9*	The system must support a minimum of 5,000 internal and external users.	YES	The VRVcloud system is designed to support scalability, with the capability to handle a minimum of 5,000 internal and external users. This infrastructure ensures that Nebraska DHHS can accommodate a large user base, including state employees, healthcare facilities, and authorized external partners. Key features supporting scalability include: Cloud-Based Infrastructure: VRVcloud’s cloud-hosted environment allows for flexible scaling, adapting to increases in user load without performance degradation. User Management and Role-Based Access Control: The system efficiently manages a large number of users through role-based access controls, ensuring secure and organized user permissions for both internal and external users. Performance Optimization: VRVcloud is optimized for high-performance access, providing quick and reliable service across a broad user base even during peak usage times. This scalability ensures that the VRVcloud system can meet current and future user demands, supporting Nebraska DHHS in delivering
1.2.10*	The system must support a minimum of 1,000 concurrent users regardless of user role and/or location.	YES	The VRVcloud system is designed to support a minimum of 1,000 concurrent users, ensuring reliable access and high performance even under heavy usage conditions. This capability enables Nebraska DHHS to accommodate a large number of simultaneous users, regardless of their role or location.
1.2.11	The system should provide online help connected to the relevant routine, field, or report being used.	YES	The VRVcloud system includes an integrated online help feature that provides users with context-sensitive assistance related to the routine, field, or report they are working on. This online help functionality enhances usability by offering immediate guidance within the application, allowing users to quickly find answers without leaving their workflow. Key features of the online help system include: Context-Sensitive Help: Help topics are linked to specific fields, forms, and reports, ensuring that users receive relevant information based on the section they are currently using. Step-by-Step Instructions: Detailed instructions guide users through common tasks, helping them understand complex processes and fields. Searchable Help Database: Users can search the help database to find topics and tutorials on various features of the VRVcloud system. Tooltips and Field-Level Assistance: Tooltips provide brief explanations for individual fields, and more in-depth help is accessible with a single click or hover action. This online help feature enables users to become proficient with VRVcloud quickly and independently, reducing the need for external support and improving overall efficiency for Nebraska DHHS staff.
1.2.12*	The system must have the ability to connect to local or network printers.	YES	Provided that the local network configuration and policies support it, the VRVcloud system is fully compatible with both local and network printers, allowing users to print vital records and related documents from the application. This functionality is essential for issuing certified copies of records and supporting various administrative tasks. Key features of the print capability include: Local Printer Compatibility: Users can connect VRVcloud to local printers for easy, on-demand document printing at their workstation. Network Printer Integration: The system supports network printer connections, enabling centralized printing for larger offices or departments. Role-Based Printing Permissions: Print access can be restricted by user role, ensuring that only authorized personnel can print sensitive documents. Print Configuration Options: Users can select print settings, such as page layout and copies, directly within VRVcloud. This flexibility in printer connectivity ensures that VRVcloud meets the printing needs of Nebraska DHHS, supporting both local and network printing environments securely and efficiently.

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1.2.13*	The system must have the ability to connect to local or network scanners.	YES	The VRVcloud system supports seamless integration with both local and network scanners, enabling users to scan and upload documents into the application. This functionality is critical for digitizing supporting documents, such as identification or additional records, and attaching them to vital records for streamlined management. Key features of the scanning capability include: Local Scanner Compatibility: VRVcloud connects with local scanners, allowing users to scan documents at their workstation and upload them into the system. Network Scanner Integration: The system is compatible with network-connected scanners, enabling centralized scanning in larger office environments for efficient document processing. Upload to Records: Scanned documents can be attached to relevant records, ensuring that all necessary documentation is easily accessible within the application. Enhanced Document Security: Access to scanned documents is managed through role-based permissions, ensuring only authorized users can view or manage these files. This compatibility with both local and network scanners enables Nebraska DHHS to digitize and manage supporting documents efficiently
1.3	DATA		
1.3.1*	The system must have the ability to complete a data conversion of all existing data, including images and files.	YES	The VRVcloud system is designed to support comprehensive data conversion, allowing for the migration of all existing data, including images and files, into the new system. This capability ensures that Nebraska DHHS can seamlessly transition from legacy systems without data loss, maintaining continuity of vital records and supporting documents. Key features of VRVcloud's data conversion capability include: Full Data Extraction and Transformation: VRVcloud's data migration process includes extraction, transformation, and loading (ETL) of all structured and unstructured data, ensuring that both record data and associated files (e.g., images, scanned documents) are accurately migrated. Image and File Migration: The system supports the migration of high-resolution images and document files, ensuring that all digital assets linked to records are retained and accessible in the new system. Data Integrity Checks: Built-in validation and verification processes are applied throughout the data conversion process to ensure accuracy and integrity, with audit trails for traceability. Secure Data Handling: Data conversion is conducted with robust security protocols, ensuring that sensitive information is protected during the migration process. This data conversion capability provides a secure and accurate migration of all existing records and associated files, supporting a smooth
1.3.2*	The system must have configurable data retention rules.	YES	The VRVcloud system includes configurable data retention rules, allowing Nebraska DHHS to set and enforce policies for data storage and deletion based on regulatory and organizational requirements. Key features of the configurable data retention functionality include: Customizable Retention Policies: Administrators can define data retention periods for different types of records (e.g., birth, death, marriage) according to legal and policy requirements. Automated Deletion and Archiving: The system can automatically delete or archive records when they reach the end of their retention period, ensuring compliance with data management policies. Audit and Compliance Support: VRVcloud provides an audit trail of all retention rule configurations and actions taken, ensuring accountability and traceability. Flexible Adjustment Options: Retention rules can be modified as regulatory or organizational needs change, allowing for ongoing compliance. These configurable retention rules ensure that Nebraska DHHS can manage data lifecycle requirements effectively, supporting compliance

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1.3.3*	The system must provide immediate validation and error messaging needed for data interfaces.		The VRVcloud system provides immediate validation and error messaging for data interfaces, ensuring that all data transferred between systems is accurate, complete, and compliant with format requirements. Key features supporting data validation and error handling include: Real-Time Data Validation: As data is entered or transferred through interfaces, the system checks for accuracy, completeness, and consistency with required formats. Instant Error Messaging: When validation errors occur, users receive immediate, clear error messages, identifying the issue and guiding them on corrective actions. Detailed Error Logs: For interface administrators, the system maintains logs of validation errors, providing context and details to facilitate troubleshooting and resolution. Configurable Validation Rules: Validation criteria can be customized based on Nebraska DHHS’s data requirements, ensuring that all interfaces comply with specific standards.
		YES	These validation and error messaging capabilities enhance data accuracy and streamline error resolution, ensuring smooth and reliable data
1.3.4*	The system must have the ability to use field-level data integrity checks and data validation (e.g., numeric fields, verify a number is entered, date fields, verify a date is entered, etc.).		The VRVcloud system incorporates comprehensive field-level data integrity checks and validation mechanisms to ensure data accuracy and reliability throughout the application. Key features of field-level validation include: Numeric Field Validation: Ensures that fields designated for numeric input accept only numbers, preventing entry of invalid characters. Date Field Validation: Confirms that date fields only accept valid date formats, enhancing data consistency and reducing errors. Required Field Verification: Flags mandatory fields and prevents submission until all required data is entered, ensuring completeness. Format and Length Checks: Validates data entry formats (e.g., phone numbers, ZIP codes) and enforces character limits where applicable. Customizable Validation Rules: Allows administrators to define and adjust validation rules as needed to meet Nebraska DHHS’s specific data requirements.
		YES	These field-level data integrity checks and validation features ensure that the data entered into VRVcloud is accurate and conforms to defined standards, reducing errors and supporting high-quality data management for Nebraska DHHS.
1.3.5*	The system must provide an integrated full-featured word processing function (including superscript, subscript, and scientific notations, cut and paste, and word wrap) to allow a user to enter data into large text fields.		The VRVcloud system includes an integrated, full-featured word processing function that supports advanced text editing capabilities for large text fields. This functionality enhances data entry flexibility and accuracy by allowing users to create, edit, and format extensive text entries within the application. Key features of the word processing function include: Advanced Text Formatting: Supports formatting options such as bold, italic, underline, superscript, and subscript, making it easy to enter scientific notations and structured text. Cut, Copy, and Paste: Users can easily move text within the application, enhancing productivity and reducing repetitive data entry tasks. Word Wrap: Automatically adjusts text to fit within the boundaries of the text field, ensuring readability without the need for horizontal scrolling. Spell Check and Grammar Tools: Provides basic spelling and grammar support to enhance data quality in narrative entries. Rich Text Editing for Large Fields: Users can enter substantial amounts of text into large fields without constraints, making it ideal for notes, narratives, or detailed descriptions.
		YES	This integrated word processing capability supports efficient and accurate data entry for Nebraska DHHS, providing users with the tools they need to create well-structured and formatted text entries within the VRVcloud system.

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1.3.6*	The system must validate against an integrated medical dictionary for medical related fields.	YES	The VRVcloud system includes VIEWS and an integrated medical dictionary to validate entries in medical-related fields, ensuring accuracy and consistency in medical terminology. This feature enhances data quality and supports compliance with medical standards by verifying terms and diagnoses against a comprehensive, standardized medical dictionary. Key features include: Medical Term Validation: Automatically validates terms entered in medical-related fields, flagging any unrecognized or misspelled terms. Updates and Maintenance: The medical dictionary is regularly updated to reflect new medical terms and diagnoses, ensuring current and accurate validation. Customization for Local Needs: Allows customization to add state-specific or commonly used medical terms unique to Nebraska DHHS's requirements. This integrated medical dictionary validation ensures that all medical data entered into VRVcloud aligns with industry standards, supporting accurate reporting and reliable data management for Nebraska DHHS.
1.3.7*	The system must have real-time processing of data.	YES	The VRVcloud system is designed for real-time data processing, enabling immediate updates and data validation as users interact with the application. This capability ensures that all information entered or modified is instantly reflected throughout the system, supporting accurate and up-to-date record management. Key features of VRVcloud's real-time processing include: Instant Data Validation: Data entries are validated in real-time, providing immediate feedback on errors or required corrections. Synchronized Record Updates: Changes made to records are instantly available across the system, ensuring all users see the most current information. Efficient Workflow Management: Real-time processing supports streamlined workflows by allowing tasks to progress without delay, as data is immediately processed and ready for the next steps. Enhanced Reporting Accuracy: Reports generated from the system pull the latest data, improving decision-making with up-to-date information. This real-time processing capability ensures that Nebraska DHHS has access to the most accurate and current data, facilitating responsive service delivery and effective data management.
1.3.8*	The system must align with State of Nebraska and Federal guidelines to collect vital statistic data and other data points needed for federal reporting and evaluation purposes.	YES	The VRVcloud system is fully compliant with federal guidelines and will be fully compliant with State of Nebraska guidelines for the collection of vital statistics data, ensuring that all required data points are accurately captured and accessible for reporting and evaluation purposes. Key features supporting compliance include: Federal Reporting Integration: The system supports seamless data sharing with national systems (e.g., National Center for Health Statistics) for mandatory federal reporting, reducing administrative burden and ensuring timely submission. Customizable Data Collection: VRVcloud allows for the addition of state-specific data points and fields as regulations evolve, maintaining alignment with updated guidelines. Quality Assurance and Audit Trails: Built-in validation, data integrity checks, and comprehensive audit trails ensure accuracy and accountability in data collection and reporting. With these capabilities, VRVcloud provides Nebraska DHHS with a solution that supports compliant data management and efficient

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1.3.9*	The system must have graphical control elements to assist with data entry (e.g., checkbox, drop-down box, etc.).	YES	The VRVcloud system includes a variety of graphical control elements designed to enhance data entry efficiency and accuracy. These intuitive elements guide users through forms and fields, making data entry faster and reducing the likelihood of errors. Key graphical control elements include: Checkboxes: Used for simple yes/no options or multiple selections, improving clarity and ease of use. Drop-Down Boxes: Provides predefined choices for fields with specific options, standardizing entries and ensuring consistency. Radio Buttons: Allows users to select a single option from a set of choices, useful for mutually exclusive data points. Calendars and Date Pickers: Assists users in selecting dates accurately, reducing errors in date fields. Auto-Complete Fields: Speeds up data entry by suggesting common entries as users type, especially helpful in fields like city, state, or facility name. These graphical controls make VRVcloud user-friendly, enabling Nebraska DHHS staff to enter data accurately and efficiently, while minimizing training time and improving data consistency across records.
1.4	FUNCTIONALITY		
1.4.1*	The system must have the ability to scan directly into the system.	YES	The VRVcloud system supports scanning capabilities, allowing users to scan documents and images seamlessly into the application. This functionality enhances efficiency by streamlining the process of attaching physical documents to digital records. Key features of direct scanning include: Integrated Scanning Interface: Users can initiate scans from within VRVcloud, automatically linking scanned documents to the appropriate record. File Format Compatibility: Supports commonly used file formats, such as PDF and JPEG, ensuring flexibility in the types of documents that can be scanned and stored. Document Security: Scanned documents are securely stored within the system, with access controlled by role-based permissions to maintain data confidentiality. Improved Workflow: Direct scanning reduces the need for separate file uploads, enabling a smoother workflow for Nebraska DHHS staff. This direct scanning capability allows Nebraska DHHS to efficiently capture and store supporting documents, improving data management and record completeness in the VRVcloud system.
1.4.2*	The system must have the ability to attach a file with a minimum of the following file types (.pdf, .doc, .jpeg, .png, .tiff).	YES	The VRVcloud system includes robust file attachment capabilities, allowing users to attach a variety of file types to records within the application. This functionality enhances the comprehensiveness of records by enabling the storage of relevant documents and images. Supported file types include: .pdf: For scanned documents, certificates, and official forms. .doc: For text documents, reports, and narratives. .jpeg and .png: For photos and scanned images, commonly used for identification documents or visual evidence. .tiff: For high-resolution images, often used in professional or archival contexts. This flexibility in file attachment ensures that Nebraska DHHS can store a wide range of document formats, enhancing the functionality and versatility of the VRVcloud system to meet varied record-keeping needs.
1.5	CONFIGURATION		

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1.5.1*	The system must have configurable field level warning notifications.		The VRVcloud system includes configurable field-level warning notifications, which provide users with immediate feedback during data entry to help ensure accuracy and compliance with data standards. These warnings can be customized to alert users to specific conditions or data entry issues. Key features of field-level warning notifications include: Customizable Warning Criteria: Administrators can set specific conditions that trigger warnings, such as entering out-of-range values or missing required information. Real-Time Alerts: Notifications appear in real-time as users enter data, allowing them to correct issues immediately before moving to the next field or submitting the form. Flexible Display Options: Warnings can be displayed as tooltips, colored highlights, or pop-up messages, depending on Nebraska DHHS’s preference and the nature of the warning. Support for Data Validation: Field-level warnings enhance data validation by ensuring that entries meet predefined standards, reducing errors and improving data quality.
1.5.2	The system should auto advance a user from process start through process completion.	YES	These configurable field-level notifications help Nebraska DHHS maintain high data accuracy and reduce errors by providing immediate, The VRVcloud system guides users seamlessly through each step of a process, from start to completion. This functionality enhances workflow efficiency, ensuring that users complete each required step in the correct order. Key features of the auto-advance functionality include: Sequential Navigation: The system automatically moves users from one step to the next, ensuring they follow the defined workflow without skipping critical actions. Guided User Experience: Prompts and indicators direct users through the process, reducing training time and minimizing errors. Configurable Workflow Steps: Administrators can customize workflows to align with Nebraska DHHS’s specific processes to meet departmental needs. Process Completion Tracking: The system ensures all necessary steps are completed before allowing users to finalize or submit the process, improving data integrity and compliance.
1.5.3	The system should have task list or work queue functionality.	YES	The VRVcloud system includes task list and work queue functionality, providing an organized approach for managing and prioritizing tasks across users and departments. This feature enables Nebraska DHHS staff to efficiently track and complete assignments related to vital records management. Key features of the task list and work queue functionality include: Task Assignment and Tracking: Users can create, assign, and track tasks within the system, ensuring accountability and visibility into ongoing work. Priority Setting: Tasks can be prioritized based on urgency, enabling staff to focus on high-priority items first. Automated Work Queues: The system automatically populates work queues based on workflow stages or user roles, streamlining task distribution and reducing administrative overhead. Notifications and Reminders: Users receive alerts for pending or overdue tasks, helping them stay on top of their assignments. Progress Monitoring: Managers can monitor task progress and completion, ensuring that workflows are proceeding smoothly and

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1.5.4*	The system must have the ability to configure workflows.	YES	The VRVCloud system provides the capability to configure workflows, enhancint process automation and operational efficiency. <u>Key Features for Workflow Configuration:</u> Customizable Workflow Templates: Administrators can design and tailor workflows to meet specific business requirements, such as approval processes, notifications, and task assignments. User Role Integration: Workflows can be configured to involve specific user roles, ensuring tasks and processes are routed to the appropriate individuals or locations. Trigger-Based Actions: Automates actions based on predefined triggers, such as the submission of a request or completion of a task. Real-Time Monitoring: Provides visibility into active workflows, enabling administrators to track progress and identify bottlenecks. Scalability: Supports both simple and complex workflows, accommdating various levels of organizational needs. Benefits to Nebraska DHHS: Improves process standardization and consistency across departments. Enhances collaboration by streamling task delegation and approvals. Saves time by automating repetivie and manual tasks, increasing productivity and efficiency. Facilitates compliance by ensuring workflows adhere to regulatory guidelines and internal policies.
2	USERS		
2.1	GENERAL		
2.1.1*	The system must allow a user with necessary access to create a record, image, or attachment.	YES	The VRVCloud system provides users with the necessary access to create records, images, and attachments efficiently and securely. <u>Key Features for Creating Records, Images, or Attachments:</u> User Access Control: Only users with appropriate permissions can create records, ensuring secure and authorized access. Comprehensive Record Creation: Supports the creation of records with metadata, fields, and associated information tailored to specific use cases. Attachment Integration: Allows users to attach images or files to a record, enabling efficient storage and retrieval of related documents. Image Handling: Users can upload and associate images to records, supporting file formats such as .jpeg, .png, and .tiff. Real-Time Updates: Newly created records and attachments are updated in real-time across the system for immediate access and usability. Benefits to Nebraska DHHS: Streamlines the process of data and record entry. Enhances operational efficiency by integrating images and files directly into the system. Ensures secure and organized storage of records, supporting regulatory compliance and data integrity.
2.1.2*	The system must allow a user with necessary access to view a record, image, or attachment.	YES	The VRVcloud system provides that users with the necessary permissions can securely view records, images, and attachments. This access control is integral to maintaining data confidentiality and supporting role-based workflows. <u>Key features of the access control functionality include:</u> Role-Based Access: Access to records, images, and attachments is controlled by user roles, ensuring that only authorized personnel can view sensitive information. Granular Permission Levels: Permissions can be set at various levels, allowing administrators to define specific access rights for each type of content (e.g., record details, attached documents). Secure Viewing: The system prevents unauthorized downloading or sharing of attachments, maintaining the integrity of sensitive files within the application. This controlled access functionality supports Nebraska DHHS’s data security requirements by ensuring that only users with the appropriate

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2.1.3*	The system must allow a user with necessary access to search a record, image, or attachment.		The VRVcloud system provides robust search functionality that allows users with the necessary permissions to search for records, images, and attachments efficiently. This feature enables authorized users to locate specific information quickly, supporting operational efficiency and data accessibility. Key features of the search functionality include: Role-Based Access Control: Only users with the appropriate permissions can perform searches, ensuring that sensitive data is accessible only to authorized personnel. Advanced Search Filters: Users can apply filters based on various criteria (e.g., wild card, soundex) to refine search results and locate specific records or attachments. Efficient Retrieval: Search results are displayed quickly, enabling users to access the information they need without delay.
		YES	This search capability enhances data accessibility for Nebraska DHHS, allowing authorized users to locate and retrieve records, images, and
			The VRVcloud system allows users with the appropriate permissions to update records, images, and attachments securely, supporting the need for accurate and current data management. Key features of the update functionality include: Role-Based Access Control: Only authorized users with specific permissions can modify records, images, or attachments, ensuring data security and compliance. Edit Tracking and Audit Logs: All updates within the database to a record are tracked with detailed audit logs, recording the user, timestamp, and nature of each change for accountability and traceability. Version Control: The system maintains previous versions of documents and records, allowing for retrieval of prior information if needed. Real-Time Updates: Changes are saved in real-time, ensuring that all users accessing the system have the most current information.
		YES	
2.1.4*	The system must allow a user with necessary access to update a record, image, or attachment.		The VRVcloud system allows users with the necessary permissions to save records, images, and attachments, ensuring that all data is securely stored and accessible when needed. Key features of the save functionality include: Role-Based Access: Only users with appropriate permissions can save or update records, images, or attachments, maintaining data security and access control. Real-Time Saving: Data is saved in real-time, reducing the risk of data loss and ensuring that updates are immediately accessible to other authorized users. Secure Storage: Saved records, images, and attachments are stored securely within the system, with encrypted storage and access logs for security and compliance. Data Integrity Checks: Validation checks are performed before saving to ensure data accuracy and completeness, preventing errors from
		YES	
2.1.5*	The system must allow a user with necessary access to save a record, image, or attachment.		The VRVcloud system includes secure delete and purge functionality, enabling authorized users to remove records, images, or attachments when necessary. This feature is essential for data management, ensuring that obsolete or redundant data can be securely deleted in compliance with retention policies and contract obligations. Key features of the delete and purge functionality include: Role-Based Access Control: Only users with specific permissions can delete or purge data, ensuring that sensitive information is not removed without authorization. Soft Delete Options: Records can be marked for deletion but retained in the system for a configurable period before permanent purging, allowing for retrieval if needed. Permanent Purge: Authorized users can permanently purge records in accordance with data retention policies and contract obligations, ensuring compliance and freeing up storage. Audit Logs: All delete and purge actions are recorded in audit logs, capturing details such as the user, timestamp, and item deleted for accountability and traceability.
		YES	This delete and purge capability provides Nebraska DHHS with a secure and controlled way to manage data lifecycle requirements, ensuring
2.1.6*	The system must allow a user with necessary access to delete or purge a record, image, or attachment.		

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2.1.7*	The system must allow a user with necessary access to deactivate a record, image, or attachment.		The VRVcloud system provides functionality to deactivate records, images, or attachments, allowing authorized users to make information inactive without permanent deletion. This feature supports data management and compliance by retaining information in the system while limiting its active use. Key features of the deactivation functionality include: Role-Based Access Control: Only users with the necessary permissions can deactivate records, ensuring secure and authorized handling of data. Deactivation Tagging: Deactivated records, images, or attachments are clearly marked as inactive, preventing accidental access or usage in active workflows. Reactivation Capability: Authorized users can reactivate deactivated records if needed, providing flexibility in data management without loss of information. Audit Logging: All deactivation actions are logged, capturing the user, timestamp, and reason for deactivation for audit purposes and traceability.
		YES	This deactivation feature ensures that Nebraska DHHS can manage data lifecycle effectively, allowing records to be preserved in an inactive
2.1.8*	The system must have the ability to register a user for system access based on role and location.		The VRVcloud system includes a robust user registration feature that enables administrators to grant system access based on specific roles and locations. This role-based access control (RBAC) ensures that users have appropriate permissions aligned with their job functions and geographic assignments, supporting secure and compliant system access. Key features of the user registration functionality include: Role-Based Access: Users are assigned roles that determine their level of access and the functions they can perform within the system, ensuring they only access information relevant to their responsibilities. Location-Based Restrictions: Access can be restricted based on the user's location, providing an additional layer of security by limiting access to certain records or functionalities to specific geographic areas. Customizable Permissions: Administrators can configure roles and permissions to meet Nebraska DHHS's unique operational needs, allowing for tailored access control. Audit and Compliance: All user registration and access actions are logged, providing an audit trail for security and compliance tracking.
		YES	This capability allows Nebraska DHHS to effectively manage user access by role and location, ensuring secure, controlled, and compliant access to sensitive data within the VRVcloud system.
2.2	ACCESS		
2.2.1*	The system must allow access to both internal (State of Nebraska employees) and external users (e.g., funeral directors, hospital staff, and county clerks).		The VRVcloud system is designed to provide secure access to both internal and external users, supporting a wide range of stakeholders, including State of Nebraska employees, funeral directors, hospital staff, and county clerks. This access flexibility ensures that all authorized personnel can effectively perform their roles within the system while maintaining data security. Key features of the multi-user access functionality include: Role-Based Access Control (RBAC): User access is configured based on specific roles, ensuring that each user only has access to the data and functions necessary for their duties. Internal and External User Support: The system accommodates both internal state employees and external users, such as healthcare and funeral professionals, with tailored access levels. Secure External Access: External users can securely access the system via authenticated portals, allowing them to complete tasks without compromising system security. Audit Trails and Monitoring: All access activities are logged, allowing Nebraska DHHS to monitor and audit both internal and external access for compliance and security.
		YES	

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2.2.2*	The system must have role-based security for application and administrative functions including views for all user roles across all modules.		The VRVcloud system provides robust role-based security for both application and administrative functions, ensuring that all user roles have appropriate access across all modules. This feature enhances data security and operational efficiency by tailoring access and functionality to the specific needs and permissions of each role. Key features of role-based security include: Granular Role-Based Access Control (RBAC): Access to system functions, data, and views is determined by user roles, ensuring that each role has the necessary permissions to perform its responsibilities without overexposure to sensitive information. Configurable Permissions for Each Role: Administrators can define and customize roles, assigning permissions that match organizational needs and ensuring compliance with data access policies. Module-Specific Views: Each role has access to module-specific views and functions, ensuring that users only interact with relevant data and tools within the system. Enhanced Security for Administrative Functions: Administrative functions are restricted to specific roles with elevated permissions, protecting critical system settings and sensitive data. Audit Logging: All role-based access and actions are logged, providing transparency and accountability for all activities within the system.
		YES	This role-based security ensures that Nebraska DHHS can securely manage and control user access, supporting efficient workflows and protecting sensitive information within the VRVcloud system.
			The VRVcloud system includes a location selection prompt for users with access to multiple locations, allowing them to specify the location they are working with at any given time. This feature improves workflow accuracy and supports users who manage records or tasks across various locations. Key features of the location selection prompt include: User-Friendly Location Prompt: Upon login or as needed, users with access to multiple locations are prompted to select their current working location from a list. Location-Specific Views and Access: Once a location is selected, the system customizes views, data, and functions to that specific location, reducing errors and ensuring relevant data is displayed. Switch Location Option: Users can switch between locations quickly as necessary. Enhanced Access Control: The prompt ensures that users only access data and resources for their selected location, supporting role-based
2.2.3*	The system must provide a location selection prompt for users who have access to multiple locations.	YES	
2.2.5	The system should have the ability for a new user to complete a registration form.	YES	The VRVcloud system can be configured to have the ability for a new user to complete a registration form.
2.2.6*	The system must have the ability for a user to complete self-service password changes and/or resets.		The VRVcloud system includes self-service functionality that allows users to securely complete password changes and resets without administrative intervention. This feature improves user autonomy and reduces the workload on IT support. Key features of the self-service password management include: Password Change and Reset Options: Users can change their passwords or initiate a password reset if they forget their credentials, ensuring continuous access to the system. Multi-Factor Authentication (MFA) for Resets: For added security, password resets can require verification through multi-factor authentication, such as a code sent to the user's registered email or phone. Security Questions or Temporary Codes: Users may be prompted to answer security questions or use temporary codes to authenticate themselves during the reset process. Compliance with Security Policies: The system enforces password complexity and rotation policies to comply with Nebraska DHHS security requirements.
		YES	This self-service capability enhances security and user convenience, ensuring that Nebraska DHHS staff can manage their access credentials
2.2.7*	The system must have the ability for a user to update their own user profile demographics once logged in (non-system security).		The VRVcloud system provides users with the ability to update their own profile demographics, such as contact information, department, or job title, upon logging in. This self-service feature allows users to keep their information current without requiring administrative assistance, supporting accurate record-keeping. Key features of the user profile update functionality include: Editable Profile Fields: Users can modify non-security-related demographic fields, such as phone number, email address, and job title. Real-Time Updates: Changes are saved and reflected in real-time, ensuring that the user's profile information is immediately updated across the system. Data Validation: Input fields are validated to prevent errors, ensuring data integrity for user profiles. Audit Logging: All updates to profile information are logged, providing an audit trail for tracking changes and ensuring accountability.
		YES	

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2.2.8*	The system must provide a warning message after user login based on a configurable time period when a password is expiring.	YES	The VRVcloud system includes a password expiration notification feature that alerts users when their password is approaching expiration. This notification is displayed after user login and is configurable to ensure compliance with Nebraska DHHS’s password management policies. Key features of the password expiration notification include: Configurable Notification Period: Administrators can set the time period (e.g., 7 days, 14 days) before password expiration to start displaying reminders to users. Login-Based Warning: Users receive a warning message immediately after login, informing them of the impending expiration and encouraging them to update their password. Clear Call-to-Action: The warning message includes a link or instructions for changing the password, making it easy for users to take action. User-Friendly Notifications: Notifications are displayed in a non-intrusive manner, ensuring users are informed without disrupting their workflow. This password expiration notification functionality helps Nebraska DHHS maintain security standards by ensuring users update their passwords regularly, reducing the risk of unauthorized access within the VRVcloud system.
			The VRVcloud system includes an automatic logoff feature that triggers after a period of session inactivity, ensuring that unattended sessions do not compromise security. This inactivity logoff is configurable, allowing Nebraska DHHS to set an appropriate timeout duration based on security policies. Key features of the automatic logoff functionality include: Configurable Inactivity Timeout: Administrators can define the inactivity period (e.g., 10 minutes, 20 minutes) after which users are automatically logged off. Session Termination: Once the configured inactivity time is reached, the system automatically logs the user out, protecting sensitive data from unauthorized access. User Notification: Before logging off, the system can display a warning, allowing the user to extend the session if they are still actively working. Enhanced Security Compliance: This feature helps ensure compliance with security standards by reducing the risk associated with unattended active sessions.
			The automatic logoff capability in VRVcloud provides an additional layer of security, helping Nebraska DHHS protect sensitive data by
2.2.9*	The system must perform an automatic logoff for session inactivity based on a configurable length of time.	YES	The VRVcloud system includes a warning message feature that alerts users before an automatic logoff due to session inactivity. This warning is displayed based on a configurable inactivity duration, giving users the opportunity to extend their session if they are still active. Key features of the inactivity warning include: Configurable Warning Time: Administrators can set the duration of inactivity after which the warning message is displayed, allowing customization to fit security policies. Clear Notification: The warning message informs the user that their session will soon expire due to inactivity, with options to stay logged in. Extend Session Option: Users can extend their session by interacting with the warning prompt, ensuring they are not logged off if they are still working. Automatic Logoff if No Action: If the user does not respond to the warning within a specified time, the system will automatically log them out to maintain security.
2.2.10*	The system must provide a warning message prior to automatic logoff for session inactivity based on a configurable length of time.	YES	
2.3	SEARCH		

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2.3.1*	The system must allow a user with necessary access the ability to use a real-time search and filter function whereas all vital event records, requests, orders, payments, and invoices can be viewed, searched, and filtered by one or more data fields or variables in each record, and wildcards or partial entry of a field can be used.	YES	The VRVcloud system provides a robust real-time search and filter functionality that enables users with the necessary access to efficiently search and filter vital event records, requests, orders, payments, and invoices. This feature supports detailed data exploration and rapid retrieval of relevant information. <u>Key features of the search and filter functionality include:</u> Real-Time Search: Users can search records instantly. Multi-Field Filtering: Records can be filtered by one or more data fields or variables, allowing users to narrow down results based on specific criteria. Wildcard and Partial Entry Support: The system supports the use of wildcards, soundex and partial entries, enabling users to conduct flexible and broad searches without needing exact matches. User-Friendly Interface: The search and filter interface is intuitive, providing easy access to complex data sets and enhancing productivity. This comprehensive search and filter capability empowers Nebraska DHHS users to quickly locate and analyze records.
2.3.2*	The system must allow a user with necessary access to export search results.	YES	The VRVcloud system provides users with the necessary access the capability to export search results, enabling further data analysis and reporting outside the system. <u>Key features of the export functionality include:</u> Export Search Results: Users can export filtered search results in various formats, such as CSV or Excel, for easy integration with other tools or systems. Enhanced Data Analysis: Exported files can be used for in-depth analysis, reporting, and record-keeping purposes.
2.3.3*	The system must allow a user with necessary access to print search results.	YES	The VRVcloud system provides authorized users the ability to print search results from the application with a single action, allowing quick access to physical copies of data.
2.3.4*	The system must have the ability to limit the number search result count by user.	YES	The VRVcloud system includes functionality to limit the number of search results returned. This feature supports performance optimization and ensures efficient use of system resources by controlling the volume of data retrieved in each query.
2.4	FUNCTIONALITY		
2.4.1*	The system must have the ability for a user with the necessary access to create a new user and associate that user to specific user role(s).	YES	The VRVcloud system provides authorized users the capability to create new user accounts and assign specific roles to these accounts. This feature supports role-based access control and ensures users have appropriate permissions based on their responsibilities. <u>Key aspects of the user creation functionality include:</u> Role Assignment at Creation: Users with administrative privileges can assign one or multiple roles to new users during account creation, aligning access rights with job functions. Role-Based Access Control: Role assignments ensure that new users only have access to the features and data necessary for their role, enhancing security and data integrity. User Management Interface: The system offers an intuitive interface for administrators to efficiently manage user roles and permissions. This functionality supports Nebraska DHHS by streamlining user management and ensuring secure, role-based access within the system.
2.4.2*	The system must have the ability for a user with the necessary access to delete a user.	YES	In a system like VRVcloud, it’s generally better to disable a user rather than delete them for reasons that include the following: Audit and Compliance: Deleting a user removes their account and history, but that user’s account and history may be necessary for auditing and regulatory compliance. Disabling retains the user’s records and activities in the system, ensuring a traceable record of actions they performed. Data Integrity: Users are often associated with various data, such as records created, modified, or approved by them. Deleting a user can lead to gaps in this data or even errors in the system if the user’s account information is integral to certain records. Disabling preserves these connections without compromising data integrity. Account Reactivation: If a user needs access again in the future (e.g., for seasonal roles or contract work), a disabled account can easily be reactivated without needing to recreate the user profile or role assignments. This saves time and ensures consistent records. Security Control: Disabling an account is a quick way to immediately revoke access without affecting the historical information. It ensures that former users cannot log in, while still keeping the records intact for monitoring and reporting.

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2.4.3*	The system must have the ability to search the system for a user, including a filter to search for an expired user.	YES	The VRVcloud solution includes robust search capabilities, allowing administrators to search for user accounts, including applying filters to identify expired or disabled users. This functionality supports effective account lifecycle management and maintains comprehensive visibility over user accounts within the system. By leveraging this feature, administrators can efficiently conduct audits, track historical account usage, and manage reactivation or reauthorization of accounts if necessary. The inclusion of expired user accounts in search results aligns with industry best practices for security and compliance, ensuring that even inactive accounts are accessible for auditing and oversight, thus minimizing security risks and enhancing system accountability.
2.4.4*	The system must have the ability for a user with the necessary access to deactivate a user.	YES	VRVCloud includes functionality that allows users with the appropriate permissions to deactivate user accounts. This feature ensures that access to the system can be quickly revoked when necessary without permanently deleting the user account. Deactivation is a secure way to manage user access, as it preserves the user’s historical actions and audit trail within the system. This approach maintains data integrity and supports compliance with auditing requirements by ensuring that deactivated users can no longer access the system while their records remain available for review if needed.
2.4.5*	The system must allow a user with necessary access to bypass security and update any entry when needed.	YES	The VRVCloud system can be configured to allow a user with the necessary access to bypass security (we assume that bypass security does not mean the user does not have to authenticate, but bypass functional rules other users would have to abide by) to update any entry when needed.
2.4.6	The system should allow a user with necessary access the ability to view more detailed information on any field when appropriate.	YES	The VRVCloud system provides users with the necessary access to view more detailed information on any field when appropriate, supporting comprehensive data insight and effective decision-making. Key features of the detailed view functionality include: Enhanced Field Visibility: Users with permissions can access extended details on specific fields, facilitating data accuracy and thorough record review. Role-Based Access: Access to detailed field information is controlled by user roles, ensuring that only authorized users can view sensitive data. Contextual Information Access: Information is provided based on the context, showing additional details only when needed, which optimizes the user experience. Improved Operational Support: This functionality aids Nebraska DHHS staff in verifying records and making well-informed decisions based
2.4.7*	The system must allow a user with necessary access to attach, link, and view any supporting document of any file format to a record or order.	YES	The VRVCloud system provides users with the necessary access to attach, link, and view supporting documents in any file format to a record or order, enabling comprehensive data documentation and streamlined access. Key features of the document attachment functionality include: Flexible Document Support: Users can attach or link documents in various formats (e.g., PDF, DOC, JPEG) to records and orders, ensuring compatibility with all relevant file types. Efficient Record Management: By associating documents with records or orders, VRVCloud enhances data organization and improves user access to supporting information. Role-Based Permissions: Access to document attachment and viewing is controlled based on user roles, ensuring that only authorized personnel can perform these actions. Improved Compliance and Documentation: This functionality aids Nebraska DHHS in maintaining thorough records for regulatory
2.5	CONFIGURATION		
2.5.1*	The system must have the ability to edit validation data through a front-end utility.	YES	The VRVCloud system provides users with the necessary access to edit validation data through a front-end utility, ensuring flexible and efficient data management within the application interface. Key features of the validation data editing functionality include: User-Friendly Front-End Utility: Authorized users can modify validation data directly within the VRVCloud interface without requiring back-end access, streamlining the data update process. Role-Based Access Control: Editing privileges are restricted to specific user roles, ensuring only qualified personnel can make validation data changes, thereby maintaining data integrity. Real-Time Updates: Changes to validation data are applied instantly across the system, supporting immediate availability and consistency
3	SYSTEM ADMIN		
3.1	ACCESS		

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3.1.1*	The system must have a user role with elevated security access to the system (e.g., System Administrator).	YES	The VRVCloud system includes a designated user role with elevated security access, such as a System Administrator role, to ensure advanced control over system functions and configurations. Key features of elevated access include: Comprehensive System Management: System Administrators have access to advanced settings and controls, enabling them to manage user accounts, configure system parameters, and oversee overall system integrity. Role-Based Access Control: Elevated access is restricted to specific roles to safeguard sensitive data and critical system functionalities, ensuring that only authorized personnel can perform high-level actions. Enhanced Security Protocols: VRVCloud enforces strict security protocols for users with elevated access to protect against unauthorized
3.1.2	The system should have system-level access to exports (create, configure).	YES	The VRVCloud system offers system-level access to export functionalities, allowing authorized users to create and configure export settings for data management and integration. Key features of export access include: Creation of Export Formats: Authorized users can define specific export formats (e.g., CSV, Excel) for seamless data transfer and compatibility with other platforms. Configuration Flexibility: VRVCloud allows for configuration of export settings to specify data fields, filters, and scheduling options, enhancing customization and usability. Access Control: Export permissions are managed at the system level, ensuring that only designated roles have the authority to configure and initiate data exports. This feature enables Nebraska DHHS to have structured control over data exports, supporting efficient data analysis, compliance reporting,
3.1.3	The system should have system-level access to imports (create, configure).	YES	The VRVCloud system includes system-level access for data imports, allowing authorized users to create and configure import settings to efficiently manage and integrate external data into the system. Key features of import access include: Creation of Import Configurations: Authorized users can define specific import formats and settings, ensuring that incoming data aligns with VRVCloud’s data structure and standards. Configuration Flexibility: VRVCloud provides options to configure import parameters, including data field mapping, validation rules, and scheduling, allowing for tailored data intake processes. Access Control: Import permissions are limited to designated roles, ensuring secure management of data imports and preventing unauthorized data integration. This import functionality supports Nebraska DHHS by streamlining data intake processes, enhancing data consistency, and improving the
3.1.4	The system should have system-level access to reports (create, configure).	YES	The VRVCloud system includes system-level access for dynamic report generation, enabling authorized users to create and configure reports to meet specific organizational needs. Key features of report access include: Report Creation: Authorized users can design and generate custom reports, selecting relevant data fields, filters, and output formats to provide targeted insights. Configurable Report Settings: VRVCloud offers flexibility in configuring report parameters, such as scheduling, data aggregation, and formatting, allowing reports to be customized according to the requirements of Nebraska DHHS. Access Control: Access to create and configure reports is restricted to designated roles, ensuring secure and organized report management
3.1.5	The system should have system-level access to documents (create, configure).	YES	The VRVCloud system provides system-level access for documents, allowing authorized users to create and configure documents as required by the Nebraska DHHS.
3.2	DATA		
3.2.1*	The system must use a centralized data dictionary that fully describes table structure and appropriate levels of metadata.	YES	The VRVCloud system employs a centralized data dictionary to define and manage table structures and metadata, ensuring data consistency and accessibility across the platform.

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3.2.2*	The system must allow a user with necessary access to have read-only access to the system's database(s).	YES	Through the VRVCloud system authorized users are provided with read-only access to the system's databases, allowing them to view data without making alterations. Key features of this read-only access include: Data Integrity: By restricting write access, VRVCloud maintains data integrity and prevents unauthorized modifications. Enhanced Security: Access control policies ensure that only users with necessary permissions can view the database, reinforcing security protocols. Efficient Data Review: Users can access real-time data insights for reporting and decision-making without compromising the database's security.
3.2.3	The system should allow a user with necessary access to have full access to the system's database(s).		Through the VRVCloud system users with necessary access full have permissions to the system's databases, enabling authorized users to read, update, and manage data as needed. Key features of this full-access functionality include: Comprehensive Data Management: Users can perform CRUD (Create, Read, Update, Delete) operations, allowing for complete database management as required by their role. Controlled Access Levels: Full access is restricted to specific roles to ensure data security and accountability, protecting sensitive data from unauthorized changes. Enhanced Operational Efficiency: This access allows for more efficient data updates and management, supporting accurate, real-time information processing.
		YES	This full-access functionality in VRVCloud supports Nebraska DHHS by enabling key users to manage and maintain vital database operations
3.3 FUNCTIONALITY			
3.3.1	The system should have the ability to edit (e.g., checkbox, drop-down box, etc.).		In the VRVCloud system, the Dynamc Screen Engine (DSE) can utilize various interactive elements like checkboxes, drop-down boxes, and other graphical controls to enhance data entry and management. These elements can be modified to meet the state's requirements, like adding, modifying, and removing rows to drop downs as needed, defining checkboxes to the correct value needed (e.g. Y = checked, N = not checked). Here's how each of these elements can be used effectively: Checkboxes allow users to make binary (yes/no) or multi-select choices. They are ideal for scenarios where multiple options can be selected independently. Selecting multiple attributes or preferences, such as document types (birth, death, marriage) for filtering or reporting. Marking specific records for additional processing, approval, or special review. Checkboxes provide a quick way to input multiple selections without complex data entry, ensuring ease of use and minimizing input errors. Drop-down menus allow users to choose from a list of predefined options, which helps standardize entries and minimize errors. Selecting from a list of status options like "Pending," "Approved," "Denied," or "Under Review" for processing requests. Specifying data types or categories, such as user roles (e.g., "Data Steward," "Administrator") or department codes, to ensure consistency. Drop-down boxes reduce entry errors by restricting user input to valid options, which is especially useful for enforcing data standards. Radio buttons allow users to select only one option from a set of choices, useful for mutually exclusive selections. Selecting a preferred method of contact (e.g., email or phone) when updating user profiles. Choosing between specific system configurations or operational modes. Radio buttons prevent users from selecting multiple options in scenarios where only one choice is allowed, enhancing data integrity. Date pickers enable users to select dates from a calendar view, ensuring correct date formats and valid date ranges. Entering birth or death dates in vital records without manual typing, reducing the risk of formatting errors. Setting system review dates or data expiration dates. Date pickers standardize date entries and reduce errors related to format or invalid dates. Text fields can be configured with validation rules to ensure data integrity, such as requiring a numeric value or specific format. Entering numeric identifiers or codes that follow specific patterns, such as SSNs or license numbers. Inputting names or addresses with character restrictions. Validated text fields prevent data entry errors and ensure compliance with data standards, which is crucial for quality control. By utilizing these elements, DSEs in the VRVCloud system can improve data consistency, accuracy, and usability. Each interactive control type serves a unique purpose, allowing users to input data in a structured, controlled, and error-minimized environment. This setup supports Nebraska DHHS in maintaining standardized records, improving user efficiency, and ensuring compliance with data entry protocols.
		YES	

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3.3.2	The system should have the ability for the system administrators to create user roles.	YES	The VRVCloud system provides system administrators with the capability to create and manage user roles, enabling flexible and secure role-based access control. <u>Key Features of the Role Creation Functionality Include:</u> Role Customization: Administrators can define specific roles based on organizational needs, including permissions, access levels, and responsibilities. Granular Access Control: Roles can be configured to limit or expand access to various system functionalities and data, ensuring security and compliance. User Role Assignment: Administrators can assign roles to individual users or groups, streamlining user management processes. Auditing and Reporting: Tracks role creation and modification actions for accountability and compliance purposes. Benefits to Nebraska DHHS: Enhances system security by enforcing role-based access controls. Simplifies user management with customizable and reusable roles. Improves operational efficiency while ensuring compliance with federal and state regulations.
3.3.3	The system should have the ability for the system administrators to modify user roles.	YES	The VRVCloud system enables system administrators to modify user roles, providing flexibility and ensuring that user access aligns with organizational changes or evolving security requirements. <u>Key Features of Role Modification:</u> Role Attribute Editing: Administrators can update permissions, access levels, and responsibilities assigned to specific roles. Dynamic Updates: Changes to roles are immediately reflected in the system, ensuring real-time compliance and access management. Access Review and Audit: Tools for reviewing role assignments and changes, helping to maintain security and compliance. Custom Role Adaptation: Enables role modifications to address new operational needs or respond to regulatory changes. Benefits to Nebraska DHHS: Supports ongoing organizational needs with adaptable role management. Enhances system security through real-time role updates. Provides a streamlined process for maintaining compliance with federal and state standards.
3.3.4	The system should have the ability for the system administrators to delete user roles.	YES	The VRVCloud system supports the ability for system administrators to delete user roles, ensuring that redundant or outdated roles can be effectively managed to maintain system efficiency and security. <u>Key Features of Role Deletion:</u> Role Deactivation Before Deletion: Roles can be deactivated to prevent immediate use, allowing administrators to confirm no active dependencies before deletion. Dependency Check: Ensures that the role is not currently assigned to any users or linked to critical workflows, preventing accidental disruptions. Permanent Removal: Allows for complete removal of roles that are no longer necessary or being used, minimizing clutter and confusion in role management. Audit Trail: Tracks and logs all role deletion activities to maintain accountability and provide a clear record for compliance purposes. Benefits to Nebraska DHHS: Streamlines system role management by eliminating unused and/or outdated roles. Enhances security by reducing the risk of unauthorized access through obsolete roles. Supports compliance by maintaining a clear and accountable record of role management activities.
3.3.5	The system should have the ability for system administrators to terminate a user connection and/or session remotely.	NA	User connections and/or sessions are not available to the VRVCloud application, however an administrator that has access to the technical environment can terminate a connection and/or session. Mantech will work with the State to terminate user connections and/or sessions when requested.
3.3.6	The system should have the ability to maintain a directory of all personnel currently active in the system.	NA	Active user are not available to the VRVCloud application, however an administrator that has access to the technical environment can provide a list of active users. Mantech will work with the State to provide a list of active users when requested.

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3.3.7*	The system must have the ability to produce a system access log (in/out history) by user with time stamp in seconds.	YES	The VRVCloud system provides the capability to generate comprehensive system access logs, detailing user login and logout activities with precise timestamps. Key Features of the System Access Log: Detailed In/Out History: Records all user login and logout activities, including the exact timestamp down to the second. User-Specific Logging: Logs are associated with individual users, allowing administrators to trace activity by user ID or name. Real-Time Logging: Captures and updates access information in real-time, ensuring accuracy and timeliness. Export and Reporting: Administrators can export logs for further analysis, compliance reporting, or integration with external tools. Security and Monitoring: Provides an auditable trail to enhance security and detect unauthorized access or unusual patterns. Benefits to Nebraska DHHS: Enhances security by enabling monitoring of user access patterns. Ensures compliance with state and federal audit requirements. Supports operational accountability and transparency with precise logging capabilities.
3.3.8	The system should allow the system administrator to make batch updates to data on admin-specified criteria (i.e., system-wide find/change functionality).	NA	Batch updates of this type are not typically required very often. The update can cause issues if the person performing the update makes unintentional updates that cause the application to stop working, and depending on the update could degrade system performance. When updates like this are required the State will work with Mantech to perform the update to ensure no issues are created and performance is not affected.
3.3.9	The system should allow the system administrator to schedule batch updates to data on admin-specified criteria (i.e., system-wide find/change functionality).	NA	Batch updates of this type are not typically required very often. The update can cause issues if the person performing the update makes unintentional updates that cause the application to stop working, and depending on the update could degrade system performance. When updates like this are required the State will work with Mantech to perform the update to ensure no issues are created and performance is not affected.
4	AUDIT LOGS		
4.1	GENERAL		
4.1.1	The system must have action history logs to view modifications, deletions, data loading actions, reports, printing, and user log-ins/outs. At a minimum the log must contain the following:		
4.1.1.1*	User;	YES	The VRVCloud system includes comprehensive action history logs to ensure accountability and traceability for all system activities and includes User, which identifies the individual or system account responsible for the action.
4.1.1.2*	Date;	YES	The VRVCloud system includes comprehensive action history logs to ensure accountability and traceability for all system activities and includes the time on which an action was taken.
4.1.1.3*	Time;	YES	The VRVCloud system includes comprehensive action history logs to ensure accountability and traceability for all system activities and includes time for every logged activity.
4.1.1.4*	Data Prior to Edit;	YES	The VRVCloud system includes comprehensive action history logs to ensure accountability and traceability for all system activities and includes Data prior to edit for all post registration changes such as amendments.
4.1.1.5*	Data After Edit.	YES	The VRVCloud system includes comprehensive action history logs to ensure accountability and traceability for all system activities and includes Data after edit is reflected in the current state of the record that was modified.
4.1.2	The system must have audit history logs to view user activities, such as logging in and out of the system. At a minimum the log must contain the following:		
4.1.2.1*	User;	YES	The VRVCloud system includes comprehensive audit history logs to ensure accountability and traceability for all system activities and includes User, which identifies the individual or system account responsible for the action.
4.1.2.2*	Date;	YES	The VRVCloud system includes comprehensive audit history logs to ensure accountability and traceability for all system activities and includes the date in which the action was taken.
4.1.2.3*	Time.	YES	The VRVCloud system includes comprehensive audit history logs to ensure accountability and traceability for all system activities and includes Time: Includes times for every logged activity.
4.1.3*	The system must track changes made to all data, keeping the integrity of the original document, data, and image with associated changes.	YES	The VRVCloud system maintains a version history for all changes made to registered records.
4.1.4*	The system must provide the ability to create, save, and export an audit log of the tracked changes made throughout the system.	YES	The VRVCloud system includes reporting capabilities to provide detailed history of audited changes made to records.
4.1.5*	The system must maintain a history of all data.	YES	The VRVCloud system maintains a version history for all changes made to registered records.
4.2	ORDER MANAGEMENT		

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4.2.1*	The system must track the data associated with serialized forms used within each order.	YES	The VRVCloud system ensures accurate tracking of data associated with serialized forms used within each order. <u>Key Features of Serialized Form Tracking:</u> Serialization Management: Unique serial numbers are assigned to forms, ensuring each form is distinctly identifiable. Supports tracking of serialized forms across various order types and processes. Data Association: Links form serial numbers to order records, maintaining a direct relationship between the form and its usage. Captures all relevant metadata, including issuance, usage, and status of each serialized form. Audit Trail: Provides a detailed log of serialized form usage, including timestamps, user details, and associated order information. Enables administrators to monitor and trace the lifecycle of serialized forms. Real-Time Tracking: Allows for real-time updates on the status of serialized forms, such as issued, used, voided, or archived. Ensures that the system reflects the current state of serialized forms in the workflow. Reporting and Analytics: Offers comprehensive reports on serialized forms, helping with compliance, reconciliation, and operational insights. Supports export of tracking data for external audits and reviews. Benefits to Nebraska DHHS: Ensures compliance with regulatory requirements for form tracking and accountability. Minimizes errors and potential misuse of serialized forms by maintaining strict oversight. Provides transparency and enhances trust by enabling thorough audits of serialized form usage.
4.2.2*	The system must be able to store a user-defined, customizable volume of sales transactions, categorized by transaction date, for a minimum of five years.	YES	The VRVCloud system is designed to store and manage a user-defined, customizable volume of sales transactions, categorized by transaction date, for a minimum of five years. <u>Key Features of Transaction Storage and Management:</u> Customizable Data Volume: Allows users to define and adjust the volume of sales transactions stored based on organizational needs and system capacity. Ensures scalability to accommodate increasing transaction data over time. Categorization by Transaction Date: Automatically categorizes and indexes transactions by date, facilitating efficient data retrieval and reporting. Enables filtering and sorting based on specific date ranges or time periods. Long-Term Data Retention: Ensures all transaction data is retained securely for a minimum of five years, complying with legal and organizational record-keeping requirements. Supports customizable retention policies for longer durations if necessary. Secure Storage: Employs advanced encryption and access controls to protect transaction data against unauthorized access and breaches. Implements redundancy and backup solutions to prevent data loss. Advanced Query and Reporting Tools: Offers robust tools for querying and analyzing stored transactions, enabling detailed insights into sales trends and patterns. Supports exporting transaction data for external audits, reconciliations, or financial analysis. Compliance Support: Adheres to regulatory standards for data storage and retention, ensuring the system meets state and federal requirements. Benefits to Nebraska DHHS: Enhances operational efficiency by enabling quick access to historical sales transaction data. Supports transparency and accountability through reliable long-term data retention. Provides flexibility to scale storage requirements as sales volumes grow. Ensures compliance with legal and financial auditing standards through secure and structured transaction storage.

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4.2.3*	The system must contain reporting capabilities to assist with audit of document control number/certificate paper to the associated receipt and order, including by registrar and date.	YES	The VRVCloud system offers robust reporting capabilities to assist in auditing document control numbers and certificate paper associated with receipts and orders. Key Features of Reporting Capabilities for Audits: Document Control Number Tracking: Maintains detailed records of document control numbers and their associations with certificate paper. Ensures traceability for audit purposes by linking document numbers to specific orders and receipts. Registrar and Date Filtering: Allows reports to be filtered by registrar and specific date ranges, enabling targeted audits. Provides clarity and accountability for transactions handled by different registrars. Comprehensive Audit Logs: Generates detailed reports linking each document control number to associated receipts and orders. Includes time-stamped data to track the lifecycle of each document and transaction. Customizable Report Generation: Supports the creation of customized reports to meet specific audit requirements. Offers flexibility in selecting fields and data points for inclusion in reports. Export and Integration Support: Allows audit reports to be exported in multiple formats (e.g., PDF, Excel) for external review. Integrates with other auditing tools or systems for streamlined analysis. Enhanced Security and Access Control: Restricts access to reporting and audit data to authorized users. Logs all report access and generation activities for further accountability. Benefits to Nebraska DHHS: Provides a transparent and efficient system for auditing document control numbers and certificates. Simplifies compliance with regulatory requirements through robust tracking and reporting features. Ensures accountability by allowing detailed tracking of registrar activities and document usage.
4.3	CERTIFIED PAPER		
4.3.1*	The system must track the number of certificates printed by vital event record and certificate type.	YES	The VRVCloud system provides advanced tracking capabilities to monitor the number of certificates printed, categorized by vital event record and certificate type. Key Features of Certificate Printing Tracking: Vital Event Record Categorization: Tracks the number of certificates printed for each specific vital event (e.g., birth, death, marriage). Ensures accurate data recording for compliance and operational management. Certificate Type Differentiation: Logs the type of certificate printed, such as standard, short-form, or any custom certificate types. Provides granularity to support diverse reporting and analysis needs. Real-Time Data Logging: Captures data in real-time, ensuring up-to-date information on certificate issuance. Facilitates immediate access to printing statistics for operational oversight. Customizable Reporting: Allows the generation of detailed reports summarizing certificate print counts by event type and certificate category. Supports filtering by date range, location, or user for targeted analysis. Audit and Accountability: Maintains a detailed log of all printing activities, including user and timestamp data. Ensures compliance with regulatory requirements through transparent tracking. Security and Access Control: Restricts access to printing data and logs to authorized personnel only. Protects sensitive information through robust encryption and role-based permissions. Benefits to Nebraska DHHS: Enhances oversight of certificate printing activities, reducing the risk of misuse or errors. Simplifies audit processes with detailed, real-time tracking data. Provides insights into certificate demand, supporting better resource allocation and planning.

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4.3.2*	The system must track the serial number of issuance in chronological order within a print log.	YES	The VRVCloud system provides robust capabilities to track the serial number of issuance in chronological order within a comprehensive print log. Key Features of Serial Number Tracking: Chronological Issuance Tracking: Automatically records the serial numbers of certificates or documents as they are issued. Maintains a strict chronological sequence to ensure accurate historical records. Detailed Print Logs: Logs each issuance event with associated serial numbers. Includes additional metadata such as issuance date, time, and user performing the action. Audit and Compliance Support: Facilitates thorough auditing processes by providing a transparent record of serial number issuance. Ensures compliance with state and federal regulations regarding document issuance and tracking. Search and Filtering Capabilities: Enables users to search and filter the print log by serial number, date range, or other criteria. Supports quick access to specific issuance data when needed for operational or compliance purposes. Real-Time Logging: Captures issuance data in real-time, ensuring that the print log reflects the most up-to-date information. Data Security and Integrity: Protects the print log data with encryption and role-based access controls. Ensures that only authorized personnel can access or modify issuance records. Benefits to Nebraska DHHS: Enhances accountability by maintaining a transparent, chronological record of all issuance activities. Supports efficient audit processes and compliance with document tracking requirements. Reduces the risk of errors or discrepancies in certificate issuance through automated logging.
4.4	FUNCTIONALITY		
4.4.1*	The system must capture an audit of all imports.	YES	The VRVCloud system provides a comprehensive audit capability to track and monitor all data imports. Key Features of Import Auditing: Detailed Audit Logs: Captures every import activity with relevant metadata, including date, time, user, file name, and type of data imported. Tracks the source of the import to ensure traceability. Error Tracking and Notifications: Logs any errors or warnings encountered during the import process.
4.4.2*	The system must capture an audit of all exports.	YES	The VRVCloud system provides a comprehensive audit capability to track and monitor all data exports. Key Features of Export Auditing: Detailed Audit Logs: Captures every export activity with relevant metadata, including date, time, user, file name, and type of data exported. Tracks the source of the export to ensure traceability. Error Tracking and Notifications: Logs any errors or warnings encountered during the export process.
4.4.3*	The system must allow a user with necessary access to search the audit log.	YES	Audit logs are presented as outputs that can be searched.
4.4.4*	The system must track the creating, viewing, printing, and deleting of attachments.	YES	The VRVCloud system provides robust tracking capabilities for managing attachments, ensuring transparency and accountability. Key Features for Attachment Tracking: Action Logs for Attachments: Tracks the creation of new attachments, including the user, timestamp, and associated records. Logs all instances of viewing attachments to monitor access history. Records printing actions, including details such as date, time, and user. Captures details of deletion activities, ensuring accountability for removal actions. Role-Based Access Control: Ensures that only authorized users can create, view, print, or delete attachments. Tracks the roles of users involved in these actions for enhanced security and compliance. Detailed Metadata: Stores metadata for each attachment, such as file type, size, upload date, and associated record details. Maintains a history of changes or updates made to attachments. Searchable Audit Logs: Enables users to filter and search attachment activity logs by action type, user, or date range. Facilitates quick access to records for compliance or operational needs. Exportable Reports: Generates reports detailing all attachment-related actions for audits and reviews. Reports can be exported in standard formats for external analysis or archiving. Benefits to Nebraska DHHS: Enhances data security and accountability by tracking all attachment-related actions. Provides detailed records to support compliance with regulatory and operational requirements. Improves transparency by enabling detailed audit trails of attachment usage. Simplifies investigations of data usage or potential issues through comprehensive logs.
4.5	CONFIGURATION		

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4.5.1*	The system must track and maintain an audit log of when configuration changes are made (e.g., changes to fees for certification types).	YES	Audit logs capture activites performed on the configuration changes.
5	ALL MODULES		
5.1	GENERAL		
5.1.1*	The system must contain all existing and future records or orders with any associated images and/or attachments synchrously.	YES	The VRVcloud maintains all past, present, and future records and/or orders with associated images (i.e., there is no secondary program to access historical images).
5.1.2*	The system must incorporate all previously available records or orders with any associated data or attachments from the current system.		The VRVCloud system provides robust capabilities to incorporate all previously available records or orders, including associated data and attachments, from the current system. Key Features for Incorporating Existing Records: Data Migration: Facilitates seamless migration of historical records, including associated attachments, from legacy systems. Utilizes advanced data mapping and transformation tools to ensure compatibility and consistency. Attachment Integration: Automatically links attachments (e.g., images, documents) to the corresponding migrated records. Ensures that all attachments are intact and accessible post-migration. Validation and Quality Assurance: Implements validation processes to ensure the accuracy and completeness of migrated data. Identifies and resolves any discrepancies during migration to maintain data integrity. Centralized Repository: Stores all migrated records and attachments in a centralized, secure database. Provides metadata tagging for efficient categorization and retrieval of attachments. Audit and Monitoring: Maintains detailed logs of the migration process for transparency and compliance. Enables tracking of migrated records and attachments for audit purposes. Role-Based Access: Ensures that only authorized users can access migrated records and attachments. Maintains adherence to existing security protocols during and after migration. Benefits to Nebraska DHHS: Preserves the continuity of operations by retaining historical data and attachments. Reduces the risk of data loss during the transition to the VRVCloud system. Enhances data accessibility and usability with a centralized and well-organized repository. Supports compliance with data retention policies and audit requirements.
5.1.3*	The system must allow a user with necessary access the ability to print an attachment.	YES	~~This feature ensures that the VRVCloud system fully supports the integration of historical data while providing a foundation for future~~ The VRVCloud system enables users with the necessary access to print attachments efficiently and securely. Key Features for Printing Attachments: Attachment Accessibility: Users can easily access attachments associated with records, orders, or events. The system supports various file formats (e.g., PDF, JPEG, PNG) for printing. Print Configuration: Allows customization of print settings, such as page orientation, scaling, and layout. Ensures high-quality output for all supported attachment types. Role-Based Permissions: Only authorized users with designated access can print attachments. Provides an additional layer of security to prevent unauthorized printing. Audit Logging: Maintains detailed logs of printing activities, including user information, timestamp, and attachment details. Supports compliance with audit and security requirements. Batch Printing: Users can select and print multiple attachments at once, improving operational efficiency. Streamlines document handling for high-volume tasks. Secure Printing Integration: Supports integration with secure printing solutions to safeguard sensitive information. Prevents unauthorized retrieval of printed documents. Benefits to Nebraska DHHS: Enhances productivity by simplifying the printing of vital attachments. Ensures compliance with privacy and data security standards through controlled access and logging. Reduces manual errors with user-friendly print configuration options.E140
		YES	~~This feature aligns with the VRVCloud system's goal of providing comprehensive and secure data management solutions while supporting~~

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5.1.4*	The system must allow input of a partial record or order without forcing a user to complete a process.	YES	The VRVCloud system supports the ability to input partial records or orders without requiring the user to complete the process immediately. Key Features for Partial Record or Order Input: Incremental Data Entry: Allows users to save partially completed records or orders at any stage. Ensures flexibility for scenarios where all information may not be available at once. Role-Based Access Control: Ensures that only authorized users can access, modify, or finalize partial entries. Maintains data integrity by limiting unintended changes. Validation on Completion: Validates all mandatory fields only during the final submission process. Allows for progressive data input without immediate compliance enforcement. Audit Trail: Tracks the creation and modification history of partial entries, including timestamps and user details. Supports accountability and audit requirements. Benefits to Nebraska DHHS: Enhances user efficiency by allowing data entry to continue without interruption. Reduces stress on users by providing the flexibility to revisit and finalize entries at their convenience.
5.1.5*	The system must validate and issue vital event records.	YES	The VRVCloud system supports the validation and issuance of vital event records, ensuring accuracy, compliance, and efficiency in handling critical data. Key Features for Validating and Issuing Vital Event Records: Automated Validation Process: Utilizes predefined rules to automatically verify the accuracy and completeness of vital event records. Cross-references with external databases or systems for enhanced data integrity. Error Detection and Notification: Flags discrepancies or missing information during the validation process. Provides real-time notifications to users for corrective action. Role-Based Authorization: Ensures that only authorized personnel can approve and issue vital event records. Protects sensitive information by adhering to strict access controls. Customizable Templates: Allows for the generation of certificates or records based on state-specific formats and requirements. Ensures that issued documents comply with legal and regulatory standards. Audit Trail and Logging: Maintains a detailed history of validation and issuance activities, including timestamps and user actions. Supports transparency and accountability for compliance purposes. Secure Issuance: Integrates security features like digital signatures or watermarks to protect against fraud. Provides options for both electronic and physical issuance of records. Integration with External Systems: Facilitates seamless data exchange with government agencies, hospitals, or other relevant entities. Ensures consistency and reliability in record management across platforms. Benefits to Nebraska DHHS: Streamlines the process of validating and issuing vital event records, saving time and resources. Enhances data accuracy and reduces errors through automated checks and validations. Improves public trust by ensuring secure and compliant issuance of critical records. This functionality is designed to support Nebraska DHHS's mission of providing efficient and accurate vital records management, meeting

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5.1.6*	The system must allow a user with necessary access to view, change, and submit a record or order.		The VRVCloud system allows users with necessary access to view, change, and submit records or orders efficiently, ensuring streamlined operations and data accuracy. Key Features for Record/Order Management: Access Control: Provides role-based access to ensure only authorized users can view, edit, or submit records and orders. Supports fine-grained permissions for different levels of user access. Record Viewing: Enables users to view detailed information for any record or order. Includes advanced search and filtering options to locate specific records efficiently. Editable Fields: Allows users to modify specific fields in a record or order, with restrictions based on user roles. Ensures that all changes are validated against predefined business rules to maintain data integrity. Submission Workflow: Streamlines the process of submitting records or orders for approval or processing. Supports automated notifications and alerts to confirm successful submissions. Audit Trail: Tracks all actions related to viewing, editing, and submitting records or orders. Maintains a comprehensive log for transparency and accountability. Validation and Error Handling: Performs automatic validation checks to identify and flag errors before submission. Provides real-time error notifications to users for corrective actions. Integration with External Systems: Facilitates seamless updates and data exchange with connected systems and agencies. Ensures consistency and compliance across all records and orders. Benefits to Nebraska DHHS: Enhances operational efficiency by allowing users to access and manage records/orders with ease. Reduces errors through robust validation mechanisms and streamlined submission workflows. Promotes accountability and compliance through detailed audit logging.
		YES	~~This functionality aligns with Nebraska DHHS's objective to maintain efficient and accurate record/order management, ultimately improving~~
5.1.7*	The system must allow a user with necessary access to view, print, store, attach and scan documents or images into a record or order.		The VRVCloud system enables users with necessary access to view, print, store, attach, and scan documents or images into records or orders, ensuring comprehensive and seamless document management. Key Features of Document and Image Management: Document Viewing: Allows authorized users to view uploaded documents or images linked to records or orders. Supports various file formats, ensuring compatibility and accessibility. Printing Capability: Enables users to print attached documents or images directly from the system. Provides configuration options for print settings based on user needs. Storage and Organization: Offers secure storage for documents and images, maintaining data integrity and access control. Includes tagging and categorization features for easy retrieval and organization. Attachment Integration: Allows users to attach new documents or images to specific records or orders. Supports drag-and-drop functionality for quick uploads. Scanning and Integration: Facilitates the direct scanning of physical documents or images into the system. Integrates seamlessly with scanners, ensuring the immediate association of scanned files with appropriate records. Audit and Tracking: Tracks all actions related to viewing, printing, storing, attaching, and scanning documents. Maintains a comprehensive log to ensure accountability and compliance. Security and Permissions: Enforces role-based access controls to restrict document-related actions to authorized users. Ensures that sensitive information remains confidential through encryption and secure protocols. Benefits to Nebraska DHHS: Streamlines document and image management processes, saving time and reducing errors. Improves accessibility to critical documents for authorized personnel. Enhances compliance and auditability through detailed logs and secure storage mechanisms.
		YES	~~This functionality supports Nebraska DHHS's goal of maintaining an efficient and secure system for managing records, orders, and their~~

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5.1.8*	The system must allow a user to save a record or order regardless of completed data except for fields that are flagged as required by the State of Nebraska.	YES	The VRVCloud system provides users with necessary access can save records or orders even when not all data fields are completed, while enforcing compliance for fields flagged as required by the State of Nebraska. Key Features of Data Completion Flexibility: Partial Data Saving: Allows users to save records or orders with incomplete data. Supports scenarios where users need to revisit or update information at a later time. Required Field Enforcement: Ensures that all fields flagged as mandatory by the State of Nebraska are completed before allowing the record or order to be saved. Highlights required fields dynamically for user clarity and compliance. Incremental Data Entry: Facilitates progressive data input, allowing users to save progress without completing all optional fields. Validation Mechanisms: Conducts real-time validation to verify that required fields are completed before saving. Provides user-friendly error prompts or tooltips when required fields are left incomplete. Customizable Data Requirements: Offers flexibility for Nebraska DHHS to define which fields are mandatory based on policy or operational requirements. Ensures adaptability to changes in regulatory or business rules. Audit and Tracking: Maintains a log of all save actions, including timestamps and data entry status (e.g., partial or complete). Enhances transparency and accountability. Benefits to Nebraska DHHS: Streamlines record and order processing by enabling incremental data entry. Improves user experience while ensuring compliance with state requirements. Reduces errors by clearly distinguishing between required and optional fields. <u>Supports flexibility in workflow management, accommodating various user scenarios.</u>
			The VRVCloud system equips administrators with robust and customizable tools to meet the diverse and specific needs of its users. Key Features of Administrative Customization: Role-Based Configurations: Allows administrators to customize tools and workflows based on user roles (e.g., clerks, registrars, administrators). Ensures that users only have access to features relevant to their responsibilities. User Interface Customization: Supports tailoring of the user interface (UI) to simplify workflows and improve usability for specific user groups. Customizable dashboards, widgets, and shortcuts for efficient operation. Configurable Workflows: Enables administrators to define and modify workflows to align with operational needs. Supports dynamic changes based on policy updates or user requirements. Flexible Field Management: Provides tools to add, edit, or remove fields and validation rules as needed. Facilitates the customization of forms and data inputs to suit unique data collection requirements. Custom Reports and Exports: Allows creation of user-specific reports with tailored data fields and formats. Provides customizable export options to support integration with external systems or processes. Real-Time User Management: Supports real-time configuration of access permissions, roles, and security settings. Ensures administrators can swiftly respond to organizational changes. Audit and Activity Logs: Tracks all administrative changes with timestamps and responsible user identification. Ensures transparency and accountability in system customization.
			The VRVcloud saves data when moving from screen and not from field to field. This is due to performance, if we have to save every time a user leaves a field it would reduce system performance. This could be done, but we do not recommend it.
			The VRVCloud system provides the capability to save and pause activity on one record or order and seamlessly transition to processing another record or order. Key Features of Save-and-Pause Functionality: Save Progress: Ensures that the current state of a record or order is saved before transitioning to another task. Prevents data loss and allows users to resume work from the exact point they paused.
5.1.9*	The system must have administrative tools to be customizable to meet specific user needs.	YES	
5.1.10	The system should save user data entry progress automatically upon moving to the next field on the form.	NA	
5.1.11	The system should allow the saving and pausing activity on one record or order and moving to a different record or order for processing.	YES	
5.2	SEARCH		

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5.2.1*	The system must allow a user the ability to group, sort and count search result data.	YES	The VRVCloud system provides the ability to group, sort, and count search result data, enabling efficient data analysis and reporting. <u>Key Features of Data Grouping, Sorting, and Counting:</u> Grouping Results: Users can group search results based on specific fields or attributes. Simplifies data organization by clustering related items. Sorting Capabilities: Allows ascending or descending sorting of search results by selected fields. Supports sorting by multiple criteria for advanced data management. Counting Data: Provides aggregate counts for grouped data, aiding in statistical analysis. Displays totals, subtotals, or counts directly within the results interface. Customizable Filters: Users can apply filters to refine grouped and sorted data. Ensures only relevant results are displayed for analysis. Export-Ready Format: Grouped, sorted, and counted data can be exported in CSV or Excel formats for further use. Facilitates integration with external tools and systems.
5.2.2*	The system must allow a user with necessary access to search for a record or order using various metadata fields.	YES	The VRVCloud system provides users with necessary access the ability to search for records or orders using various metadata fields, ensuring quick and accurate data retrieval. <u>Key Features of Metadata-Based Search:</u> Advanced Search Filters: Users can filter records or orders using multiple metadata fields, such as: - Record ID - Creation Date - Associated User or Entity - Status or Category Customizable Metadata Fields: Metadata fields used for search can be tailored to the specific requirements of Nebraska DHHS. Supports predefined fields or custom fields added by system administrators. Quick Results Display: Search results are displayed in real-time as filters are applied. Data is organized and presented in an easy-to-navigate format. Integration with Other Features: Results can be exported, grouped, or sorted based on metadata fields.
5.2.3*	The system must provide a real-time search and filter function whereas all vital event records, requests, orders, payments, and invoices can be electronically viewed, searched, and filtered by one or more data fields or variables in each record, and wildcards or partial entry of a field can be used.	YES	The VRVCloud system provides a real-time search and filter function that allows all vital event records, requests, orders, payments, and invoices to be electronically viewed, searched, and filtered. <u>Key Features of Real-Time Search and Filtering:</u> Real-Time Search Capability: Enables immediate retrieval of records as search queries are entered. Optimized for large datasets to ensure rapid response times. Multi-Field Filtering: Users can search by one or more data fields or variables, such as: - Vital Event Type (e.g., Birth, Death) - Record ID or Request ID - Payment Status or Invoice Number - Date Range or Creation Date - Allows for highly specific search queries. Wildcard and Partial Entry Support: Provides flexibility by allowing partial data input (e.g., searching for "John D*" will include "John Doe"). Wildcard search broadens retrieval for uncertain or incomplete entries. Customizable Views: Allows sorting and grouping by variables within the search results such as date, status, or county. Integrated Record Accessibility: Search results link directly to the respective records, orders, or invoices for immediate access.

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5.2.4*	The system must allow a user with necessary access to manipulate search parameters.		The VRVCloud system enables users with the necessary access to manipulate search parameters, offering enhanced control and customization over data retrieval. Key Features of Search Parameter Manipulation: Customizable Search Filters: Users can apply, remove, or adjust search filters dynamically to refine search results. Available filters may include: - Record type (e.g., Birth, Death, Marriage) - Date range or specific dates - User-defined fields or metadata. Real-Time Preview of Results: Adjustments to parameters provide instant updates to search results. Improves accuracy by allowing users to immediately see the impact of parameter changes. User-Defined Sorting and Grouping: Parameters can be used to sort and group data in meaningful ways. For example, group by facility location or order by date. Benefits to Nebraska DHHS: - Empowers users to customize searches to meet specific operational needs. - Saves time by providing precise control over data retrieval. - Enhances efficiency in audits, reporting, and data analysis by enabling targeted queries. - Reduces dependency on IT support for search customizations.
		YES	This functionality ensures the VRVCloud system provides flexibility and control for efficient management and retrieval of vital records data
		YES	The VRVCloud system allows users with the necessary access to configure and save search parameters for a searching.
		YES	The VRVCloud system provides users with the necessary access to export search results to Excel. Additional the VRVCloud system allows the user to export search results in PDF format. Users can seamlessly export search results to Excel, ensuring compatibility with widely used data analysis tools.
		YES	The VRVCloud system provides users with the necessary access to print search results to provide hard copies for reporting or record-keeping purposes. This feature supports Nebraska DHHS by enabling seamless and secure printing.
5.2.5*	The system must allow a user with necessary access to save search parameters individually or to a group.		
		YES	The VRVCloud system provides users with the capability to page through the returned result set of records captured in a search efficiently and effectively. The user can change the number of records returned per page, thus alloing them to manipulate the number of records captured. Key features of this paging functionality include: Record Navigation: Users can navigate through search results using paging controls, allowing them to view data in manageable chunks. Configurable Page Size: The system enables users to define the number of records displayed per page, enhancing usability and reducing load times. Quick Access to Specific Pages: Users can jump to a specific page of results, saving time when dealing with large datasets. Seamless Scrolling: Paging is designed for a smooth user experience, with no interruptions in workflow while accessing subsequent pages. This functionality supports Nebraska DHHS by ensuring users can efficiently browse through search results without overwhelming the system or compromising data accessibility.
5.2.6*	The system must allow a user with necessary access to export (to Excel) search results.		
		YES	
5.2.7*	The system must allow a user with necessary access to print search results.		
		YES	
5.2.8*	The search feature must have the ability to manipulate the number of records captured in a search by the user.		
		YES	
5.2.9*	The system must allow a user to render searches of over 1,000 vital events at a time.		
		YES	The VRVCloud system provides users with the capability to render searches of over 1,000 vital events at a time. Key features of this functionality include: High-Capacity Search Rendering: The system is optimized to handle large-scale queries and display results for over 1,000 vital events in a single search. Performance Optimization: VRVCloud employs advanced indexing and database management techniques to ensure quick response times, even for extensive datasets. Customizable Search Parameters: Users can define specific filters and criteria to refine their search and focus on relevant data within the large result set. Scalability: The system is designed to adapt to high-demand scenarios, supporting large-scale data operations without degradation in
5.3	CORRESPONDENCE		

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5.3.1*	The system must have the ability to generate letters for customer correspondence.		The VRVCloud system provides users with the capability to generate letters for customer correspondence. Key features of this functionality include: Customizable Templates: Users can create and save multiple templates for different types of correspondence, ensuring consistency and efficiency in communication. Dynamic Data Integration: The system automatically populates letters with relevant data fields, such as customer names, addresses, and event-specific details, reducing manual effort and errors. Formatting Flexibility: The VRVCloud supports a variety of formatting options, enabling users to produce professional, well-structured letters tailored to the specific needs of the correspondence. Integration with Other Features: Letters can be linked to records, orders, or vital event data within the system, providing seamless tracking and reference. Output Options: Generated letters can be saved, printed, or exported in formats like PDF or Word for further customization or distribution. This functionality supports Nebraska DHHS by enhancing customer service efficiency, maintaining communication consistency, and providing a reliable method for generating official correspondence.
5.3.2*	The system must have the ability to view previously generated and/or sent customer correspondence.	YES	The VRVCloud system provides users with the capability to view previously generated and/or sent correspondence.
5.3.3*	The system must have the ability to edit and send customer correspondence.		The VRVCloud system provides users with the capability to edit and send customer correspondence. Key features of this functionality include: Customizable Templates: Administrators can edit existing templates or create new ones to meet specific correspondence needs, ensuring consistent messaging. Real-Time Editing: Users can make modifications to correspondence in real-time before sending, allowing for last-minute adjustments. Integration with Customer Data: Correspondence generation integrates with customer records, enabling the inclusion of accurate and up-to-date information.
5.3.4*	The system must have the ability to resend previously sent customer correspondence.	YES	The VRVCloud system provides users with the capability to send previously sent customer correspondence
5.4	DOCUMENTATION		
5.4.1*	The system must have standard forms, permits, and worksheets that are accessible for a user with necessary access.		The VRVCloud system provides users with access to standard forms, permits, and worksheets necessary for completing administrative and operational tasks. Key features of this functionality include: Pre-Defined Templates: The system includes a library of standard forms, permits, and worksheets that comply with state regulations and operational standards. Access Control: Only users with the necessary access permissions can view and use these resources. Customizable Fields: Forms and worksheets are customized to meet specific operational requirements. Real-Time Accessibility: These resources are available in real-time, ensuring that users can access and complete them without delays. Integration with Workflows: The forms and permits are fully integrated into the system's workflow processes, allowing for seamless completion, submission, and tracking.
5.4.2*	The system must have the ability to propagate data onto documents, forms, permits, and worksheets.	YES	The VRVCloud system includes seamless data propagation onto documents, forms, permits, and worksheets for streamlined administrative and operational tasks. Key features of this functionality include: Automated Data Integration: The system automatically populates documents, forms, permits, and worksheets with relevant data directly from the database, reducing manual entry errors. Field Mapping: Data fields are pre-mapped to corresponding fields on documents to ensure accuracy and consistency. Dynamic Updates: Any updates to the underlying data will automatically reflect on the associated forms and permits. Multi-Format Support: The system supports a variety of document formats. This feature enhances Nebraska DHHS's efficiency by automating form completion, ensuring data accuracy, and reducing administrative

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5.4.3*	The system must have document management storage to house all certificates and associated supporting documents to be tied to the original records (e.g., adoptions).		The VRVCloud system includes advanced document management storage capabilities, ensuring secure and organized housing of certificates and associated supporting documents. These documents are tied directly to the original records, such as adoption-related cases, to maintain a cohesive data structure. Key features of the document management storage include: Centralized Storage: All certificates and associated supporting documents are stored within a secure and centralized repository for easy access and management. Record Linking: Documents are directly linked to the original records, ensuring traceability and maintaining relationships between related files. Support for Complex Scenarios: Accommodates specialized use cases, such as adoption records, where additional supporting documentation is necessary. Data Integrity: Comprehensive metadata ensures documents are tagged and associated accurately, preserving data integrity. Advanced Search: Users can locate specific documents quickly through robust search and filtering options. Role-Based Access: Document access is limited based on user roles and permissions, ensuring confidentiality and compliance with privacy laws.
5.5	FIELDS	YES	This functionality supports Nebraska DHHS’s operational needs by offering a streamlined solution for managing vital records and their
5.5.1	The system should provide real-time validation for an entered address and prompt if not valid.		The VRVCloud system provides real-time address validation to enhance data accuracy and user efficiency. Key features of the real-time address validation functionality include: Instant Verification: The system validates entered addresses against up-to-date address databases in real-time, ensuring correctness at the point of entry. Error Prompting: If an entered address is deemed invalid, users receive immediate prompts with suggestions for correction or verification. Standardized Formatting: Automatically formats addresses to comply with USPS or other postal standards, reducing manual errors and ensuring consistency. Integration with External Services: Seamlessly integrates with third-party address validation services for comprehensive coverage. User-Friendly Interface: Provides clear and intuitive guidance, allowing users to address validation issues efficiently.
5.5.2	The system should be able to populate validated country, state, county, city, and zip code based on selected address.	YES	The VRVCloud system ensures accurate address-related data entry by automatically populating key geographic fields. Key features of this functionality include: Automated Population: Based on a selected or entered address, the system automatically fills in validated country, state, county, city, and zip code fields, including FIPS codes. Real-Time Validation: Ensures that populated fields correspond to a valid geographic hierarchy, reducing errors and maintaining data integrity. Integrated Address Databases: Leverages trusted geographic data sources and APIs to provide accurate and up-to-date information. Error Reduction: Minimizes manual input, reducing the likelihood of user errors and inconsistencies across records. Field Customization: Allows system administrators to configure which fields are auto-populated based on organizational needs and workflows.
5.5.3	The system should prompt if a suite number is appropriate.		The VRVCloud system enhances address validation and completeness by providing intelligent prompts for suite numbers when appropriate. Key features of this functionality include: Suite Number Prompting: Identifies addresses where a suite number is commonly required, such as business or multi-tenant buildings, and prompts users to add this detail. Real-Time Address Analysis: Leverages geographic databases and address templates to determine when additional information, like suite numbers, is necessary for completeness. User Guidance: Provides clear and concise prompts to guide users, ensuring that all address components are accurate and complete. Error Prevention: Reduces the likelihood of returned mail or delivery issues caused by missing suite numbers. Seamless Workflow Integration: Works alongside address validation and auto-population features to create a streamlined and efficient data entry process. This feature supports Nebraska DHHS by ensuring that all address entries are accurate and fully detailed, reducing processing errors and improving overall operational efficiency.
		YES	

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5.5.4	The system should prompt with any suggested address alternative.	YES	The VRVCloud system provides real-time suggestions for alternative addresses, enhancing accuracy and user efficiency. Key features of this functionality include: Suggested Address Prompts: The system identifies potential discrepancies or variations in entered addresses and offers suggested alternatives for user consideration. Real-Time Validation: Integrates with authoritative postal databases (e.g., USPS) to provide accurate and standardized address suggestions. User-Friendly Interface: Displays alternative addresses in an intuitive format, allowing users to select the correct version easily. Error Minimization: Reduces errors caused by incomplete or improperly formatted addresses.
5.5.5*	The system must have a consistent data input and display format for time across all modules.	YES	The VRVCloud system includes a standardized data input and display format for time across all modules, enhancing consistency and accuracy in operations. Key features of this functionality include: Uniform Time Format: Implements a consistent time format (e.g., HH:MM AM/PM or 24-hour) across all modules, reducing confusion and errors. System-Wide Application: Ensures the same time format is utilized in all system functionalities, including data entry, reporting, and logs. User Preferences: Allows administrators to configure the default time format based on organizational requirements or regional standards. Time Zone Handling: Supports time zone configurations to ensure accurate time representation across different geographic locations. Real-Time Validation: Provides validation checks during data entry to ensure adherence to the set format.
5.5.6*	The system must have a consistent data input and display format for phone numbers across all modules.	YES	The VRVCloud system ensures a standardized data input and display format for phone numbers across all modules, enhancing data consistency and usability. Key features of this functionality include: Uniform Phone Number Format: Enforces a consistent format (e.g., XXX-XXX-XXXX or (XXX) XXX-XXXX) across all modules to standardize data entry and display. System-Wide Application: Guarantees uniform formatting in all functionalities, including records, reports, and customer communications. Automatic Formatting: Applies the required format during data entry, minimizing errors and manual adjustments. Validation Mechanisms: Ensures entered phone numbers adhere to the standardized format and identifies invalid entries. Support for International Formats: Accommodates different phone number formats based on regional or international requirements. User-Friendly Interface: Provides clear prompts or guidelines during data entry to maintain consistency.
5.5.7*	The system must have a consistent data input and display format for zip codes across all modules.	YES	The VRVCloud system provides a consistent data input and display format for zip codes across all modules, improving data uniformity and operational efficiency. Key features of this functionality include: Standardized Zip Code Format: Supports a unified format (e.g., 5-digit format XXXXX or 9-digit XXXXX-XXXX when the country is United States) across all modules to ensure consistency in data handling and display. Automatic Formatting: Applies formatting during data entry to maintain accuracy and avoid manual adjustments. Validation Mechanism: Confirms the correctness of entered zip codes against predefined formats or database records, reducing errors (e.g., user only enters 4 digits, the system will prompt the user). System-Wide Consistency: Implements standardized zip code formatting across records, reports, and other system functionalities. Support for International Formats: Allows for flexibility to accommodate international postal codes where applicable. User-Friendly Prompts: Provides clear instructions or prompts to guide users during data entry.

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5.5.8*	The system must have a consistent data input and display format for dates across all modules.	YES	The VRVCloud system provides a consistent data input and display format for dates across all modules, improving accuracy and streamlining workflows. Key features of this functionality include: Standardized Date Format: Implements a uniform date format (e.g., MM/DD/YYYY) across all modules to avoid discrepancies and ensure clarity. Automatic Formatting: Allows users to enter dates in various ways (e.g., 01012024) and automatically converts them to the standard format. Validation Mechanism: Ensures that dates entered are valid and within acceptable ranges, preventing incorrect or illogical date entries. System-Wide Consistency: Applies the standardized format across reports, records, correspondence, and any date-related functionality. User-Friendly Prompts: Offers guidance and error messages for incorrect date entries to ensure users understand and resolve formatting issues.
5.5.9*	The system must have a consistent data input and display format for whole numbers, decimals, and amounts across all modules.	YES	The VRVCloud system includes a consistent data input and display format for whole numbers, decimals, and amounts across all modules, improving accuracy and enhancing usability. Key features of this functionality include: Standardized Number Formats: Implements a uniform format for whole numbers (e.g., no leading zeros), decimals (e.g., two decimal places for monetary values), and amounts to ensure consistency across modules. Validation Mechanism: Ensures that entered numbers are valid (e.g., no alphabetic characters) and adhere to the specified decimal and range constraints. System-Wide Consistency: Applies standardized formatting for all reports, transactions, records, and any numeric-related data across modules. User-Friendly Prompts: Offers clear error messages and formatting suggestions to assist users in correcting invalid or incorrectly formatted
5.5.10*	The system must have the proper data input and display format for social security numbers "000-00-0000" across all modules.	YES	The VRVCloud system ensures the proper data input and display format for Social Security Numbers (SSNs) "000-00-0000" across all modules, improving data consistency. Key features of this functionality include: Standardized SSN Format: Enforces a uniform "000-00-0000" format across all modules to avoid discrepancies and ensure compliance with federal standards. Automatic Formatting: Allows users to input SSNs in various ways (e.g., 000001111 or 000-00-1111) and automatically formats them into the standardized structure. Validation Mechanism: Ensures that entered SSNs are valid, containing nine numeric digits, and verifies that the format adheres to the "000-00-0000" structure. System-Wide Consistency: Applies the standardized SSN format across all records, forms, reports, and any module involving SSNs. Masked Display Option: Provides a feature to mask SSNs (e.g., *--1111) for sensitive or public-facing displays, ensuring compliance with privacy requirements. Error Messaging and Guidance: Offers clear prompts and error messages when invalid SSNs are entered, assisting users in correcting input issues. This feature supports Nebraska DHHS by promoting uniformity in handling Social Security Numbers, enhancing data security, and facilitating accurate data processing and reporting.
5.5.11*	The system must provide spell check functionality for freeform text entry fields as designated by the State of Nebraska.	YES	The VRVCloud system provides spell check functionality for freeform text entry fields as designated by the State of Nebraska, ensuring accuracy in text-based data input. Key features of this functionality include: Integrated Spell Check: Automatically checks spelling in designated freeform text fields to identify and highlight errors. Customizable Dictionaries: Includes the ability to add state-specific terms, names, or industry-related jargon to the spell-check dictionary, aligning with Nebraska DHHS requirements. Error Highlighting: Uses intuitive visual cues such as underlining or highlighting to indicate potential misspellings. Language Support: Allows configuration for multiple languages where applicable, ensuring flexibility for diverse user needs.

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5.5.12*	The system must have the ability for a user to accept or ignore spell check suggestions.	YES	The VRVCloud system includes the ability for a user to accept or ignore spell check suggestions, offering flexibility and control over freeform text input. Key features of this functionality include: Interactive Spell Check: Allows users to interact with identified misspelled words and choose whether to accept or ignore suggested corrections. User Control: Empowers users to override spell check suggestions when entering specific terms, names, or phrases not recognized by the dictionary. Confirmation Prompts: Displays a menu with suggested alternatives for easy selection or dismissal of corrections. Add to Dictionary: Provides the option to add new words to the system dictionary, reducing future flagging of custom or state-specific terminology. Real-Time Updates: Updates the text in real time when a suggestion is accepted, ensuring smooth user experience without interruption.
5.5.13*	The system must have the ability to customize (e.g., add to dictionary) the spell check functionality by user with necessary access.	YES	The VRVCloud system provides the ability to customize the spell check functionality, such as adding to the dictionary, for users with the necessary access. Key features of this functionality include: Custom Dictionary Management: Authorized administrators can add specific words, phrases, or terms to the system dictionary to reflect state-specific terminology, unique names, or commonly used industry jargon. Dynamic Updates: Incorporates custom dictionary changes immediately, making new terms available for spell check across all relevant modules. Context-Specific Additions: Enables admins to add terms only to specific contexts (e.g., medical terminology or legal jargon) to maintain relevance in specialized fields. This functionality supports Nebraska DHHS by ensuring that spell check is adaptable to the department’s evolving vocabulary and specific
5.5.14*	The system must have the ability to configure any data field (user-defined and standard) to be "required" during data entry.	YES	The VRVCloud system supports the configuration of any data field, whether user-defined or standard, to be marked as "required" using soft or hard edits during data entry. Key features of this functionality include: Field Customization: Allows administrators to configure mandatory fields based on the specific requirements of Nebraska DHHS for both standard and user-defined data fields. Dynamic Field Requirements: Provides flexibility to change the required status of a field based on user role, form type, or workflow stage. Validation Enforcement: Ensures that data entry cannot proceed unless all required fields are completed, reducing the risk of incomplete or inaccurate records. Administrative Control: Offers centralized tools for managing required field configurations, making it easy to update requirements as needs evolve. Error Prompts: Displays real-time error messages or notifications if a user attempts to leave a required field blank. This feature enhances data accuracy and completeness for Nebraska DHHS by ensuring that all critical information is consistently collected during data entry.
5.5.15*	The system must populate data entered into a field throughout the record or order if data is associated.	YES	The VRVCloud system ensures that data entered into a field is automatically propagated throughout the record or order if the data is associated, enhancing efficiency and reducing manual input errors. Key features of this functionality include: Data Propagation: Automatically updates related fields across the record or order when data is entered in one associated field. Consistency Across Modules: Ensures uniformity of data throughout the record, minimizing discrepancies and inconsistencies. Dynamic Associations: Supports configurable data relationships, allowing administrators to define which fields should be linked for automatic population. Real-Time Updates: Implements changes instantly across associated fields, providing users with up-to-date information during data entry. This feature enhances operational efficiency for Nebraska DHHS by reducing repetitive data entry tasks, ensuring data integrity, and streamlining record entry.

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5.5.16*	The system must ensure that a record is not complete until all required fields pass validity checks.	YES	The VRVCloud system ensures that records cannot be marked as complete until all required fields pass validity checks, promoting data accuracy and compliance. Key features of this functionality include: Mandatory Field Validation: Enforces the completion of all required fields before allowing a record to be finalized. Real-Time Error Notifications: Alerts users to missing or invalid data entries immediately, providing clear guidance for correction. Configurable Validity Rules: Allows customization of validity checks to meet Nebraska DHHS-specific requirements and workflows. Comprehensive Data Integrity Checks: Verifies data consistency and logical accuracy across related fields within the record. Save Progress Option: Permits saving incomplete records as drafts while maintaining a clear distinction from finalized entries. System Feedback: Displays a summary of errors and missing fields in a user-friendly format, ensuring users can quickly address issues. This feature supports Nebraska DHHS by ensuring all records meet predefined quality standards, reducing errors, and enhancing confidence in the integrity of stored information.
5.6	ALERTS		
5.6.1*	The system must have prompts tied to various data fields to alert the user of questionable or incorrect data.	YES	The VRVCloud system provides intelligent prompts tied to various data fields, alerting users to questionable or incorrect data entries, thereby ensuring data accuracy and consistency. Key features of this functionality include: Dynamic Data Validation: Monitors data entry in real-time and flags questionable or incorrect entries based on predefined rules and patterns. Customizable Alerts: Allows Nebraska DHHS to define specific criteria for triggering alerts, accommodating agency-specific needs. Interactive Prompts: Provides clear and actionable messages to guide users in correcting potential errors, including suggestions. Error Severity Differentiation: Categorizes alerts by severity (e.g., warnings vs. critical errors) to help prioritize resolution. Continuous Feedback: Ensures user awareness of data integrity issues throughout the entry process, reducing errors before submission or finalization.
5.6.2*	The system must, at a minimum, follow the requirements for collecting and editing data as specified by National Vital Statistics System (NVSS), provided here: https://www.cdc.gov/nchs/nvss/revisions-of-the-us-standard-certificates-and-reports.htm	YES	The VRVCloud system is designed to meet and exceed the data collection and editing requirements specified by the National Vital Statistics System (NVSS). This ensures compliance with federal standards and supports Nebraska DHHS in aligning with national vital records policies. Key features of this functionality include: Comprehensive Compliance: Adheres to the latest NVSS requirements for collecting and editing data, including updates from revisions of the U.S. Standard Certificates and Reports as detailed on the CDC NVSS website. Standardized Data Fields: Ensures data fields align with NVSS specifications for vital events such as births, deaths, and fetal deaths, including required and optional fields. Validation and Error Checking: Implements NVSS-approved validation rules to flag data inconsistencies, missing information, or non-standard entries during data input. Periodic Updates: Incorporates updates from NVSS revisions seamlessly to maintain compliance with evolving federal standards. User Training and Support: Provides Nebraska DHHS users with guidance on NVSS requirements, ensuring accurate data collection and entry practices. Automated Reporting: Generates reports formatted to NVSS standards, streamlining data sharing and submission processes to federal agencies. NVSS Certification and Audits: Supports certification and audit processes by maintaining compliance records and providing traceable documentation of adherence to NVSS guidelines. By meeting NVSS requirements, the VRVCloud system ensures Nebraska DHHS can produce high-quality, nationally compliant vital records, facilitating accurate reporting, interoperability, and adherence to federal mandates.

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5.6.3*	The system must have configurable alerts which notifies the user of the status of the record they are accessing (e.g., OVS return status, child is deceased).	YES	The VRVCloud system incorporates configurable alerts to notify users of critical record statuses during access, thereby ensuring efficient workflows and informed decision-making. Key features of this functionality include: Configurable Alert Triggers: Allows Nebraska DHHS to define specific conditions for alerts, such as OVS return status, child is deceased, or any other critical status changes relevant to the record. Real-Time Notifications: Displays alerts immediately when a record with significant status is accessed, preventing oversight or misinterpretation of important information. Customizable Messages: Enables customization of alert text to align with agency terminology and communication standards. Role-Based Alerts: Ensures alerts are tailored to user roles, providing relevant notifications to specific user groups based on their access level and responsibilities. Audit Trail: Tracks alerts triggered and acknowledged by users, providing a record of activity for compliance and reporting purposes. Seamless Integration: Integrates alerts into existing workflows, ensuring they do not disrupt but instead enhance user interaction with the system. This feature supports Nebraska DHHS by improving accuracy, enhancing user awareness, and ensuring that critical information is communicated effectively, ultimately contributing to better decision-making and service delivery.
5.7	QUEUE		
5.7.1*	The system must provide a user with a view that highlights important information, notifications, and warnings (e.g., incomplete vital event records sorted by queue).	YES	The VRVCloud system offers a user-friendly interface that highlights critical information, notifications, and warnings, streamlining workflows and enhancing user productivity. Key features of this functionality include: Prioritized Notifications: Displays high-priority information such as incomplete vital event records sorted by queue, ensuring users focus on the most critical tasks. Customizable Dashboard Views: Allows Nebraska DHHS to configure views tailored to user roles, presenting relevant notifications and warnings for specific responsibilities. Queue Sorting and Filters: Enables users to sort and filter notifications by criteria such as urgency, record type, or date, ensuring efficient navigation and task prioritization. Real-Time Updates: Provides live updates to the dashboard, ensuring users always have the most current information available. User Preferences: Supports personalized settings, allowing users to customize the displayed queue based on their preferences.
5.7.2*	The system must queue an incomplete record or order.	YES	The VRVCloud system incorporates a robust queuing feature to manage incomplete records or orders, ensuring efficient workflows and data processing continuity. Key features of this functionality include: Automated Queuing: Automatically places incomplete records or orders into designated queues for follow-up or additional processing. Queue Categorization: Supports classification of incomplete records by type, priority, or assigned user location, allowing Nebraska DHHS to streamline task management. Real-Time Updates: Continuously updates queue statuses as records are completed or updated, ensuring accuracy in task prioritization. User Notifications: Alerts users about incomplete records in their queue, prompting timely resolution and reducing delays in processing. Search and Filter Capabilities: Enables users to quickly locate specific records within the queue. Access Control: Restricts access to incomplete records based on user roles and permissions, ensuring data security and compliance with organizational policies. This feature supports Nebraska DHHS by facilitating organized tracking of incomplete records, enhancing operational efficiency, and minimizing processing bottlenecks.
5.8	WORKFLOW		

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5.8.1*	The system must have configurable workflows.	YES	The VRVCloud system supports configurable workflows, enabling tailored automation and process management to meet the unique needs of Nebraska DHHS. Key features of this functionality include: Role-Based Configuration: Allows workflows to be configured according to specific user roles and responsibilities, enhancing security and task delegation. Real-Time Monitoring: Offers dashboards and tracking tools to monitor workflow progress and performance metrics in real time. Error Handling and Alerts: Incorporates mechanisms to identify errors, notify users, and guide corrective actions within workflows. This feature empowers Nebraska DHHS to implement efficient, adaptable workflows, fostering enhanced productivity, compliance, and service delivery.
5.8.2*	The system must have automated workflow process for the electronic signature or completion of a record or order.	YES	The VRVCloud system features a workflow process for the electronic signature or completion of a record or order, streamlining approval and record-finalization tasks for Nebraska DHHS. Key features of this functionality include: Automated Approval Workflow: Enables the system to route records or orders through a predefined sequence for review and signature, minimizing manual intervention. Real-Time Notifications: Sends alerts to the appropriate users or approvers when records or orders are ready for signature or further action. Validation Checks: Ensures all required fields and conditions are met before allowing the electronic signature process to proceed. Customizable Routing Rules: Allows workflows to be configured based on record type, user roles, or specific criteria for enhanced flexibility. Secure Access: Ensures only authorized users can perform electronic signatures through role-based access controls and authentication mechanisms. This automated workflow process promotes efficiency, accuracy, and compliance for Nebraska DHHS, reducing bottlenecks in record completion while maintaining robust security and audit capabilities.
5.8.3*	The system must have the ability to automatically route a record or order to different users involved in the completion, registration and certification process of the record or order.	YES	The VRVCloud system provides the capability to automatically route records or orders to designated users involved in the completion, registration, and certification processes, enhancing workflow efficiency and collaboration. Key features of this functionality include: Dynamic Routing Mechanism: Automatically assigns records or orders to appropriate users or teams based on predefined rules or criteria, such as record type, user role, or workflow stage. Role-Based Assignments: Ensures that tasks are routed to users with the necessary permissions and expertise to handle specific actions, such as registration or certification. Queue Management: Maintains clear and organized queues for each user, displaying assigned tasks and their priorities for streamlined processing. Real-Time Notifications: Alerts users when a new task or record is routed to them, ensuring timely attention and action. Configurable Workflow Rules: Allows Nebraska DHHS to tailor routing processes to align with organizational policies, legal requirements, and operational needs. Escalation and Reassignment: Automatically escalates tasks that remain unprocessed beyond a set timeframe or reassigns them to alternate users if needed. This functionality optimizes the completion, registration, and certification processes for Nebraska DHHS, ensuring accurate routing, faster

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5.8.4*	The system must have the ability to automatically transfer a record or order to different users involved in the completion, registration and certification process of the record or order.	YES	The VRVCloud system ensures the ability to automatically transfer records or orders to designated users involved in the completion, registration, and certification processes, streamlining operational workflows and enhancing efficiency. Key features of this functionality include: Automated Record Transfer: Transfers records or orders to the appropriate user or team based on predefined criteria such as workflow stage, user role, or record type. Seamless Integration with Workflow Rules: Aligns transfer processes with configurable workflow rules to ensure proper routing and compliance with Nebraska DHHS operational standards. Real-Time Notifications: Notifies users of incoming tasks or records transferred to their queues, ensuring timely awareness and response. Dynamic Role-Based Assignment: Ensures only authorized users with the requisite permissions and expertise handle the transferred records. Escalation Mechanisms: Automatically reassigns or escalates tasks if not acted upon within a specified timeframe to maintain workflow continuity. Complete Transfer Audit Logs: Maintains a comprehensive audit trail capturing user actions, timestamps, and transfer details for transparency and accountability. Queue Prioritization: Enables users to view and manage their transferred tasks by priority or due date for efficient processing. Support for High-Volume Transfers: Allows for bulk transfer of multiple records or orders in scenarios requiring rapid reallocation of tasks.
5.9	FUNCTIONALITY		
5.9.1*	The system must allow a user with necessary access the ability to query, override, or bypass defined fields.	YES	The VRVCloud system provides authorized users with the capability to query, override, or bypass defined fields, ensuring flexibility and control while maintaining accountability. Key features of this functionality include: Field Query Capability: Enables users to perform detailed searches and queries on defined fields for efficient data retrieval and analysis. Override Permissions: Allows authorized users to update or correct values in defined fields when necessary, ensuring data accuracy and compliance. Bypass Functionality: Supports bypassing specific field validations or requirements in predefined scenarios, as permitted by Nebraska DHHS policies. Role-Based Access Control: Ensures only users with the appropriate permissions and authority can access, override, or bypass fields, safeguarding system integrity. Audit Trail Logging: Records all query, override, and bypass activities, including user details, timestamps, and changes made, for full transparency and traceability. Customizable Rules: Allows the configuration of field-specific rules and conditions for when overrides or bypasses are permissible. Validation Safeguards: Includes automated checks to ensure overridden or bypassed fields comply with system and regulatory standards wherever applicable. Support for Exception Handling: Facilitates scenarios where standard processes cannot be followed, providing necessary flexibility while upholding data governance. This feature supports Nebraska DHHS by enabling controlled flexibility in data management, reducing workflow bottlenecks, and ensuring data accuracy and accountability in critical processes.

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5.9.2	The system should have the ability to send secure messages to any user within the respective module.	YES	The VRVCloud system includes a robust secure messaging feature that enables users to send and receive messages within the respective module, ensuring seamless communication while maintaining data security. Key features of this functionality include: Secure Communication: All messages are encrypted to prevent unauthorized access, ensuring compliance with Nebraska DHHS security standards. Role-Based Messaging: Users can send and receive messages only within their authorized module, maintaining data privacy and operational boundaries. Notification Alerts: Real-time notifications inform users of new messages, ensuring prompt communication and response. Attachment Support: Allows secure sharing of relevant files or documents as part of the message, streamlining collaboration. Threaded Conversations: Supports threaded messaging for maintaining clear communication and context across ongoing discussions. Audit and Logging: Tracks all messaging activities, including timestamps, sender and recipient details, and message content (where allowed), for transparency and compliance. Message Organization: Features tools for sorting, filtering, and archiving messages for efficient management and retrieval. Cross-User Reach: Provides the ability to connect with any user within the module, enhancing teamwork and workflow efficiency. This feature supports Nebraska DHHS by promoting secure, organized, and effective communication among users, reducing reliance on external or less secure communication methods.
5.9.3	The system should have the ability to create and track timelines based on actual calendar or business days.	NA	We do support the use of calendars when ussers are entering dates. We also have reports that can be configured to report on actual calendar or business days. However, we are not sure what is meant by track timelines based on acutalcalendar or business days.
5.9.4*	The system must ensure that when a record or order is completed by an end user the record or order can no longer be manipulated by end user.	YES	The VRVCloud system ensures that records or orders completed by an end user are secured against further manipulation, maintaining data integrity and compliance with operational standards. Key features of this functionality include: Access Restriction: Allows viewing of the completed record or order but restricts edit permissions to authorized administrative roles, if necessary. Completion Status Tracking: Visibly marks records and orders as Registered,providing clarity and reducing accidental attempts at modification. Audit Logging: Maintains a detailed log of completion activities, including the user who completed the record or order and the exact timestamp. Administrative Override: Permits authorized users to unlock records or orders under specific circumstances, ensuring flexibility while maintaining control. System-Wide Consistency: Applies the locking mechanism across all modules to ensure uniformity in data management practices. This feature supports Nebraska DHHS by safeguarding finalized data, promoting accountability, and ensuring that completed records or orders remain unaltered, thereby upholding data accuracy and compliance.
5.9.5*	The system must have the ability to place or remove a record from an administrative hold or alert, which is only put in place by a user with necessary access. This hold would disallow the printing of legal certified copies of a certificate.	YES	The VRVCloud system provides the capability to place or remove records from an administrative hold or alert, ensuring controlled access and compliance with legal requirements. Key features of this functionality include: Administrative Hold Placement: Enables users with the necessary access to place records on administrative hold, restricting specific actions such as printing legal certified copies of certificates. Access-Based Permissions: Limits the ability to place or remove administrative holds to authorized users, ensuring proper oversight and control. Hold Notifications: Displays visible alerts to notify users when a record is on hold, preventing unauthorized actions. Preventive Actions: Automatically blocks printing and other restricted activities while a record is on hold, ensuring compliance with policy and legal guidelines. This feature supports Nebraska DHHS by providing enhanced control over sensitive records, ensuring legal compliance, and maintaining a
5.9.6*	The system must allow a user with necessary access to view, print, crop, rotate and resize a vital event certificate image.	YES	If Stste requires integration with their image application then this would depend upon the capability of that software.
5.9.7*	The system must allow a user with the necessary access the ability to print attachments.	YES	The VRVCloud system ensures that authorized users with the necessary access can efficiently print attachments.

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5.9.8*	The system must provide the ability to print a blank form.	YES	The VRVCloud system provides the capability to print blank forms, ensuring users can access necessary documentation for offline use or manual completion. Key features of this functionality include: Template Availability: Includes a library of standardized, blank form templates tailored to various use cases and compliance requirements. Consistent Formatting: Ensures all blank forms adhere to predefined standards for clarity and uniformity. Quick Access: Provides a user-friendly interface for selecting and printing blank forms, reducing the time required for preparation. This feature supports Nebraska DHHS by facilitating the preparation and distribution of blank forms, enhancing efficiency and accessibility in vital record management processes.
6	ALL VITAL EVENT REGISTRATION MODULES		
6.1	GENERAL		
6.1.1*	The system must be able to accommodate rejected vital event records, including queues for viewing the rejected records.	YES	The VRVCloud system accommodates rejected vital event records effectively, ensuring that these records are managed and resolved efficiently. Key features of this functionality include: Dedicated Queues for Rejected Records: Provides a separate queue for rejected records, making it easy for users to identify and prioritize these records for review and correction. Ensures visibility of rejected records without disrupting the processing of valid entries. Detailed Rejection Reasons: Displays the specific reason(s) for rejection within the record details, providing clarity and guidance for resolution. Supports comments or notes from reviewers for additional context. Role-Based Access: Limits access to rejected records queues to users with the necessary permissions, ensuring data security. Enables role-based actions such as editing, re-submitting, or escalating rejected records. Automated Notifications: Sends alerts or notifications to relevant users or teams when records are rejected, reducing delays in addressing issues. This feature supports Nebraska DHHS by improving the management of rejected records, enhancing data integrity, and ensuring timely resolution of issues.
6.1.2*	The system must have the ability to manipulate and retain the original vital event record in the case of processing an amendment.	YES	The VRVCloud system ensures the ability to manipulate and retain the original vital event record during amendment processes using robust record versioning capabilities. Key features of this functionality include: Record Versioning: Maintains all previous versions of a vital event record while processing amendments. Clearly labels and timestamps each version for easy identification and auditability. Integrity of Original Data: Safeguards the original record by storing it as a non-editable version to ensure historical accuracy and compliance. Guarantees that no amendments overwrite the original data. Audit Trail for Amendments: Tracks all changes made to a record, including the user, timestamp, and specific amendments applied. Provides a transparent log for review and regulatory purposes. Side-by-Side Comparison: Displays both the original/previous data that is being amended and the amended data side-by-side for user review and validation before finalizing amendments. Controlled Access: Ensures only authorized users can process amendments, leveraging role-based access control. Implements approval workflows for amendments to verify accuracy and adherence to guidelines. Automated Notifications: Alerts stakeholders about amendments in progress and approvals required, reducing processing delays. Version History Interface: Offers a user-friendly interface to navigate through all versions of a record. Allows users to revert to previous versions if necessary. Integration with Reports and Queries: Ensures that amended and original/previous versions are available for reporting, ensuring transparency in data utilization. This feature supports Nebraska DHHS by preserving the integrity of vital event records while enabling necessary updates, ensuring compliance with legal and regulatory standards.
6.2	REGISTER		
6.2.1	The system must encompass the end-to-end process of registering the following vital events:		

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6.2.1.1*	Birth;	YES	The VRVcloud system includes a dedicated Birth Module that is specifically designed to handle all aspects of birth record management. This module enables efficient and secure data entry, validation, issuance, and amendment of birth records, ensuring compliance with state and federal regulations. The Birth Module supports real-time data validation, customizable workflows, and secure certificate issuance, making it a comprehensive solution for managing birth records within the state's vital records system.
6.2.1.2*	Death;	YES	The VRVcloud system includes a robust Death Module that supports comprehensive management of death records from initial reporting through certification. This module allows authorized users to enter, validate, and amend death records with strict compliance to regulatory standards. It includes features for data entry, review workflows, secure certificate issuance, and integration with state and national reporting systems (e.g., NCHS and STEVE). The Death Module ensures accuracy and security, facilitating efficient processing and issuance of <u>death records in accordance with Nebraska's requirements</u> .
6.2.1.3*	Marriage;	YES	The VRVcloud system includes a Marriage Module designed to streamline the management and processing of marriage records. This module enables authorized users to enter, validate, and issue marriage records with all necessary legal details and secure certificate issuance capabilities. It includes workflows for data entry, approvals, and amendments to ensure accuracy and compliance with state standards. The Marriage Module also supports real-time validation and reporting functions, allowing for seamless data integration with <u>other state and federal systems as required</u> .
6.2.1.4*	Dissolution of Marriage;	YES	The VRVcloud system includes a Divorce and Dissolution of Marriage Module that facilitates the secure management of divorce records, ensuring compliance with legal and regulatory standards. This module enables the entry, validation, amendment, and issuance of records related to divorce and marriage dissolution, providing an efficient workflow for authorized users.
6.2.1.5*	Fetal Death;	YES	The VRVcloud system includes a Fetal Death Module specifically designed to manage fetal death records with sensitivity and compliance to state and federal standards. This module allows authorized users to enter, validate, amend, and issue fetal death records, ensuring that all <u>data is accurately documented and securely handled</u> .
6.2.1.6*	Induced Termination of Pregnancy (ITOP).	YES	The VRVcloud system includes an Induced Termination of Pregnancy (ITOP) Module to manage and securely document records related to induced termination of pregnancy in compliance with state and federal reporting requirements. This module provides a structured, confidential, and secure environment to ensure that all data is accurately recorded and accessible only to authorized personnel.
6.3	FUNCTIONALITY		
6.3.1*	The system must allow the collection of all vital record data with both data rules and field validations, based on the NCHS (National Center for Health Statistics) Standard Record layout or the Inter-Jurisdictional Exchange (IJE) file layout.	YES	The VRVCloud system enables the comprehensive collection of all vital record data, adhering to stringent data rules and field validations, based on the NCHS (National Center for Health Statistics) Standard Record layout and the Inter-Jurisdictional Exchange (IJE) file layout. <u>Key features of this functionality include:</u> NCHS and IJE Compliance: Supports data collection aligned with NCHS and IJE standards to ensure nationwide and cross-jurisdictional interoperability. Maintains compliance with all field definitions, formats, and constraints as outlined by NCHS and IJE guidelines. Dynamic Field Validation: Implements real-time validation for each data field during entry, ensuring adherence to prescribed rules and minimizing errors. Alerts users to incorrect or incomplete entries with clear guidance for corrections. Configurable Data Rules: Allows administrators to update or customize data rules and field validations to accommodate state-specific requirements without compromising federal standards. Automated Data Formatting: Converts raw data into NCHS and IJE-compatible formats, including encoding special characters and adjusting field lengths as required. Cross-Jurisdictional Compatibility: Ensures that data collected can be seamlessly exchanged between jurisdictions for reporting, registration, or certification purposes. Audit Trail for Field Edits: Tracks all changes to fields, providing a transparent log of modifications for accountability and regulatory compliance. Pre-Submission Validation: Conducts a comprehensive check of all collected data before finalizing submissions to external systems, ensuring all standards are met. Integration with Other Modules: Connects seamlessly with other VRVCloud modules to utilize the validated data for reporting, certification, or record amendments. This feature supports Nebraska DHHS by ensuring accurate, standards-compliant data collection, fostering seamless interoperability, and maintaining the integrity of vital record information across jurisdictions.

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6.3.2*	The system must have a process to void a vital event record.	YES	The VRVCloud system includes a robust process for voiding vital event records. Key features of this functionality include: Secure Void Authorization: Restricts the ability to void a record to authorized users with the necessary permissions to prevent unauthorized actions. Detailed Void Documentation: Captures and stores detailed information, including the reason for voiding, the user who initiated the action, and the date/time of the void. Audit Trail Integration: Logs all void actions within the system’s audit trail for accountability and future reference. Validation Before Voiding: Provides validation checks and confirmation prompts to ensure that voiding a record is a deliberate and accurate action. Record Marking: Marks voided records distinctly while maintaining their visibility in the system to avoid duplication or re-entry of invalid records. Customizable Void Reasons: Allows administrators to configure predefined void reasons to ensure consistency in documentation. Error Prevention for Voided Records: Prevents any further edits, certifications, or outputs (e.g., printing of certificates) from voided records. This process supports Nebraska DHHS by promoting transparency and integrity in handling vital event records, minimizing errors, and ensuring proper governance.
6.3.3*	The system must automatically route a vital event record through the predefined workflow, advancing it from one user to the next in the appropriate sequence until the record is completed and finalized.	YES	The VRVCloud system ensures seamless routing of vital event records through predefined workflows, optimizing the process and ensuring timely completion. Key features of this functionality include: Automated Workflow Routing: Automatically advances vital event records from one group to the next based on the defined workflow sequence. Role-Based Assignments: Routes records to appropriate users or teams based on their roles and responsibilities within the workflow. Real-Time Notifications: Sends notifications to assigned users, ensuring timely awareness and action on records requiring their input. Progress Tracking: Provides visibility into the status and progress of each record within the workflow, allowing users to monitor completion stages. Automatic Escalations: Configures escalation rules for records that remain pending for a specified duration, ensuring no delays in processing. This feature supports Nebraska DHHS by automating and standardizing the processing of vital event records, reducing manual intervention, and enhancing operational efficiency.
6.3.4*	The system must generate and assign a unique and sequential State File Number for each vital event record.	YES	The VRVCloud system provides robust functionality to generate and assign unique and sequential State File Numbers (SFNs) for each vital event record, ensuring accurate identification and record-keeping. Key features of this functionality include: Sequential Number Assignment: Automatically generates SFNs in a sequential order, ensuring no duplication and maintaining a clear record sequence. Unique Identifier: Guarantees that each vital event record is assigned a distinct SFN within each filing year, preventing conflicts or overlaps in record identification. Customizable Numbering Format: Allows customization of the SFN format to align with Nebraska DHHS requirements, such as prefixes, year indicators, or other necessary elements. Real-Time Numbering: Assigns the SFN immediately upon the creation or registration of a vital event record based on Nebraska DHHS requirements, ensuring records are traceable from inception. System-Wide Consistency: Ensures the SFN is consistently referenced across all modules, reports, and correspondence within the system. This feature supports Nebraska DHHS by ensuring each vital event record is uniquely and systematically identifiable, streamlining record management and fostering compliance with state and national standards.
6.3.5*	The system must allow a user with necessary access the ability to change a State File Number.	YES	The VRVCloud system can be configured to offer controlled functionality to allow authorized users to change a State File Number (SFN) when necessary, ensuring flexibility while maintaining system integrity.

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6.3.6*	The system must automatically search for duplicate vital event records and, if found, alert user.	YES	The VRVCloud system incorporates robust functionality to automatically detect and alert users about duplicate vital event records, ensuring data accuracy and preventing redundancy. Key features of this functionality include: Automated Duplicate Detection: Utilizes advanced algorithms to search for duplicate records based on multiple data fields such as names, dates, locations, and event details. Real-Time Alerts: Immediately notifies users with a system-generated visual alert when potential duplicates are detected during data entry or updates. Configurable Matching Rules: Allows customization of duplicate detection criteria to align with Nebraska DHHS-specific requirements, such as exact or fuzzy matching thresholds. Duplicate Resolution Options: Provides tools for users to review flagged records to determine if record is a true duplicate or is a distinct entry based on users evaluation. Error Reduction: Prevents the creation of duplicate records by proactively checking against existing data during record creation or import. Integration with Workflows: Seamlessly integrates duplicate detection alerts into existing workflows, ensuring minimal disruption while maintaining operational efficiency.
6.3.7*	The system must be designed so that no duplicate vital event record can be entered. The system must use fields designated by the State of Nebraska for duplicate checks.	YES	The VRVCloud system is architected to prevent the entry of duplicate vital event records, ensuring compliance with Nebraska DHHS requirements for data accuracy and integrity. Key features of this functionality include: Field-Based Duplicate Checks: Employs fields designated by the State of Nebraska, such as names, dates, event locations, and identification numbers, to verify uniqueness during record entry. Real-Time Validation: Automatically validates new entries against existing records in the database and flags potential duplicates for user review. Configurable Matching Criteria: Allows Nebraska DHHS to define the matching rules, including exact or partial matches for specific fields, to tailor duplicate detection to state standards. Prevention of Record Creation: Restrict users from saving a new record if it is identified as a duplicate, ensuring no redundant entries are added to the system. User-Friendly Alerts: Provides immediate notifications and detailed prompts to inform users of duplicate findings and guide them in resolving conflicts. Integration with State Standards: Adheres to Nebraska’s specific field requirements and standards, ensuring compliance with local regulations and operational needs.
6.3.8*	The system must allow a vital event record to be corrected with the assignment of correction indicators (e.g., affidavit/correction number, “amendment” notation, and amended date).	YES	This functionality reinforces Nebraska DHHS’s efforts to maintain a clean, accurate database, streamlining workflows and enhancing data integrity. The VRVCloud system provides comprehensive functionality for correcting vital event records while ensuring transparency and compliance with Nebraska DHHS requirements. Key features of this functionality include: Correction Indicators: Assigns specific correction details, such as an affidavit or correction number, to track and document the changes made to a vital event record. Adds a clear “amendment” notation to signify that a record has been modified post-registration. Date Tracking: Automatically records and displays the date of the modification to maintain a clear historical timeline of changes. Version Control: Retains all previous versions of the record, ensuring that the original data is preserved for audit and historical purposes. User Access Control: Ensures that only authorized users with appropriate access levels can make corrections/amendments, enhancing system security and data integrity. Audit Logs: Provides a detailed log of all modification, including the user who made the change, the date and time of the modification, and the fields altered.
7	COMBINED MODULES		
7.1	BIRTH & DEATH		

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7.1.1*	The system must have the ability to identify records where birth and death record data does not match (e.g., when a death record does not have a corresponding birth record).	YES	The VRVCloud system is designed to generate detailed reports on records where birth and death record data does not align, ensuring discrepancies are easily identified and addressed. Key features of this functionality include: Comprehensive Reporting: Provides detailed reports listing all cases where birth and death records fail to match, including scenarios such as death records lacking corresponding birth records. Customizable Criteria: Allows administrators to define specific matching parameters (e.g., name, date of birth, and location) to tailor the reporting process to their requirements. Export Functionality: Enables users to export mismatch reports in multiple formats (e.g., Excel, PDF) for external review or compliance documentation.
7.1.2*	The system must have the ability to match and link birth and death records together.	YES	The VRVCloud system is equipped with functionality to match and link birth and death records, ensuring a comprehensive and integrated approach to managing vital event data. Key features of this functionality include: Automated Record Matching: Utilizes algorithms to automatically match birth and death records based on shared identifiers, such as name, date of birth, and social security number. Manual Matching Capabilities: Provides users with the ability to manually review and link records when automated matching is not possible or requires validation. Search and Filter Tools: Allows users to locate records based on specific criteria to facilitate the matching process. Customizable Matching Rules: Enables configuration of matching parameters to align with Nebraska DHHS requirements and NVSS
7.2	DEATH & FETAL DEATH		
7.2.1*	The system must provide spell check functionality for the cause of death or medically related fields.	YES	The VRVCloud system provides robust spell check functionality specifically designed for the cause of death or medically related fields, ensuring accuracy and consistency in critical data entry. Key features of this functionality include: Medical Dictionary Integration: Utilizes an extensive medical dictionary to identify and suggest corrections for spelling errors in complex medical terminology. Real-Time Spell Checking: Highlights misspelled words as they are typed, allowing immediate correction. Customizable Dictionary: Allows users with necessary access to add frequently used medical terms, abbreviations, or unique entries to a user-defined dictionary. Error Suggestions: Provides a list of alternative spellings or related terms to help users quickly resolve errors. Configurable Fields: Can be enabled or disabled for specific fields, such as the cause of death or other medically relevant data fields, as per Nebraska DHHS requirements. Support for Free-Text Entries: Accommodates spell check for freeform text entry fields.
7.2.2*	The system must allow for querying a medical certifier after a vital event record has been filed with a State File Number.	YES	This feature supports Nebraska DHHS by improving the accuracy of medical data entries, enhancing the reliability of vital records, and The VRVCloud system enables notifying a medical certifier after a vital event record has been filed and assigned a State File Number, ensuring seamless communication and record updates. Key features of this functionality include: Post-Filing Queries: Allows users with necessary access to initiate queries to medical certifiers even after the State File Number has been assigned, ensuring the accuracy of filed records. Certifier Response Tracking: Monitors responses from the medical certifier and notifies users when updates are received, streamlining the resolution process. Configurable Templates: Provides customizable query templates for common issues or clarifications, saving time and ensuring consistency in communication. Compliance with NVSS Standards: Aligns with National Vital Statistics System (NVSS) requirements for post-filing record management and communication. This feature supports Nebraska DHHS by ensuring ongoing accuracy and integrity of vital event records, even after they are officially filed,

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7.3	BIRTH, DEATH, & FETAL DEATH		
7.3.1*	The system must validate based on the Inter-Jurisdictional Exchange (IJE) standard.	YES	The VRVCloud system incorporates robust validation mechanisms based on the Inter-Jurisdictional Exchange (IJE) standard, ensuring that all vital event data complies with established data sharing and reporting protocols. Key features of this functionality include: IJE Compliance Validation: Ensures all vital event records are validated against the IJE standard for data structure, field requirements, and content integrity before being submitted or shared. Field-Level Validation: Checks individual fields for compliance with IJE rules, such as character limits, mandatory fields, and allowable values (e.g., specific codes or formats). Real-Time Feedback: Offers real-time validation during data entry, guiding users to correct issues as they occur, reducing downstream errors. Customizable Rulesets: Allows for customization of validation rules to account for jurisdiction-specific adaptations of the IJE standard. Secure Data Exchange: Ensures validated records are securely formatted and packaged for transmission between jurisdictions, adhering to IJE protocols. This feature aids Nebraska DHHS by promoting data accuracy and ensuring seamless interoperability with other jurisdictions, aligning with national standards for vital event data exchange.
7.3.2*	The system must allow for local registration by counties as specified by the State of Nebraska before registration at the state-level.	YES	The VRVCloud system facilitates a tiered registration process, enabling local registration by counties as specified by the State of Nebraska prior to registration at the state level. This functionality supports decentralized data management while ensuring compliance with state-level standards. Key features of this functionality include: County-Level Registration: Provides counties with the ability to locally register vital event records (e.g., births, deaths, marriages) before submission to the state-level system. Sequential Workflow: Implements a structured workflow where records must first pass through the county's review and approval process before advancing to state-level registration. Validation at Both Levels: Ensures records comply with state-specified rules and validations at the county level, minimizing errors prior to state-level submission. Status Tracking: Displays the status of records (e.g., pending county review, registered at county level, awaiting state-level processing) for seamless monitoring. Automated Notifications: Sends alerts to state officials when records are ready for state-level registration. Customizable Workflow Rules: Allows for customization of the county-to-state registration workflow based on Nebraska-specific legal and
7.4	BIRTH, DEATH, FETAL DEATH, MARRIAGE, & DISSOLUTION OF MARRIAGE		
7.4.1*	The system must have the ability to print non-certified copies of certificates from the Birth, Death, Fetal Death, Marriage, and Dissolution of Marriage Modules.	YES	The VRVCloud system provides the capability to generate and print non-certified copies of certificates across various vital record modules, including Birth, Death, Fetal Death, Marriage, and Dissolution of Marriage. This feature supports informational needs while maintaining distinctions between certified and non-certified outputs. Key features of this functionality include: Watermarked Outputs: Prints non-certified copies with a clear "Non-Certified" watermark or similar watermark to prevent misuse or misrepresentation. User Role Permissions: Restricts access to this functionality to users with the appropriate permissions. Customizable Templates: Supports the use of customizable templates for non-certified copies to align with Nebraska's formatting standards. Record Accuracy: Ensures that non-certified copies reflect the most up-to-date record information while excluding sensitive or restricted data fields. Audit Trails: Logs all print actions, including the user, date, and time, to ensure accountability and traceability. Output Formats: Offers flexibility in output formats, including PDF or direct print, for user convenience. Compliance with Regulations: Adheres to Nebraska's policies and legal standards for handling non-certified copies of vital records. This feature supports Nebraska DHHS by facilitating access to informational copies of vital records while preserving the integrity and security of certified certificates.

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7.4.2*	The system must store the State and Local Registrar's information that is to be added based on the file date on validated state vital event records.	YES	The VRVCloud system ensures the storage of the State and Local Registrar's information, which is automatically added to validated state vital event records based on the file date. This functionality supports compliance and accurate record-keeping for Nebraska DHHS. Key features of this functionality include: Automatic Registrar Assignment: Associates the appropriate State and Local Registrar's information with vital event records based on the file date. Dynamic Updates: Updates registrar details automatically when new records are filed, ensuring alignment with current personnel or jurisdiction requirements. Date-Based Logic: Ensures that the registrar information corresponds to the specific filing period, maintaining historical accuracy. Configurable Registrar Details: Allows customization and updates of registrar data fields, including name, title, and contact information. Module-Wide Implementation: Applies registrar information to all state vital event records, including Birth, Death, Fetal Death, Marriage, and Dissolution of Marriage Modules. Customizable Display: Allows display and printing of registrar details on certified copies, non-certified copies, and electronic formats as required. Role-Based Access: Restricts the ability to modify or override registrar information to users with appropriate administrative access. Compliance Assurance: Meets Nebraska's legal requirements for state and local registrar acknowledgment on vital event records. This feature ensures the seamless integration of registrar details into state-validated records, enhancing compliance, accuracy, and efficiency in vital records management.
7.5	MARRIAGE & DISSOLUTION OF MARRIAGE		
7.5.1*	The system must have document forms, licenses, and worksheets that are accessible to a user with necessary access.	YES	The VRVCloud system ensures that document forms, licenses, and worksheets are accessible to users with the necessary access, enhancing usability and supporting streamlined workflows for Nebraska DHHS. Key features of this functionality include: Comprehensive Document Repository: Maintains a centralized library of all necessary document forms, licenses, and worksheets, including templates for birth, death, marriage, and other vital event records. Role-Based Access Control: Ensures only authorized users can access specific documents based on their roles and permissions, safeguarding sensitive information. Dynamic Accessibility: Allows users to view, download, and print forms and worksheets directly within the system. Editable Templates: Provides configurable templates for forms and licenses, allowing users with administrative access to update or modify documents as needed. Standardized Formats: Ensures that all documents adhere to standardized layouts and designs, meeting Nebraska DHHS compliance requirements. Customizable by Jurisdiction: Allows jurisdictions to tailor forms and worksheets to their specific requirements, ensuring local compliance.
8	BIRTH MODULE		
8.1	BIRTH MODULE		

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8.1.1*	The system must have the ability to enter a delayed birth record, new adoption record, and a foreign-born birth record.	YES	The VRVCloud system provides the ability to enter delayed birth records, new adoption records, and foreign-born birth records, supporting comprehensive and accurate vital record management for Nebraska DHHS. Key features of this functionality include: 1. Delayed Birth Records: Allows for the entry of detailed information for delayed birth records, including affidavits and supporting documentation. Ensures that all required fields are completed and validates data based on Nebraska DHHS standards. 2. New Adoption Records: Enables the generation of a new birth record following an adoption, reflecting the updated parental information. Protects the privacy of the original birth record with restricted access to authorized users. Links and updates associated records, such as name changes or new parent details, based on the adoption case. 3. Foreign-Born Birth Records: Facilitates the creation of records for foreign-born individuals who require state-issued birth certificates (e.g., for citizenship purposes). Supports the upload of required documentation, such as certificates of naturalization or immigration forms. Customizes fields to meet Nebraska’s specific requirements for foreign-born birth records. Additional Features: Role-Based Access: Ensures that only authorized users can create, modify, or review these specialized records. Approval Workflow: Routes adoption, delayed, or foreign-born birth records through an automated review and approval process if needed. Error Handling: Provides prompts and validation checks to reduce errors in data entry for all record types. Reporting Capabilities: Includes detailed reporting options to track and monitor the status of delayed, adoption, and foreign-born records. This feature supports Nebraska DHHS by ensuring flexibility, compliance, and accuracy in managing diverse types of birth records while streamlining administrative workflows.
8.1.2*	The system must have the ability to flag and unflag a birth record as deceased.	YES	The VRVCloud system provides the ability to flag and unflag a birth record as deceased, enhancing accuracy and compliance in managing vital records for Nebraska DHHS. Key Features of this Functionality: <u>Flagging a Birth Record as Deceased:</u> Automated Process: Automatically applies a deceased flag when a corresponding death record is created and matched with a birth record. Manual Entry: Allows authorized users to manually flag a birth record as deceased when necessary, with justification and supporting documentation. Linked Records: Establishes a connection between the birth and death records to maintain data integrity across the system. <u>Unflagging a Birth Record:</u> Authorized Access: Restricts unflagging capabilities to users with necessary permissions, such as state administrators or supervisors. Reason for Unflagging: Requires users to provide a documented reason for unflagging, ensuring accountability. <u>Integration Across Modules:</u> System-Wide Updates: Reflects the deceased status across all related modules, including reporting, certificate issuance, and external integrations. Restricted Actions: Prevents specific actions, such as printing or amending, for flagged records unless explicitly authorized. Benefits for Nebraska DHHS: Improved Data Integrity: Ensures consistency and accuracy across birth and death records. Streamlined Processes: Simplifies workflows for managing deceased status in birth records. Compliance and Accountability: Meets state and federal requirements while maintaining transparency in actions taken on vital records. This functionality supports Nebraska DHHS by providing a robust and secure process for managing the deceased status of birth records, ensuring accuracy and accountability.

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8.1.3*	The system must pre-load data flagged by the State of Nebraska for multiples birth records (e.g., twins, triplets).		The VRVCloud system ensures seamless handling of multiple birth records by pre-loading data flagged by the State of Nebraska for such cases, including twins, triplets, and other multiples. Key Features of this Functionality: Pre-Loaded Data for Multiples: Automatically populates shared information (e.g., parent details, prenatal data) across all records for multiples, reducing manual entry. Assigns unique identifiers to each birth record while maintaining a linkage between the records for tracking and reporting purposes. State-Specific Flagging: Supports Nebraska-specific requirements for identifying and flagging multiple birth records. Ensures that all flagged data conforms to state guidelines, enhancing record accuracy. Validation and Integrity: Verifies that data pre-loaded for multiples is complete and consistent across all records. Tracks all actions and changes made to the records, ensuring transparency and compliance. User-Friendly Workflow: Offers guided workflows for entering and managing multiple birth records, minimizing errors and effort. Highlights multiple birth records in the system for easy identification by users. Reporting and Analytics: Provides tools for generating reports on multiple births, with options to analyze trends and demographics. Supports the creation of certificates and summaries tailored for individual or grouped records. Benefits for Nebraska DHHS: Efficient Data Management: Reduces time and effort required to manage multiple birth records. Enhanced Accuracy: Ensures that all records for multiples are consistent and adhere to state standards. Improved Reporting: Facilitates comprehensive insights into multiple birth trends and data.
		YES	This functionality supports Nebraska DHHS by streamlining the management of multiple birth records, improving data accuracy, and
8.1.4	The system should auto-fill stored birth attendant information maintained by the facility.		The VRVCloud system streamlines the entry of birth attendant information by providing an auto-fill feature based on data maintained by the facility. Key Features of this Functionality: <u>Auto-Fill Capability:</u> Pre-Loaded Information: Automatically populates fields with stored birth attendant data, reducing manual entry. Facility-Specific Data: Ensures that the information is retrieved from the database for accuracy. <u>User-Friendly Interface:</u> Quick Selection: Provides drop-down menus or search options for selecting birth attendants from stored data associated with the facility. Real-Time Updates: Reflects any changes made to the facility-maintained data instantly across all relevant modules. Benefits for Nebraska DHHS: Time Savings: Reduces the time required for entering and verifying birth attendant information. Enhanced Data Accuracy: Ensures that the information is consistent and up-to-date. Improved User Experience: Simplifies workflows for users entering birth records.
		YES	This feature supports Nebraska DHHS by automating the inclusion of birth attendant information, improving efficiency, and ensuring data consistency across the system.
9	DEATH MODULE		
9.1	DEATH MODULE		

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9.1.1*	The system must allow a user with necessary access the ability to save a death record without the cause of death indicated, as a pending investigation record.	The VRVCloud system supports the management of incomplete death records by allowing authorized users to save records without the cause of death indicated, categorizing them as pending investigation records. Key Features of this Functionality: <u>Pending Investigation Records:</u> Flexible Saving Options: Enables the saving of death records without a specified cause of death when flagged as under pending investigation. Categorization: Automatically labels such records for follow-up and easy identification. <u>Authorization Controls:</u> Role-Based Access: Restricts the ability to save pending investigation records to users with necessary permissions. <u>Follow-Up Mechanisms:</u> Tracking and Reporting: Facilitates the generation of reports and queues to monitor pending records. <u>Compliance with Regulations:</u> Standards Adherence: Aligns with state and federal guidelines for managing incomplete death records. Customizable Rules: Allows configurations based on Nebraska DHHS requirements. <u>Integration with Workflow Processes:</u> Seamless Updates: Supports the addition of cause of death information later without duplicating the record. Queue Management: Includes pending records in dedicated queues for efficient processing. Benefits for Nebraska DHHS: Operational Flexibility: Allows records to be filed where the cause of death is pending investigation. Improved Case Management: Facilitates tracking and timely resolution of pending investigations. ~~Enhanced Compliance: Ensures records meet regulatory requirements even when cause of death is pending investigation~~ YES
9.1.2*	The system must provide a connection to Validations and Interactive Edits Web Service (VIEWS) to review medically related fields.	The VRVCloud system integrates seamlessly with VIEWS to review and validate medically related fields, ensuring the accuracy and consistency of critical health data. Key Features of this Integration: <u>Real-Time Validation:</u> Automated Checks: Connects to VIEWS to perform automated validation of medically related fields (e.g., cause of death). Interactive Edits: Provides immediate feedback to users related to incorrect or inconsistent entries. <u>Enhanced Data Accuracy:</u> Standardized Review: Assist the medical certifier in completing cause of death data in alignment with national and state health data standards. Error Prevention: Reduces the likelihood of errors in vital medical fields through robust validation mechanisms. <u>User Guidance and Prompts:</u> Actionable Alerts: Provides alerts about possible errors or inconsistencies regarding entered data and suggests corrections. Field-Level Feedback: Offers validation details for specific medically related fields. <u>Workflow Integration:</u> Seamless Process: Incorporates VIEWS validation as part of the standard record creation and review workflow. <u>Compliance with State Requirements:</u> Adherence to Nebraska DHHS Standards: Ensures validation processes align with state health department regulations and guidelines. Configurable Rules: Supports customization based on specific state or organizational requirements. Benefits for Nebraska DHHS: Data Integrity: Enhances the reliability of medically related fields through robust validation. Efficiency: Reduces manual review efforts by integrating automated VIEWS checks. Compliance: Supports state and federal medical data reporting standards. YES

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9.1.3*	The system must allow a user with necessary access to sign permits.	YES	The VRVCloud system includes robust functionality to enable users with the necessary access to sign permits electronically, streamlining administrative workflows and ensuring compliance with state requirements. Key Features of this Functionality: <u>Secure Electronic Signature:</u> Authentication: Ensures that only authorized users with the required credentials can access and sign permits. User Permissions: Restricts signing capabilities to users with appropriate access levels. <u>Compliance with Regulations:</u> State Standards: Adheres to Nebraska DHHS guidelines for electronic permit signing. Tamper-Proof Records: Protects signed permits from unauthorized modifications after signing. <u>Workflow Integration:</u> Automated Routing: Notifies authorized users when permits are ready for signing. Approval Process: Integrates seamlessly into permit workflows, supporting multiple levels of review and approval if required. <u>User-Friendly Interface:</u> Simplified Signing: Provides a streamlined interface for users to review and sign permits with minimal effort.
10	MARRIAGE MODULE		
10.1	MARRIAGE MODULE		
10.1.1*	The system must automatically file a marriage record that has fulfilled State of Nebraska specific criteria.	YES	The VRVCloud system is designed to automatically file marriage records that meet the specific criteria set forth by the State of Nebraska, ensuring compliance and efficiency in record management. Key Features of this Functionality: <u>Criteria-Based Validation:</u> State-Specific Requirements: Validates marriage records against Nebraska's defined legal and procedural standards before filing. Automatic Error Detection: Identifies and flags incomplete or non-compliant records. <u>Automated Filing Process:</u> Seamless Integration: Files compliant marriage records automatically into the system without manual intervention. Real-Time Updates: Reflects filed records instantly across all relevant modules and databases. <u>Workflow Efficiency:</u> Pre-Filing Checks: Performs comprehensive checks for mandatory fields. Notifications: Alerts users of successfully filed records or issues requiring resolution before filing. <u>User Accessibility:</u> Role-Based Access: Limits filing and review capabilities to authorized users only. Benefits for Nebraska DHHS: Accuracy: Ensures that only records meeting state-specific criteria are filed. Efficiency: Reduces manual workload and speeds up the filing process. Compliance: Aligns with Nebraska's legal and administrative standards for marriage records. This feature supports Nebraska DHHS by streamlining marriage record management, enhancing compliance, and ensuring the integrity of filed records.
10.1.2*	The system must auto-fill county clerk and fee information.	YES	The VRVCloud system ensures the automatic population of county clerk and fee information, streamlining the data entry process and reducing manual errors. Key features of this functionality include: Auto-Fill Capability: Automatically populates relevant county clerk and associated fee information based on the selected jurisdiction, ensuring accurate data input. Validation Mechanism: Ensures the auto-filled information is accurate and matches the specific requirements of the selected county or jurisdiction. User Override Option: Allows authorized users to manually override auto-filled data if necessary, maintaining flexibility for special cases.
11	DISSOLUTION OF MARRIAGE MODULE		
11.1	DISSOLUTION OF MARRIAGE MODULE		

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11.1.1*	The system must automatically file a dissolution of marriage record that has fulfilled State of Nebraska specific criteria.	YES	The VRVCloud system ensures the automatic filing of dissolution of marriage (divorce) records that meet State of Nebraska-specific criteria, streamlining the record management process. Key features of this functionality include: Automated Filing: Automatically files divorce records that fulfill predefined state criteria. State Compliance: Adheres to Nebraska-specific rules and requirements, validating all criteria before filing. Dynamic Criteria Validation: Continuously checks for fulfillment of necessary fields and conditions. Error Handling and Notifications: Alerts users to any incomplete or incorrect data that must be corrected before automatic filing, initiating filing delays.
12	FETAL DEATH MODULE		
12.1	FETAL DEATH MODULE		
12.1.1*	The system must automatically search for associated birth events upon record entry, in the event a fetal death occurs, an error message must display for the affected user.	YES	The VRVCloud system is designed to automatically search for associated birth or fetal death events upon the entry of a fetal death record. Key features of this functionality include: Automated Cross-Check: Initiates a system-wide search to identify any potential duplicate birth or fetal death records that match the fetal death entry . Error Notification: Displays a clear message to the user if a potential duplicate record is detected. User-Friendly Interface: Provides real-time alerts and guidance, enabling users to address issues immediately. Compliance with Regulations: Supports Nebraska-specific requirements for fetal death and birth record management, ensuring legal and procedural adherence.
13	ORDER MANAGEMENT MODULE		
13.1	GENERAL		
13.1.1*	The system must allow a user with necessary access to issue certified copies of an individual certificate.	YES	The VRVCloud system ensures that authorized users can issue certified copies of individual certificates efficiently and securely. Key features of this functionality include: Role-Based Access Control: Limits access to this feature to users with the necessary permissions, ensuring compliance and security. Customizable Templates: Supports the use of state-approved templates for certified copies, ensuring consistency in formatting and branding. Real-Time Audit: Logs all actions related to the issuance of certified copies, providing an audit trail for accountability. Compliance with Nebraska DHHS Standards: Adheres to the state’s specific legal and procedural requirements for certified document issuance.
13.1.2*	The system must support the ordering and purchase of a commemorative certificate for a nonviable birth event.	YES	The VRVCloud system supports the ordering and purchase of commemorative certificates for nonviable birth events, providing a compassionate and customizable solution for families. Key features of this functionality include: Customizable Certificate Templates: Offers templates for commemorative certificates, adhering to state-approved formats. Automated Validation: Verifies eligibility for commemorative certificate issuance based on event details entered in the system. Audit and Reporting: Maintains a log of all commemorative certificate transactions for accountability and record-keeping.

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13.1.3*	The system must provide a user with necessary access the ability to manage all transactions.	YES	The VRVCloud system provides users with necessary access the ability to manage all transactions, ensuring comprehensive oversight and operational efficiency. Key features of this functionality include: Centralized Transaction Management: Offers a unified dashboard to view, edit, and manage all transactions, including payments, refunds, and adjustments. Role-Based Access Control: Ensures that only authorized users with the appropriate permissions can access and manage transaction data. Audit Trail: Automatically logs all transaction activities, including updates and approvals, to maintain accountability and compliance. Search and Filter Options: Allows users to locate specific transactions quickly using multiple criteria such as transaction ID, date, or customer name. Reporting and Analytics: Provides detailed reports on transaction histories and trends to support data-driven decision-making. Integration with Payment Gateways: Enables seamless management of online payments and reconciliations through integrated payment platforms. Notifications: Flags incomplete transactions and notifies the appropriate user for prompt resolution.
13.1.4*	The system must link the order to vital event record.	YES	The VRVCloud system links orders to vital event records, ensuring seamless integration and traceability between transaction and record management. Key features of this functionality include: Direct Association: Establishes a connection between each order and its corresponding vital event record or records, ensuring accurate and traceable transactions. Comprehensive Search Capabilities: Enables users to locate orders based on vital event record details, such as record type or file number. Streamlined Workflow: Simplifies processes by linking orders to records directly from the record management modules.
13.1.5*	The system must link the order to an invoice and payment.	YES	The VRVCloud system links orders to invoices and payments, ensuring accurate financial tracking and streamlined billing processes. Key features of this functionality include: Order-Invoice Association: Establishes a direct link between each order and its corresponding invoice, ensuring accurate financial records. Payment Integration: Associates payments with the linked invoices and orders, providing a complete financial trail. Real-Time Status Updates: Automatically updates the invoice and payment status when changes occur in the order, maintaining consistency across modules. Audit Trail: Records all transactions, including invoicing and payments, for transparency and compliance with financial regulations. Search and Reporting Tools: Allows users to search and generate reports that show the relationship between orders, invoices, and payments for enhanced financial management. Error Prevention: Alerts users if an invoice or payment is linked to an invalid or incomplete order, ensuring data accuracy. Multi-Payment Support: Accommodates partial payments or multiple payment methods per invoice, reflecting accurate order settlement details. This functionality supports Nebraska DHHS by enhancing the management of financial transactions related to vital events, ensuring accuracy and compliance in billing and payment processes.

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13.1.6 The system should connect all issued controlled documents (serialized certificate paper) to a receipt and to an order.

	The VRVCloud system connects all issued controlled documents, such as serialized certificate paper, to corresponding receipts and orders, ensuring traceability and accountability in the issuance process. Key features of this functionality include: Controlled Document Tracking: Links each serialized certificate paper to its unique order and receipt, maintaining a comprehensive audit trail. Receipt Association: Automatically records the receipt details for every controlled document issued, providing proof of transaction and payment. Order Integration: Ensures that each controlled document is tied back to the order it fulfills, enabling accurate verification and tracking. Real-Time Updates: Updates the status of controlled documents, receipts, and orders as they are issued, ensuring system-wide synchronization. Fraud Prevention: Tracks serialized certificate paper to detect unauthorized usage or missing documents, safeguarding against fraud. Search and Reporting Tools: Provides tools to search, view, and report on the linkage between controlled documents, receipts, and orders for oversight and compliance. This functionality supports Nebraska DHHS by ensuring transparency, accountability, and security in the management of controlled documents, enhancing trust in the issuance process.
YES	

13.1.7 *The system must support the ordering, purchase, and printing of legal certified copies of certificates on security paper for the following vital events:*
Birth;

13.1.7.1*

	The VRVCloud system supports the ordering, purchase, and printing of legal certified copies of certificates on security paper for the following vital events: Birth Death Marriage Dissolution of Marriage Fetal Death Birth Resulting in Stillbirth Key features of this functionality include: Secure Document Handling: Ensures all certificates generated print within the margins of security paper. Event-Specific Templates: Provides templates for each vital event, ensuring the proper formatting and content requirements are met. Integrated Order Processing: Allows users to purchase and process an order before printing, linking the order directly to the requested vital event or events. Order and Print Management: Tracks and manages the entire process from order placement to certificate issuance, ensuring accountability. Customizable Access Controls: Restricts certificate printing to authorized users to safeguard against unauthorized issuance. This functionality ensures Nebraska DHHS can efficiently and securely manage the issuance of legal certified copies, supporting compliance and service delivery.
YES	

13.1.7.2*

Death;

	The VRVCloud system supports the ordering, purchase, and printing of legal certified copies of death certificates on security paper. Key features of this functionality include: Secure Document Handling: Ensures all certificates generated print within the margins of security paper. Event-Specific Templates: Provides templates for each vital event, ensuring the proper formatting and content requirements are met. Integrated Order Processing: Allows users to purchase and process an order before printing, linking the order directly to the requested vital event or events. Order and Print Management: Tracks and manages the entire process from order placement to certificate issuance, ensuring accountability. Customizable Access Controls: Restricts certificate printing to authorized users to safeguard against unauthorized issuance.
YES	

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13.1.7.3*	Marriage;	YES	The VRVCloud system supports the ordering, purchase, and printing of legal certified copies of marriage certificates on security paper. Key features of this functionality include: Secure Document Handling: Ensures all certificates generated print within the margins of security paper. Event-Specific Templates: Provides templates for each vital event, ensuring the proper formatting and content requirements are met. Integrated Order Processing: Allows users to purchase and process an order before printing, linking the order directly to the requested vital event or events. Order and Print Management: Tracks and manages the entire process from order placement to certificate issuance, ensuring accountability. Customizable Access Controls: Restricts certificate printing to authorized users to safeguard against unauthorized issuance.
13.1.7.4*	Dissolution of Marriage;	YES	The VRVCloud system supports the ordering, purchase, and printing of legal certified copies of dissolution of marriage certificates on security paper. Key features of this functionality include: Secure Document Handling: Ensures all certificates generated print within the margins of security paper. Event-Specific Templates: Provides templates for each vital event, ensuring the proper formatting and content requirements are met. Integrated Order Processing: Allows users to purchase and process an order before printing, linking the order directly to the requested vital event or events. Order and Print Management: Tracks and manages the entire process from order placement to certificate issuance, ensuring accountability. Customizable Access Controls: Restricts certificate printing to authorized users to safeguard against unauthorized issuance.
13.1.7.5*	Fetal Death;	YES	The VRVCloud system supports the ordering, purchase, and printing of legal certified copies of fetal death certificates on security paper. Key features of this functionality include: Secure Document Handling: Ensures all certificates generated print within the margins of security paper. Event-Specific Templates: Provides templates for each vital event, ensuring the proper formatting and content requirements are met. Integrated Order Processing: Allows users to purchase and process an order before printing, linking the order directly to the requested vital event or events. Order and Print Management: Tracks and manages the entire process from order placement to certificate issuance, ensuring accountability. Customizable Access Controls: Restricts certificate printing to authorized users to safeguard against unauthorized issuance.
13.1.7.6*	Birth Resulting in Stillbirth.	YES	The VRVCloud system supports the ordering, purchase, and printing of legal certified copies of birth resulting in stillbirth certificates on security paper. Key features of this functionality include: Secure Document Handling: Ensures all certificates generated print within the margins of security paper. Event-Specific Templates: Provides templates for each vital event, ensuring the proper formatting and content requirements are met. Integrated Order Processing: Allows users to purchase and process an order before printing, linking the order directly to the requested vital event or events. Order and Print Management: Tracks and manages the entire process from order placement to certificate issuance, ensuring accountability. Customizable Access Controls: Restricts certificate printing to authorized users to safeguard against unauthorized issuance.
13.2	SYSTEM		

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Modernization Requirements

13.2.1*	The system must generate and assign a unique and sequential transaction number for each sales transaction.		The VRVCloud system generates and assigns a unique and sequential transaction number for each sales transaction, ensuring accurate tracking and auditability. Key features of this functionality include: Unique Identifier Generation: Automatically assigns a distinct transaction number to avoid duplication and ensure clarity. Sequential Numbering: Maintains a logical sequence for all transaction numbers, simplifying auditing and reconciliation processes. Real-Time Assignment: Allocates transaction numbers immediately upon order initiation to support workflow efficiency. Integration with Payment Systems: Links transaction numbers directly to payment details for comprehensive record-keeping. Audit Trail Support: Provides a traceable history of all transactions through the unique numbering system. Customizable Formats: Supports configuration of transaction number formats to align with Nebraska DHHS standards. This feature enhances transaction management and accountability for Nebraska DHHS, ensuring streamlined sales operations and robust tracking capabilities.
		YES	
13.2.2*	The system must generate and assign a unique and sequential invoice number for each invoice.		The VRVCloud system generates and assigns a unique and sequential invoice number for each invoice, ensuring precise tracking and streamlined financial management. Key features of this functionality include: Unique Invoice Identifier: Automatically assigns distinct invoice numbers to prevent duplication and maintain clarity. Sequential Numbering: Ensures logical progression of invoice numbers, facilitating efficient auditing and record-keeping. Real-Time Allocation: Generates and assigns invoice numbers immediately upon invoice creation to support workflow efficiency. Integration with Transactions: Links invoice numbers directly to corresponding transactions and payments for comprehensive financial tracking. Audit and Compliance: Provides a traceable record of all invoices, supporting transparency and compliance with Nebraska DHHS financial standards. Customizable Formats: Supports configuration of invoice number formats to meet Nebraska DHHS-specific requirements. This feature supports Nebraska DHHS by enhancing financial operations and ensuring reliable invoice management across all modules.
		YES	
13.2.3*	The system must allow a user with necessary access to flag returned certificates on the order.		The VRVCloud system allows a user with necessary access to flag returned certificates on the order, ensuring effective management and tracking of returned documents. Key features of this functionality include: Certificate Flagging: Provides an option to mark certificates as returned directly within the associated order, enhancing traceability. Status Updates: Automatically updates the order status to reflect the returned certificate, ensuring accurate record maintenance. Audit Trail: Maintains a comprehensive history of returned certificates, supporting transparency and accountability. Integration with Orders: Links the flagged status of returned certificates to the respective orders, ensuring seamless management. User Access Control: Ensures that only authorized users with the necessary permissions can flag returned certificates, maintaining data security. This feature supports Nebraska DHHS by streamlining the handling of returned certificates and enhancing operational efficiency in document management.
		YES	

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13.2.4*	The system must generate and assign a unique and sequential number for each print transaction of a legal certified copy a of certificate.	YES	The VRVCloud system generates and assigns a unique and sequential number for each print transaction of a legal certified copy of a certificate, ensuring precise tracking and accountability. Key features of this functionality include: Unique Transaction Numbering: Assigns a distinctive and sequential number for every print operation, enabling clear identification and tracking. Audit Compliance: Provides a detailed audit trail of all print transactions, supporting compliance with legal and operational standards. Real-Time Logging: Records transaction details in real time, ensuring accurate and up-to-date records. Integration with Orders: Links print transactions directly to their corresponding orders for seamless traceability. Enhanced Security: Restricts access to print functions to authorized users, safeguarding sensitive documents and minimizing unauthorized use. This feature supports Nebraska DHHS by providing robust tracking of certified copy print transactions, fostering transparency, and ensuring compliance with administrative requirements.
13.2.5*	The system must allow a user with necessary access to print a legal certified copy of a certificate from an altered (cropped, rotated, resized) vital event certificate image.	YES	The VRVCloud system provides authorized users the ability to print a legal certified copy of a certificate from an altered vital event certificate image, such as cropped, rotated, or resized formats, ensuring flexibility and adherence to administrative needs. Key features of this functionality include: Certified Copy Print Capability: Enables the printing of legally certified copies of certificates from modified images without compromising the certification process. Access Control: Limits the capability to authorized users with necessary access to ensure security and compliance. Quality Assurance: Incorporates validation mechanisms to ensure the final printed document meets legal and regulatory standards. Efficient Workflow Integration: Seamlessly integrates with existing workflows to maintain productivity and reduce processing time. This feature supports Nebraska DHHS by providing the flexibility to process and certify altered certificate images while maintaining strict compliance with legal standards.
13.2.6*	The system must have a process to link, safeguard, and store serialized security paper identifiers.	YES	The VRVCloud system provides a robust process to link, safeguard, and store serialized security paper identifiers, maintaining the security and integrity of vital record documentation. Key features of this functionality include: Unique Identifier Linking: Associates each serialized security paper identifier with its respective document, ensuring traceability. Secure Storage: Safeguards serialized security paper identifiers in a secure, encrypted database to prevent unauthorized access or tampering. Inventory Management: Provides tools for tracking and managing security paper inventory, including issuance, usage, and remaining stock. Audit Trail: Maintains a detailed log of all interactions involving serialized security paper, supporting accountability and compliance. Access Control: Restricts access to serialized security paper identifiers to authorized personnel only, based on role-based permissions. Loss Prevention Measures: Implements alerts and safeguards to detect and respond to any discrepancies or potential misuse. This feature supports Nebraska DHHS by ensuring the secure handling of serialized security paper, enhancing document authenticity, and reducing risks associated with unauthorized use or loss.
13.3	ORDERS		

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13.3.1*	The system must have the ability to process regular mail orders.	YES	The VRVCloud system provides the ability to process regular mail orders effectively, providing a streamlined and secure approach to handling such transactions. Key features of this functionality include: Order Entry Interface: Allows for the manual input of mail order details into the system, ensuring all required information is captured. Document Attachment: Supports attaching scanned copies of order forms or other submitted documents for reference and record-keeping. Order Tracking: Assigns unique identifiers to each mail order, enabling tracking throughout the processing lifecycle. Integrated Payment Processing: Links mail orders to payment transactions, ensuring accurate billing and receipt documentation. Validation Mechanisms: Verifies the completeness and accuracy of the information provided in mail orders to reduce errors and processing delays. Order Fulfillment Tools: Generates necessary documentation and tracks the fulfillment of mail orders, including printing and shipping details. Auditing and Reporting: Provides audit trails and reporting tools to monitor mail order processing, supporting compliance and operational transparency.
13.3.2*	The system must have the ability to add internal notes to an order without restricting the length.	YES	The VRVCloud system provides the ability to add internal notes to an order without restricting the length, enhancing communication and documentation within the system. Key features of this functionality include: Rich Text Support: Provides formatting options such as bullet points, bold text, and hyperlinks for clearer and more structured notes. Time-Stamped Entries: Records the date and time of each note entry, maintaining an accurate history of communications. This feature supports Nebraska DHHS by improving internal order tracking, ensuring clear communication among staff, and maintaining detailed records for auditing and operational purposes.
13.3.3*	The system must enter and save shipping information, including shipping method and address.	YES	The VRVCloud system provides the ability to enter and save shipping information, including shipping method and address, to streamline order fulfillment and improve accuracy. Key features of this functionality include: Comprehensive Shipping Details: Captures all necessary shipping information, such as recipient name, address, contact number, and preferred shipping method. Multiple Shipping Methods: Supports various shipping options, including standard, expedited, and overnight delivery. Address Validation: Integrates with address validation services to ensure accuracy and reduce errors in entered shipping information. Editable Fields: Allows users to update shipping details before order processing is finalized. This feature supports Nebraska DHHS by facilitating efficient order delivery, minimizing delays, and ensuring that records are dispatched to the correct locations.
13.3.4*	The system must have the ability to post by line item and fee.	YES	The VRVCloud system provides the ability to post transactions by line item and fee, enabling detailed financial tracking and streamlined reconciliation processes. Key features of this functionality include: Itemized Posting: Records each transaction at the line-item level, providing granular detail for auditing and financial analysis. Customizable Fee Structure: Allows for configuration and application of various fees based on item type, service, or jurisdiction requirements. Integrated Payment Processing: Connects seamlessly with payment gateways to capture and post fees in real-time. Accurate Accounting: Ensures precise allocation of revenue by mapping fees to appropriate accounts. Reporting Capabilities: Generates detailed reports showing posted items and corresponding fees, aiding in transparency and compliance. Error Handling: Provides error detection and correction tools to ensure posting accuracy. This feature supports Nebraska DHHS by maintaining financial integrity, reducing errors, and facilitating compliance with state and federal financial regulations.

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13.3.5*	The system must have the ability to calculate accurate charges based on quantity of documents requested.	YES	The VRVCloud system provides the ability to calculate accurate charges based on the quantity of documents requested, promoting transparency and consistency in fee management. Key features of this functionality include: Dynamic Charge Calculation: Automatically computes total charges based on the requested document quantity, ensuring precise billing. Customizable Fee Rules: Supports configuration of variable pricing structures, including tiered rates, flat fees, or per-document charges. Real-Time Updates: Adjusts charges dynamically during the order process as quantities are modified. Tax and Surcharge Integration: Includes applicable taxes or additional fees in the final calculation, adhering to state and local regulations. User-Friendly Interface: Displays a clear breakdown of charges, helping users understand the cost structure before completing transactions. Error Prevention: Incorporates validation to avoid undercharging or overcharging due to data entry errors. This feature supports Nebraska DHHS by ensuring accurate fee collection, enhancing user trust, and maintaining compliance with financial policies.
13.3.6*	The system must have the ability to set up a fee schedule by vital record document type, including effective and termination dates to the fees.	YES	The VRVCloud system includes the setup of a fee schedule by vital record document type, including effective and termination dates, ensuring precise and time-bound fee management. Key features of this functionality include: Document-Specific Fee Configuration: Allows administrators to define unique fee structures for different vital record document types, such as birth, death, marriage, and divorce records. Effective and Termination Flags: Supports setting start and end time for each fee, ensuring fees are applied only within their designated periods. Dynamic Fee Updates: Enables quick updates to fees to accommodate legislative or policy changes without system downtime. Audit Trail: Maintains a log of fee changes, providing transparency and accountability for adjustments. User Notification: Alerts users of upcoming fee changes or expirations, minimizing confusion or disputes. Seamless Integration: Links fee schedules with order processing and invoicing to automatically apply the correct fees during transactions. This feature supports Nebraska DHHS by streamlining fee management processes, ensuring compliance with state policies, and enhancing user experience with accurate and transparent pricing.
13.3.7*	The system must have the ability to set multiple fees for each vital record document type.	YES	The VRVCloud system supports setting multiple fees for each vital record document type, enhancing flexibility and ensuring compliance with diverse fee structures. Key features of this functionality include: Fee Tiers: Allows for defining multiple fee levels (such as standard, expedited and international rates) per document type, such as birth, death short form or long form, and marriage. Customizable Fee Categories: Supports categorizing fees based on criteria like service type, processing time, or jurisdiction. Automated Application: Automatically applies the appropriate fee based on what is being requested and order specifics during processing. Dynamic Updates: Facilitates real-time updates to fee schedules to reflect policy changes or new requirements. Reporting and Transparency: Generates detailed reports on fee application, ensuring accurate tracking and reconciliation. Integration with Transactions: Links multiple fees to specific orders, invoices, and payment processes for seamless financial management.
13.4	DATA		

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13.4.1*	The system must be able to track the certificate type.	YES	The VRVCloud system includes the ability to track certificate types, enhancing accuracy in document management and facilitating streamlined operations. Key features of this functionality include: Certificate Type Identification: Tracks and categorizes certificate types (e.g., Birth, Death, Marriage, Dissolution of Marriage) for each transaction or record. Real-Time Monitoring: Provides real-time visibility into the status and type of certificates being processed or issued. Comprehensive Reporting: Generates detailed reports based on certificate types for audit and compliance purposes. Enhanced Security: Ensures that specific certificate types are associated with authorized access and processes, maintaining system integrity. Seamless Integration: Links certificate type data with orders, invoices, and user actions to facilitate end-to-end traceability. Customization Support: Allows customization of certificate type classifications to meet Nebraska DHHS-specific requirements. This feature supports Nebraska DHHS by ensuring precise tracking of certificate types, improving document control, and ensuring compliance with state policies.
13.4.2*	The system must be able to track the method of certificate delivery.	YES	The VRVCloud system includes the ability to track the method of certificate delivery, enhancing accountability and improving user satisfaction. Key features of this functionality include: Delivery Method Recording: Tracks and records delivery methods such as mail, in-person pickup, electronic delivery, or courier services. Integration with Orders: Includes delivery methods with specific orders for seamless traceability and reporting. Customizable Options: Supports customization to include Nebraska DHHS-specific delivery methods and requirements. This feature supports Nebraska DHHS by ensuring accurate tracking of certificate delivery, fostering operational efficiency, and enhancing service reliability.
13.5	DOCUMENTS		
13.5.1*	The system must maintain a record of all printed certificates that are destroyed, including method and reason for destruction.	YES	The VRVCloud system includes the ability to maintain a record of all printed certificates that are destroyed, including the method and reason for destruction, to uphold compliance and accountability. Key features of this functionality include: Destruction Record Keeping: Captures and stores detailed information about each destroyed certificate, including date, method of destruction (e.g., shredding, incineration), and reason for destruction (e.g., damage, error, or voided certificate). Customizable Destruction Reasons: Supports Nebraska DHHS-specific categorization and documentation of destruction reasons. This feature supports Nebraska DHHS by ensuring a transparent, compliant, and efficient process for managing the destruction of printed certificates.
13.5.2*	The system must have the ability to attach files with a minimum of the following file types (PDF, .doc, .jpeg, .png, .tiff) to an order.	YES	The VRVCloud system includes the ability to attach files with a minimum of the following file types (PDF, .doc, .jpeg, .png, .tiff) to an order, enhancing document management and record-keeping processes. Key features of this functionality include: Multi-Format Support: Allows users to attach and upload essential documents in various file formats, including PDFs, Word documents (.doc), and image files (.jpeg, .png, .tiff). Secure Storage: Ensures all attachments are stored securely, maintaining compliance with confidentiality and data protection regulations. Easy Access and Retrieval: Provides a user-friendly interface for accessing attached files directly within the associated order. This feature supports Nebraska DHHS by facilitating efficient document handling, improving order processing workflows, and ensuring compliance with state requirements.

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13.5.3*	The system must have the ability to mark a document control number as "destroyed" with a reason for discarding (e.g., poor print quality, printing error, etc.).	YES	The VRVCloud system includes the ability to mark a document control number as "destroyed" with a reason for discarding (e.g., poor print quality, printing error, etc.), promoting accurate record tracking and secure document management. Key features of this functionality include: Controlled Destruction Process: Allows authorized users to mark document control numbers as "destroyed" with detailed reasons for discard, ensuring accountability and transparency. Customizable Reason Codes: Offers predefined and user-defined reason codes for documenting the destruction of documents, such as printing errors or damaged materials. Enhanced Security: Prevents the reuse or unauthorized access to document control numbers marked as destroyed, ensuring integrity. Reporting and Analysis: Provides reporting capabilities to review patterns or trends in document destruction for quality control and operational improvements. This feature supports Nebraska DHHS by maintaining strict control over document handling, improving quality assurance processes, and aligning with compliance requirements.
13.6	QUEUE		
13.6.1*	The system must have the ability to queue orders based on status.	YES	The VRVCloud system ensures the ability to queue orders based on their status, optimizing workflow management and improving order processing efficiency. Key features of this functionality include: Status-Based Queues: Automatically organizes and queues orders by their status (e.g., pending, processing, completed) for efficient handling. Customizable Criteria: Allows administrators to define and adjust queue categories and criteria to match operational needs. Priority Management: Supports prioritization of certain orders within queues based on urgency or importance. Real-Time Updates: Ensures that queues are updated dynamically as order statuses change, providing accurate and current information. This feature supports Nebraska DHHS by streamlining order workflows, ensuring timely processing, and improving overall system efficiency.
13.7	PAYMENTS		
13.7.1	The system must have the ability to support the following payment types:		
13.7.1.1*	Debit Card;	YES	The system allows the user to select debit card payment type
13.7.1.2*	Credit Card;	YES	The system allows the user to select credit card payment type
13.7.1.3*	Money order;	YES	The system allows the user to select money order payment type
13.7.1.4*	Check;	YES	The system allows the user to select check payment type
13.7.1.5*	Cash.	YES	The system allows the user to select cash payment type
13.7.2*	The system must enforce mandatory field validation to prevent payment processing before all required fields are populated, as mandated by the State of Nebraska.	YES	The VRVCloud system enforces mandatory field validation to ensure all required fields are populated before payment processing, in compliance with the State of Nebraska mandates. Key features of this functionality include: Field Validation Rules: Implements predefined validation rules for mandatory fields to ensure accuracy and completeness of entered data. Configurable Requirements: Allows administrators to define and adjust mandatory fields based on changing requirements or operational needs. This feature supports Nebraska DHHS by improving data accuracy, ensuring compliance with state regulations, and reducing processing errors.

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13.7.3*	The system must have the ability to track payment status (i.e., refund, payment, discounted/free, or no payment).	YES	The VRVCloud system includes functionality to track payment status, supporting various payment conditions like refunds, successful payments, discounts, or cases where no payment is made. Key features of this capability include: Payment Status Tracking: Enables monitoring of transactions with statuses such as: - Completed payments - Refunds issued - Discounted or waived fees - Transactions with no payment required Real-Time Updates: Provides dynamic updates to payment status, ensuring the most current transaction state is visible to users with necessary access. Custom Configurations: Supports state-specific requirements, like Nebraska’s mandate for precise payment categorization, including discounts or exemptions.
13.7.4*	The system must have cash handling capabilities for each cashier station.	YES	This feature facilitates efficient financial management, compliance with Nebraska regulations, and enhanced user experience in processing transaction management. Key functionalities include: Individual Cash Drawer Management: Assigns unique cash handling operations to each cashier station, maintaining separate transaction records. Transaction Logging: Provides detailed logs of cash transactions, including deposits, withdrawals, and balances for accurate recordkeeping. User Access Controls: Restricts cash handling capabilities to authorized personnel, safeguarding against unauthorized access. This feature ensures secure, transparent, and compliant cash transactions across all cashier stations.
13.8	PRINT		
13.8.1*	The print queue must list pending document print jobs, including approval status. Document Control Numbers must be assigned at print time and recorded in the database.	YES	The VRVCloud system can be configured to integrate a print queue functionality to enhance document management and accountability. The print queue includes the following features: Document Control Number Integration: Each document is assigned a unique control number for precise tracking and identification. Review Status: Displays the status of each document within the queue, such as pending review, approved, or rejected. Approval Workflow: Supports approval processes for documents before printing, ensuring compliance and reducing errors. User Notifications: Sends notifications to designated users when documents are ready for review or require action. Audit Trail: Maintains a comprehensive record of all actions performed in the print queue for transparency and audit purposes. This functionality ensures a streamlined process for managing document reviews, approvals, and secure printing.
13.8.2*	The system must allow a user with necessary access the ability to print a replacement of a legal certified copy of a certificate.	YES	The system includes a replacement printing feature for legal certified copies of certificates, accessible to authorized users. Key aspects of this feature are: User Access Control: Ensures only users with the necessary permissions can print replacements. Tracking: Each replacement includes details such as the reason for replacement, user information, and timestamp.
13.8.3*	The system must provide the ability to print a certificate with amendments.	YES	~~This functionality ensures controlled access and accountability for the issuance of replacement certified copies.~~ The system must ensure that authorized users can print certificates that include all amendments. Key features of this functionality include: Amendment Integration: Certificates will reflect all approved amendments, including updated information and amendment notations. User Access Control: Only authorized personnel can print amended certificates, ensuring data integrity and preventing unauthorized modifications. Version Management: The system tracks and applies the most recent changes while preserving the history of amendments. This ensures that amended certificates are accurate, compliant, and accessible for authorized purposes.

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13.8.4 The system should print labels of various sizes, as needed for mailings, etc.

	The system should have the capability to generate and print labels of various customizable sizes for diverse purposes, such as mailings or document tagging. Key functionalities include: Size Variability: Support for standard and custom label sizes, accommodating envelopes, packages, or other formats. Content Flexibility: Ability to include diverse data types like names, addresses, barcodes, or logos. Template Management: Pre-designed templates for consistency or customizable layouts for specific needs.
YES	
13.8.5*	The system must have the ability to print a batch of documents.
	The system includes functionality to print multiple documents in a batch process. Key features include: Batch Selection: Users can select multiple documents or records to include in a single print job. Queue Management: Supports managing large print jobs with progress indicators or notifications upon completion.
YES	
13.8.6*	The system must have the ability to reprint a batch of documents.
	The system can be configured to support the reprinting of a batch of documents, with features such as: Batch Reprint Selection: Users can select previously printed batches for reprinting, either partially or in full. Tracking and Logging: Maintain a log of all reprint activities for audit and reporting purposes.
YES	
13.8.7	The system should have the ability to print common correspondence letters.
	The VRVCloud system includes the ability to print common correspondence letters, enhancing communication efficiency and standardizing documentation processes. Key features of this functionality include: Predefined Templates: Offers a library of commonly used correspondence letter templates for standard communication purposes, such as reminders, acknowledgments, or notifications. Customizable Content: Allows authorized users to tailor letter content to meet specific needs while maintaining the structure of the predefined templates. Integrated Data Merge: Automatically populates letter templates with relevant data from the system, such as names, addresses, and case details, ensuring accuracy and consistency. Audit Trail: Tracks all printed correspondence letters, including timestamps and user activity, for accountability and record-keeping. This feature supports Nebraska DHHS by streamlining communication with stakeholders, reducing administrative workload, and ensuring consistent and professional correspondence.
YES	
13.8.8*	The system must not allow a record with a specific status to be printed.
	The VRVCloud system ensures that records with a specific status cannot be printed, enforcing compliance and safeguarding sensitive data. Key features of this functionality include: Status-Based Print Restriction: Automatically restricts printing for records flagged with designated statuses, ensuring compliance with predefined policies and preventing unauthorized access or distribution. Configurable Status Definitions: Allows administrators to define and manage statuses that restrict printing, such as “Pending Review” or “Under Investigation,” providing flexibility and control over system rules. Audit Trail Integration: Logs attempts to print restricted records, capturing user details, timestamps, and reasons, enhancing accountability and traceability. User Notifications: Alerts users attempting to print restricted records, providing explanations for the restriction and guiding them on required actions to resolve the status. This feature supports Nebraska DHHS by maintaining strict control over record dissemination, aligning with legal and regulatory requirements, and ensuring secure handling of vital records.
YES	

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13.8.9*	The system must have the ability to print and reprint an invoice.	YES	The VRVCloud system includes the ability to print and reprint an invoice, supporting efficient financial recordkeeping and customer service. Key features of this functionality include: Initial Invoice Printing: Provides authorized users with the capability to generate and print invoices for transactions, ensuring accurate documentation. Reprint Functionality: Enables reprinting of invoices as needed, supporting customer requests, record updates, or operational requirements without compromising data integrity. Audit Trail Integration: Logs all invoice printing and reprinting actions, capturing details such as user, timestamp, and reasons for reprints, enhancing accountability and compliance. Customizable Invoice Templates: Offers flexibility in designing invoice layouts to meet organizational and regulatory standards while maintaining professionalism. This feature supports Nebraska DHHS by streamlining invoice management processes, ensuring transparency in financial transactions, and aligning with accounting best practices.
13.8.10*	The system must have the ability to print and reprint a receipt.	YES	The VRVCloud system includes the ability to print and reprint a receipt, promoting accurate transaction documentation and customer satisfaction. Key features of this functionality include: Initial Receipt Printing: Provides authorized users the capability to generate and print receipts for completed transactions, ensuring proper acknowledgment. Reprint Functionality: Allows reprinting of receipts for customers or recordkeeping, addressing cases of loss, damage, or additional needs without compromising data integrity. Customizable Receipt Templates: Offers flexibility in receipt formatting to meet specific organizational requirements and enhance customer experience. This feature supports Nebraska DHHS by ensuring robust financial documentation processes, enhancing operational efficiency, and
13.9	SHIP		
13.9.1	The system should have the ability to ship orders via UPS or USPS.	YES	The VRVCloud system ensures the ability to ship orders via UPS or USPS, providing flexible and reliable delivery options for end-users. Key features of this functionality include: Customizable Shipping Options: Allows users to select specific shipping methods (e.g., standard, expedited) based on delivery requirements and cost considerations. Automated Label Generation: Generates shipping labels with essential details such as recipient address, barcode, and carrier information, reducing manual effort and errors. This feature supports Nebraska DHHS by streamlining logistics processes, ensuring timely delivery of vital documents, and meeting diverse customer shipping preferences.
13.9.2	The system should have the ability to generate shipping labels to be printed, or blank labels that need to be handwritten.	YES	The VRVCloud system includes the ability to generate shipping labels for printing or provide blank labels for handwritten entries, facilitating seamless and flexible order processing. Key features of this functionality include: Customizable Label Generation: Enables the creation of shipping labels tailored to the order's requirements, allowing for printed or blank labels for manual entry. User-Friendly Interface: Provides an intuitive interface for users to quickly generate labels based on shipping preferences. Enhanced Accuracy and Flexibility: Reduces errors in shipping information while accommodating diverse operational needs for both automated and manual processes. Compliance and Tracking Support: Ensures labels meet carrier standards and includes tracking capabilities for improved order monitoring. This feature supports Nebraska DHHS by ensuring efficient, accurate, and compliant shipping processes while catering to varying operational requirements.
13.9.3	The system should have the ability to void a shipping label.	YES	The VRVCloud system includes the ability to void the shipping label process.
13.9.4	The system should have the ability to view and access shipping functions.	YES	The VRVCloud system includes the ability to access and view the shipping process.

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13.9.5	The system should have the ability to generate a detailed report with an existing or previous shipping vendor manifest (e.g., when a manifest is created, an email is sent, notifying the customer their order has been shipped).	NA	We are not sure what this requirement means. The VRVCloud system includes a complete shipping process, however with respect to interfacing with a shipping vendor and obtaining their manifest information, including when something was shipped, has never been requested from a State. If this is something the State requires we can explore how to implement this with the State.
13.10	FUNCTIONALITY		
13.10.1	The system should provide a kiosk provided and maintained by the Vendor for the processing of vital record order requests and process payments for customers.	NA	Mantech does not provide kiosks to the State. The VRVcloud application can be integrated with kiosks and has in the past, we just don't supply the physical kiosks. Also, if the State is interteded in kiosks we can inform them of a State who installed kiosks only to have them taken out afterwards. Kiosks do not mean the public only comes to the window to pick up certificates, they will be coming to the window with numerous questions about how to use the kiosk, etc. The State determined the kiosks were actually causing more issues than they solved
13.10.2	~~The system should provide credit card machines provided and maintained by the Vendor for the processing of payments for customers.~~		
13.10.3*	The system must track requests and accept payment for all transactions.	YES	The VRVCloud system includes the ability to track requests and accept payments for all transactions, providing a comprehensive and transparent approach to financial and service management. Key features of this functionality include: Request Tracking: Maintains a detailed record of all transaction requests, including request type, date, and associated user activity, ensuring accuracy and accountability. Integrated Payment Tracking: Supports user entry of multiple payment methods, including cash, credit/debit cards, and checks, enabling flexible and user-friendly payment options. This feature supports Nebraska DHHS by ensuring meticulous tracking and payment processing, enhancing service delivery, financial
13.10.4*	The system must have the ability to calculate order fees automatically.	YES	The VRVCloud system includes the ability to calculate order fees automatically, enhancing efficiency and accuracy in financial transactions. Key features of this functionality include: Dynamic Fee Calculation: Automatically computes fees based on order type, quantity, and applicable service charges, eliminating manual calculations and reducing errors. Configurable Fee Structures: Supports multiple fee schedules, including state-specific fees, expedited service charges, and discounts, ensuring compliance with regulatory requirements. Real-Time Updates: Adjusts fees dynamically as users modify order details, providing instant visibility into total costs. Customizable Rules: Allows the integration of business rules, such as tiered pricing or volume discounts, ensuring flexibility in fee application. Transaction Transparency: Provides detailed breakdowns of order fees, enabling users to review and verify charges before payment. This feature supports Nebraska DHHS by automating fee calculations, streamlining order processing, and ensuring compliance with state policies while improving customer satisfaction.
13.10.5*	The system must allow manual processing of checks, money orders, or cash payments for orders including the requestor, request reason, amount, and request type.	YES	The VRVCloud system includes the ability to manually process checks, money orders, or cash payments for orders, providing flexibility and accountability in handling diverse payment methods. Key features of this functionality include: Manual Entry Capabilities: Allows authorized users to record payment details such as requestor, request reason, amount, and request type for non-digital payment methods. Payment Method Support: Supports processing of checks, money orders, and cash, ensuring accommodation for users without electronic payment access. Detailed Audit Trail: Maintains a record of all manual payment entries, including associated order details, for auditing and reconciliation purposes. Customizable Input Fields: Enables entry of additional information, such as check or money order numbers, to enhance payment tracking and validation. Error Prevention Mechanisms: Includes validation checks to ensure accuracy in manually entered payment amounts and order details. This feature supports Nebraska DHHS by providing a comprehensive solution for manual payment processing, ensuring inclusivity, accuracy, and compliance with financial management protocols.

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13.10.6*	The system must have the ability to close orders.	YES	The VRVCloud system includes the ability to close orders, providing a streamlined process for managing order lifecycles and ensuring operational accuracy. Key features of this functionality include: Order Closure Capability: Allows authorized users to mark orders as closed once all associated activities, payments, and document issuance are completed. Automated Status Updates: Automatically updates the order status to "Closed" to prevent further modifications or processing, ensuring data integrity. Detailed Audit Logging: Captures and stores the closure details, including the user performing the action and the closure timestamp, for audit and compliance purposes. Exception Handling: Supports additional actions, such as notes or reasons for closure, when an order cannot be completed under normal circumstances. Customizable Rules: Enables the configuration of specific criteria and workflows for order closure to align with Nebraska DHHS operational requirements.
13.10.7*	The system must allow a user with necessary access to void an order that has been paid in full.	YES	This feature supports Nebraska DHHS by ensuring accurate order management, reducing errors, and maintaining compliance with The VRVCloud system includes the ability to void an order that has been paid in full, offering flexibility and control for handling exceptions or changes in order status. Key features of this functionality include: Authorized Void Capability: Allows users with the necessary access rights to void orders even after full payment has been received, ensuring proper handling of exceptional cases. Refund Management: Supports integration with the payment system to process refunds automatically or log them as pending, aligning with Nebraska DHHS financial protocols. Audit Trail: Records all void actions, including the user who performed the action, the reason for voiding, and the timestamp, ensuring accountability and transparency. Configurable Restrictions: Enables the implementation of business rules to restrict voiding under specific conditions, preventing misuse and maintaining order integrity.
13.10.8*	The system must allow a user with necessary access to void an order before it is closed.	YES	This feature supports Nebraska DHHS by maintaining control over order transactions, ensuring accurate financial management, and The VRVCloud system includes the ability to void an order before it is closed, providing operational flexibility and control over order processing. Key features of this functionality include: Pre-Closure Voiding: Allows authorized users to void orders at any stage before closure, ensuring adaptability to changes or corrections. Access Control: Restricts this capability to users with necessary permissions, maintaining security and preventing unauthorized void actions. Audit Tracking: Logs all void actions, including user details, timestamps, and reasons for voiding, ensuring full accountability and transparency. This feature supports Nebraska DHHS by enhancing order management processes, ensuring accurate tracking, and adhering to compliance standards.
13.10.9*	The system must allow a user with necessary access to make updates to a completed order.	YES	The VRVCloud system includes the ability to allow users with necessary access to make updates to a completed order, enhancing operational flexibility and data accuracy. Key features of this functionality include: Post-Completion Update Capability: Enables authorized users to modify completed orders, accommodating corrections, updates, or additional information without disrupting the system's workflow. Access Control: Restricts this capability to users with necessary permissions to maintain security and prevent unauthorized changes. This feature supports Nebraska DHHS by enhancing the flexibility of order management processes, improving data accuracy, and maintaining compliance with operational and regulatory standards.

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13.10.10*	The system must allow a user with necessary access to cancel an unpaid order.	YES	The VRVCloud system includes the ability to allow users with necessary access to cancel an unpaid order, providing enhanced control over transaction management and operational efficiency. Key features of this functionality include: Cancellation Capability: Enables authorized users to cancel orders that have not been paid, helping to manage order workflows effectively. Access Control: Limits this functionality to users with necessary permissions, ensuring secure and authorized use. Audit Logging: Records all cancellations, including user information, timestamps, and cancellation reasons, ensuring transparency and accountability. Order Management Integration: Automatically updates the system to reflect the canceled status, ensuring accuracy in records and workflows. This feature supports Nebraska DHHS by providing streamlined order management, improving operational accuracy, and aligning with compliance requirements.
13.10.11*	The system must allow a user with necessary access to process individual orders.	YES	The VRVCloud system includes the ability for users with necessary access to process individual orders, enabling efficient and secure order management. Key features of this functionality include: Order Processing Capability: Allows authorized users to manage and process single orders, ensuring precise handling and individualized attention. Role-Based Access Control: Ensures only users with appropriate permissions can process orders, maintaining operational security. Workflow Integration: Seamlessly integrates with the system's workflow to update the status and details of processed orders in real-time. Error Minimization: Reduces errors by enabling focused management of individual orders, particularly in complex cases. This feature supports Nebraska DHHS by improving the accuracy and efficiency of order processing, aligning with organizational standards and compliance requirements.
13.10.12*	The system must have a specific status for certificates that are waiting on verification.	YES	The VRVCloud system includes the ability to assign a specific status for certificates that are waiting on verification, enabling clear tracking and efficient management of pending verifications. Key features of this functionality include: Verification Status Designation: Clearly marks certificates awaiting verification, providing immediate visibility of their current state. Role-Based Access: Restricts status modification and viewing to authorized personnel, maintaining data security and integrity. This feature supports Nebraska DHHS by enhancing the clarity and efficiency of certificate verification processes, ensuring compliance and reducing delays.
13.10.13*	The system must have an automated workflow to assign a specific status to certificates waiting on verification; this status would disallow the issuance of the certificate.	YES	The VRVCloud system includes the implementation of an automated workflow to assign a specific status to certificates waiting on verification, effectively preventing the issuance of certificates until verification is completed. Key features of this functionality include: Automated Workflow Assignment: Automatically applies a "waiting on verification" status to certificates, minimizing manual errors and ensuring process consistency. Issuance Restriction: Enforces a rule to disallow the issuance of certificates marked with the verification status, ensuring compliance and data accuracy. Role-Based Controls: Grants status management permissions only to authorized users, maintaining strict access and process integrity. This feature supports Nebraska DHHS by automating critical verification workflows, enhancing operational efficiency, and ensuring secure issuance of vital certificates.

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13.10	13.10.14*	The system must have the ability to process refunds.	YES	The VRVCloud system includes the ability to process refunds, providing a seamless and secure mechanism to handle financial adjustments efficiently. Key features of this functionality include: Refund Management: Enables authorized users to initiate, process, and document refunds for orders, ensuring accountability and transparency. Customizable Refund Reasons: Supports predefined and user-defined reason codes for refunds, such as overpayment, service cancellation, or error corrections. Audit Trail: Maintains a detailed log of all refund transactions, including timestamps, refund amounts, and initiating user, for compliance and auditing purposes. Role-Based Access Control: Restricts refund processing to authorized personnel to ensure secure handling of financial data. Real-Time Status Updates: Provides immediate updates to order statuses following refund processing, maintaining accurate financial records.
	13.10.15*	The system must have the ability to generate order slips.	YES	This feature supports Nebraska DHHS by streamlining refund processes, enhancing operational efficiency, and ensuring compliance with The VRVCloud system includes the ability to generate order slips, providing an organized and efficient approach to manage order processing and fulfillment. Key features of this functionality include: Customizable Order Slips: Allows authorized users to generate order slips tailored with specific order details, including customer information, itemized requests, and special instructions. Integrated Order Management: Links order slips directly to the corresponding transaction within the system, ensuring accuracy and traceability. Enhanced Tracking: Facilitates seamless tracking of orders through the fulfillment process, reducing errors and improving service efficiency. This feature supports Nebraska DHHS by enhancing operational accuracy, improving order management workflows, and ensuring alignment with organizational standards.
	13.10.16*	The system must be able to track how staff validated identity and eligibility of the person requesting the certificate.	YES	The VRVCloud system includes the ability to track how staff validated the identity and eligibility of individuals requesting certificates, promoting transparency and adherence to regulatory requirements. Key features of this functionality include: Detailed Validation Records: Captures comprehensive details of the validation process, including the type of identification provided, eligibility criteria checked, and staff member performing the validation. Customizable Validation Fields: Allows for predefined and user-defined fields to document specific validation methods, ensuring flexibility to meet diverse regulatory and organizational needs. This feature supports Nebraska DHHS by ensuring accountability in certificate issuance, strengthening compliance with identity and
	13.10.17*	The system must produce a receipt for each order transaction based on fields that are stipulated by the State of Nebraska.	YES	The VRVCloud system includes the ability to produce a receipt for each order transaction, adhering to the fields stipulated by the State of Nebraska, promoting standardized financial documentation and compliance. Key features of this functionality include: Customizable Receipt Templates: Configurable to include specific fields required by the State of Nebraska, such as transaction details, payment method, and service descriptions. Receipt Generation: Creates receipts upon transaction completion, reducing manual intervention and ensuring accuracy. Real-Time Receipt Tracking: Links receipts directly to transactions, allowing for seamless auditing and record retrieval. This feature supports Nebraska DHHS by streamlining order transaction processes, improving operational efficiency, and ensuring
	13.10.18*	The State maintains its own credit card processor. The vendor must ensure compatibility with this system. The vendor is not responsible for payment processing.	YES	The VRVCloud system includes the ability to integrate with external applications through a number of different types of integration. These include importing and exporting of data using file types, such as XML, TXT, CSV, FHIR, etc. The VRVCloud system also provides web services where external applications can be send and consume data by both parties. Mantech has also integrated with proprietary applications. Mantech will work with the State to document the integration of the State's credit card processor and implement a solution.
13.11	CONFIGURATION			

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13.11.1*	The system must have the ability to add, update, or configure custom fees with a date parameter.	YES	The VRVCloud system includes the ability to add, update, or configure custom fees with a date parameter, enabling flexible and dynamic fee management to align with changing policies or requirements. Key features of this functionality include: Custom Fee Configuration: Allows authorized users to define fees based on specific criteria, such as document type or service type, with the ability to set start and end dates. Editable Fee Schedules: Provides the flexibility to update or modify fees as needed, accommodating changes in legislation or organizational requirements. Reporting and Auditing: Enables detailed reporting on fee changes and application, supporting financial oversight and accountability. This feature supports Nebraska DHHS by ensuring accurate and compliant fee management, improving operational efficiency, and aligning with regulatory mandates.
			The VRVCloud system includes the ability to configure the invoice template, allowing users with necessary access to customize and adapt the layout, content, and design to meet organizational or regulatory requirements. Key features of this functionality include: Template Customization: Enables authorized users to modify invoice headers, footers, logos, and other branding elements to reflect the organization's identity. Dynamic Fields: Supports the inclusion of dynamic placeholders for essential data, such as invoice numbers, customer details, and itemized charges, ensuring accurate and personalized invoicing. Regulatory Compliance: Allows users to add mandatory disclaimers, tax details, or regulatory information required by the State of Nebraska. Multiple Template Management: Provides options to save and manage multiple templates for different scenarios, such as standard invoices, refunds, or special fee structures. Preview and Testing: Offers a preview function to verify template designs before implementation, reducing errors and ensuring professional presentation.
			This feature supports Nebraska DHHS by improving the efficiency and accuracy of invoicing processes, ensuring compliance, and
13.11.2*	The system must allow a user with necessary access to configure the invoice template.	YES	The VRVCloud system includes the ability to configure the order slip template, enabling users with necessary access to tailor the format and content of order slips to meet operational and branding needs. Key features of this functionality include: Template Customization: Allows authorized users to modify order slip headers, footers, logos, and other layout elements to reflect the organization's branding. Dynamic Content Integration: Supports the inclusion of dynamic fields for order-specific details, such as order numbers, customer names, items requested, and fulfillment instructions. Regulatory Compliance: Facilitates the addition of required disclaimers, barcode fields, or other details mandated by Nebraska DHHS or other regulatory bodies.
13.11.3*	The system must allow a user with necessary access to configure the order slip template.	YES	This feature supports Nebraska DHHS by improving the accuracy and efficiency of order management processes, ensuring professional and
14	REPORTS		
14.1	GENERAL		

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14.1.1*	The system must have the ability to create or modify reports.	YES	The VRVCloud system includes the ability to create or modify reports, allowing users with necessary access to generate and customize data presentations to meet organizational and operational needs. Key features of this functionality include: Report Creation: Enables users to design new reports by selecting specific data fields, filters, and presentation formats. Customizable Templates: Allows the use of predefined report templates that can be adjusted for specific needs, reducing the time required for report generation. Real-Time Data Integration: Ensures that reports are generated with the most up-to-date information available in the system. Export and Sharing Options: Supports exporting reports in multiple formats (e.g., PDF, Excel) and sharing them directly with stakeholders. Access Control and Security: Restricts report creation and modification capabilities to authorized users, safeguarding sensitive information. This feature supports Nebraska DHHS by enabling data-driven decision-making, improving operational transparency, and ensuring compliance with reporting requirements.
14.2	FUNCTIONALITY		
14.2.1*	The system must allow a user with necessary access to generate a report of detailed and/or summary financial reports by user, terminal, or submission source and current status.	YES	The VRVCloud system includes the ability for users with necessary access to generate detailed and/or summary financial reports categorized by user, terminal, submission source, and current status, enabling comprehensive financial tracking and analysis. Key features of this functionality include: Detailed Financial Reports: Allows authorized users to create in-depth financial reports with transactional specifics, categorized by user, terminal, or submission source. Summary Financial Reports: Enables the generation of concise overviews for quick financial insights, segmented by relevant parameters like submission source or user activity by authorized users. Real-Time Updates: Ensures that generated financial reports reflect the most current data available within the system. Export Capability: Supports exporting reports in multiple formats (e.g., PDF, Excel) for further analysis or distribution to stakeholders. Access Control: Restricts report generation capabilities to authorized users, maintaining data security and confidentiality. This feature supports Nebraska DHHS by facilitating accurate financial oversight, streamlining reporting processes, and aligning with audit and compliance requirements.
14.2.2*	The system must allow a user with necessary access to view custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system.	YES	The VRVCloud system includes the ability for authorized users to view custom, on-demand, or ad-hoc reports of data, orders, payments, or records stored within the system, supporting dynamic and tailored data analysis. Key features of this functionality include: On-Demand Access: Provides real-time access to generate reports instantly without the need for pre-scheduled runs, ensuring timely information availabilit Ad-Hoc Reporting: Facilitates the creation of spontaneous reports for unique or non-standard data requests, expanding flexibility in data usage. Comprehensive Data Coverage: Includes a wide array of data points such as orders, payments, or vital record statuses, ensuring thorough reporting capabilities. Secure Access: Restricts report generation and viewing to users with appropriate permissions, maintaining data confidentiality and security. This feature supports Nebraska DHHS by enhancing operational insights, enabling responsive decision-making, and aligning with reporting requirements for oversight and compliance.

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14.2.3*	The system must allow a user with necessary access to create custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system.	YES	The VRVCloud system includes the ability for authorized users to create custom, on-demand, or ad-hoc reports of any data, orders, payments, or records within the system, enabling dynamic and responsive data reporting. <u>Key features of this functionality include:</u> Custom Report Creation: Allows authorized users to design tailored reports by selecting specific data fields, parameters, and formats to meet unique operational needs. On-Demand Reporting: Provides immediate access to generate real-time reports without waiting for pre-scheduled report runs, ensuring prompt availability of insights. Ad-Hoc Flexibility: Supports the creation of spontaneous, non-standard reports to address specific queries or unexpected scenarios, improving adaptability. Advanced Filtering and Sorting: Offers robust filtering options such as date range, order type, payment status, or user-specific criteria for precise data extraction. User-Friendly Interface: Includes an intuitive interface for report configuration and formatting, reducing the learning curve for users. Secure Access Control: Restricts reporting capabilities to users with appropriate access rights, ensuring data security and compliance with confidentiality requirements.
			This feature supports Nebraska DHHS by enhancing analytical capabilities, improving decision-making processes, and aligning with compliance and reporting mandates through accurate and flexible data management.
			The VRVCloud system includes the ability for authorized users to copy custom, on-demand, or ad-hoc reports of any data, orders, payments, or records within the system, streamlining report duplication and modification processes. <u>Key features of this functionality include:</u> Report Duplication: Enables users to create exact copies of existing reports for reuse or modification, reducing the time required to generate similar reports. Customizable Templates: Allows users to use copied reports as templates, enabling quick adjustments to parameters or data fields for tailored reporting needs.
			This feature supports Nebraska DHHS by improving reporting efficiency, ensuring consistency in report generation, and enabling quick
14.2.4*	The system must allow a user with necessary access to copy custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system.	YES	The VRVCloud system includes the ability for authorized users to update custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system, facilitating accurate and dynamic reporting. <u>Key features of this functionality include:</u> Dynamic Report Updates: Provides users the capability to modify existing reports with updated parameters, data fields, or criteria, ensuring relevance to current needs. User-Friendly Interface: Offers an intuitive interface for editing report elements, enabling seamless updates. Secure Access Controls: Ensures that only users with appropriate permissions can update reports, maintaining data integrity and confidentiality.
			This feature supports Nebraska DHHS by enabling adaptable reporting capabilities, ensuring reports stay relevant to policy changes,
14.2.5*	The system must allow a user with necessary access to update custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system.	YES	The VRVCloud system includes the ability for authorized users to delete custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system, maintaining control over report management and system organization. <u>Key features of this functionality include:</u> Secure Deletion Process: Ensures only users with appropriate access permissions can delete reports, maintaining system integrity and security.
			This feature supports Nebraska DHHS by enabling efficient report lifecycle management, ensuring the system remains organized and aligned with operational and compliance standards.

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14.2.7*	The system must allow a user with necessary access to schedule and deliver custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system.	YES	The VRVCloud system includes the ability for authorized users to schedule and deliver custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system, providing flexibility and automation in report distribution. Key features of this functionality include: Scheduling Flexibility: Allows users to define specific times or recurring intervals for report generation and delivery, ensuring timely access to critical information. This feature supports Nebraska DHHS by automating routine reporting tasks, enhancing operational efficiency, and ensuring accurate and
14.2.8	The system should allow a user with necessary access to export or download custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system.	YES	The VRVCloud system includes the ability for authorized users to export or download custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system, promoting data accessibility and operational flexibility. Key features of this functionality include: Customizable Export Formats: Supports multiple file formats such as Excel, PDF, and CSV, accommodating diverse reporting and analysis needs. User-Defined Data Filters: Allows users to apply filters and parameters for targeted report generation, ensuring relevant and concise data outputs. This feature supports Nebraska DHHS by streamlining data extraction processes, enabling flexible reporting, and ensuring secure handling
14.2.9*	The system must allow a user with necessary access to print or reprint custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system.	YES	The VRVCloud system includes the ability for authorized users to print or reprint custom, on-demand, or ad-hoc reports of any data, orders, payments, or records in the system, promoting operational efficiency and comprehensive data utilization. Key features of this functionality include: Flexible Report Printing Options: Allows authorized users to print or reprint reports based on their needs, ensuring quick access to critical data. This feature supports Nebraska DHHS by providing reliable access to essential reports, ensuring accurate data handling, and maintaining
14.3	CONFIGURATION		
14.3.1	The system should allow a user with necessary access to configure letter templates.	YES	The VRVCloud system allows a user with necessary access to flag returned certificates on the order, ensuring effective management and tracking of returned documents. Key features of this functionality include:
14.3.2	The system should have the ability to customize template letterhead.	YES	The VRVCloud system allows a user with necessary access to customize template letterhead. Key features of this functionality include:
15	INTEGRATION		
15.1	INTERFACE		

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15.1.1*	The system must integrate with the State and Territorial Electronic Vital Event (STEVE), Social Security Administration (SSA), Electronic Verification of Vital Events (EVVE), and internal state agencies for data collection and reporting purposes.	YES	The VRVCloud system provides seamless integration with the State and Territorial Electronic Vital Event (STEVE), Social Security Administration (SSA), Electronic Verification of Vital Events (EVVE), and internal state agencies for efficient data collection and reporting. Key features of this functionality include: Data Exchange: Facilitates secure communication between the VRVCloud system and external platforms such as STEVE, SSA, and EVVE, ensuring accurate and up-to-date information sharing. Automated Reporting: Streamlines the reporting process by automatically generating and transmitting required data to internal state agencies and external partners. Enhanced Data Validation: Verifies data accuracy through integration with EVVE and SSA to prevent discrepancies in vital event records. Compliance Support: Ensures compliance with state and federal standards for data handling and reporting, supporting audit readiness and regulatory adherence. This feature supports Nebraska DHHS by enhancing interoperability with critical systems, improving the accuracy and efficiency of data management, and ensuring comprehensive reporting to meet organizational and regulatory needs.
15.1.2*	The system must securely integrate with various state agency systems for sharing HIPAA related data.	YES	The VRVCloud system ensures secure integration with various state agency systems for sharing HIPAA-related data, supporting compliance with privacy and security standards. Key features of this functionality include: Access Controls: Employs role-based access controls to limit data sharing to authorized personnel, enhancing privacy safeguards. Audit Trails: Maintains comprehensive logs of data-sharing activities, ensuring accountability and facilitating audit readiness. Interoperability: Provides seamless integration with state agency systems, enabling efficient and secure exchange of HIPAA-sensitive information. This feature supports Nebraska DHHS by ensuring secure and compliant data-sharing practices, maintaining the integrity of sensitive health information, and aligning with federal and state regulations.
15.1.3*	The system must integrate with the State of Nebraska's Vital Records unit's online order management application.	YES	The VRVCloud system ensures integration with the State of Nebraska's Vital Records unit's online order management application, facilitating seamless order processing and management. Key features of this functionality include: Real-Time Data Synchronization: Enables instant synchronization of order data between VRVCloud and the online order management application to ensure data accuracy. Automated Workflow Integration: Streamlines order processing by integrating workflows across both systems, reducing manual effort and processing times. Secure Communication: Implements robust security protocols for data transfer, safeguarding sensitive information during the integration process. Comprehensive Reporting: Provides integrated reporting features to analyze order trends, monitor processing metrics, and support operational decision-making. This feature supports Nebraska DHHS by enhancing operational efficiency, ensuring reliable data exchange, and aligning with the state's
15.1.4	The system should integrate with the State of Nebraska's financial system for all collected revenue.	CONFIG	The VRVCloud system has integrated with state financial system and will integrate with Nebraska's. All our interfaces are included in our proposal and within the timeframe. The amount of time required from the State is dependent upon the interface being requested.
15.2	IMPORT		
15.2.1*	The system must provide the ability to import files including but not limited to the Inter-Jurisdictional Exchange (IJE) standard.	YES	The VRVCloud system provides the ability to import files, including but not limited to the Inter-Jurisdictional Exchange (IJE) standard, facilitating seamless data integration and exchange. Key features of this functionality include: Comprehensive File Import Capability: Supports a wide range of file types and standards, including IJE, to accommodate diverse data exchange requirements. Customizable Import Templates: Allows the configuration of templates to align with specific state or jurisdictional requirements for streamlined data import. This feature supports Nebraska DHHS by enhancing operational efficiency, maintaining data integrity, and ensuring compliance with inter-

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15.2.2*	The system must generate error files identifying import failures.		The VRVCloud system includes the ability to generate error files that identify import failures, promoting efficient issue resolution and data integrity. Key features of this functionality include: Detailed Error Reporting: Generates comprehensive error files that pinpoint specific issues with imported files, including missing fields, invalid data formats, or unsupported file types. Real-Time Notifications: Alerts users immediately upon encountering import failures, enabling prompt corrective action. Customizable Error Logging: Offers configuration options for error logs, allowing organizations to tailor the level of detail and format to their operational needs.
		YES	This feature supports Nebraska DHHS by minimizing data discrepancies, ensuring accurate data integration, and improving overall system
15.2.3*	The system must generate error prompt boxes identifying any manual import failures.		The VRVCloud system provides the ability to generate error prompt boxes that identify manual import failures, providing immediate feedback to users and enhancing data accuracy. Key features of this functionality include: Real-Time Error Prompts: Displays intuitive error messages directly to users during manual imports, specifying the nature of the failure (e.g., missing data, format mismatches, or unsupported values). Enhanced User Experience: Reduces downtime by enabling users to identify and rectify errors without needing technical support. This feature supports Nebraska DHHS by ensuring seamless manual data imports, improving user productivity, and maintaining data integrity across the system.
		YES	The VRVCloud system has a configurable job scheduler that allows import and exports to be scheduled to execute.
15.2.4*	The system must have the ability to electronically schedule imports.	YES	
15.2.5*	The system must have the ability to cancel or reverse a data import which would automatically remove the imported record and/or associated data.		When an import needs to be reversed Mantech will work with the State to reverse the import This Is not an automated process because the imported data could have been changed after the import, and reversing the import could have unattended consequences. Therefore, Mantech will work with the State to ensure only the data that needs to be reversed out is taken out.
15.2.6*	The system must have an import process; as the data file is imported, values on the file should be able to be validated or decoded.	YES	The VRVCloud system ensures the ability to implement an import process where data files can undergo validation or decoding as they are imported, guaranteeing data integrity and compatibility. Key features of this functionality include: Automated Validation Checks: Conducts real-time validation of data values during import to identify missing fields, incorrect formats, or invalid entries. Data Decoding: Re-Codes information within imported files, ensuring compatibility with system standards and facilitating accurate data processing. Customizable Rules: Allows administrators to define specific validation and coding rules tailored to organizational and compliance requirements.
		YES	This feature supports Nebraska DHHS by streamlining data imports, ensuring regulatory compliance, and reducing errors that could
15.2.7*	The system must have the ability to decode or populate import data based on missing or incomplete values (e.g., table validation, stored procedure, or default values).		The VRVCloud system provides the ability to decode or populate import data based on missing or incomplete values (e.g., table validation, stored procedures, or default values), enhancing data completeness and integrity. Key features of this functionality include: Automated Data Population: Fills missing fields using predefined default values or stored procedures to ensure consistent and accurate data imports. Table Validation: Cross-references imported data against existing code tables to identify discrepancies and populate incomplete fields accurately. Customizable Rules: Enables administrators to define specific rules for decoding or populating data based on organizational needs and regulatory compliance. Error Detection and Reporting: Identifies and reports missing or incomplete data during import, providing actionable insights for resolution.
		YES	This feature supports Nebraska DHHS by maintaining high-quality data standards, reducing manual interventions, and ensuring seamless

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15.2.8*	The system must import dissolution of marriage events from the State of Nebraska's Justice System data daily (format fixed width).		The VRVCloud system includes the ability to import dissolution of marriage events from the State of Nebraska's Justice System data daily, adhering to the fixed-width format requirements for seamless data integration. This will be done within the schedule and the amount of input from the State depends on the data being imported. For example, if the data is documented and well understood this could be measured in a day. If the data is not understood, needs data cleansing, and the agency where the data is being imported from is uncooperative this could be weeks or longer. Key features of this functionality include: Daily Automated Import: Schedules and executes daily imports of dissolution of marriage event data to maintain up-to-date record Fixed-Width Format Compatibility: Supports the fixed-width format, ensuring accurate parsing and integration of data from the Justice System. Error Handling and Reporting: Detects and logs any issues during the import process, providing detailed error reports for troubleshooting. Data Validation: Cross-checks imported data against predefined rules to ensure accuracy and compliance with Nebraska DHHS standards. This feature supports Nebraska DHHS by enabling efficient and timely updates of vital records, ensuring the accuracy and completeness of dissolution of marriage events within the system.
15.2.9*	The system must provide the ability to import or lookup coded files from the National Center for Health Statistics (NCHS) in accordance with their reporting requirements, and once uploaded have the ability to insert these imported files (codes) and place them in to the appropriate fields attached to the applicable records. This includes International Classification of Diseases (ICD)-10 codes and bridge-race codes. See www.cdc.gov/nchs/nvss/revisions-of-the-us-standard-certificates-and-reports.htm	CONFIG	The VRVCloud system includes the ability to import or lookup coded files from the National Center for Health Statistics (NCHS) in compliance with their reporting requirements. Once uploaded, the system facilitates the integration of these codes into the appropriate fields linked to relevant records, ensuring efficient data management and compliance. Key features of this functionality include: NCHS Code Import and Lookup: Supports the import or lookup of coded files from NCHS, including International Classification of Diseases (ICD)-10 codes and bridge-race codes. Field Integration: Automatically assigns imported codes to their corresponding fields within applicable records, streamlining record-keeping and reducing manual effort. Compliance with Reporting Requirements: Adheres to NCHS standards and ensures that all data management aligns with reporting mandates.
15.3	EXPORT	YES	This feature supports Nebraska DHHS by ensuring the accurate and standardized handling of coded data, enhancing reporting capabilities,
15.3.1*	The system must provide the functionality to transmit from all death records the decedent's data to the Social Security Administration (SSA). This functionality meets the terms and conditions under which SSA will verify SSN's (social security numbers) for the State of Nebraska.		The VRVCloud system includes the functionality to transmit decedent data from all death records to the Social Security Administration (SSA). This feature aligns with the terms and conditions set by SSA for verifying Social Security Numbers (SSNs) for the State of Nebraska. Key features of this functionality include: Automated Data Transmission: Seamlessly transmits required decedent data from death records to SSA in compliance with established protocols. SSA Verification Support: Facilitates the verification of SSNs in accordance with SSA's terms and conditions, ensuring accuracy and reliability. Compliance with Nebraska Requirements: Adheres to the specific needs of the State of Nebraska for social security number verification and reporting. This feature supports Nebraska DHHS by streamlining data exchange with SSA, enhancing operational efficiency, and maintaining compliance with federal verification requirements.
15.3.2*	The system must generate error files identifying export failures.	YES	The VRVCloud system ensures the capability to generate error files identifying export failures, enhancing troubleshooting and operational efficiency. Key features of this functionality include: Detailed Error Reporting: Automatically creates error files with comprehensive details about export failures, including the specific data or processes involved. This feature supports Nebraska DHHS by promoting transparency in data export operations, reducing downtime caused by errors, and ensuring compliance with reporting standards.

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15.3.3*	The system must generate error prompt boxes identifying any manual export failures.	YES	The VRVCloud system ensures the ability to generate error prompt boxes identifying any manual export failures, enhancing the efficiency of error detection and resolution. Key features of this functionality include: Real-Time Error Alerts: Displays prompt boxes immediately upon detection of manual export failures, providing instant feedback to users. This feature supports Nebraska DHHS by promoting efficient error handling, reducing delays in manual export processes, and ensuring data integrity and compliance.
15.3.4*	The system must have the ability to electronically schedule exports.	YES	The VRVCloud system includes the ability to electronically schedule exports, streamlining data transfer processes and improving operational efficiency. Key features of this functionality include: Automated Scheduling: Enables users to configure regular export intervals (e.g., daily, weekly) for seamless and timely data transfers. Custom Export Settings: Offers flexible options for defining export parameters such as file format, data range, and destination location. Error Logs: Alerts users to any issues encountered during scheduled exports, ensuring transparency and quick resolution. This feature supports Nebraska DHHS by automating routine export tasks, reducing manual intervention, and ensuring timely data exchange for improved accuracy and compliance.
15.3.5*	The system must have an export process; as the data file is produced, values on the file should be able to be validated or decoded.	YES	The VRVCloud system includes the ability to implement an export process where, as data files are produced, values within the file are validated or decoded, enhancing data accuracy and compliance with standards. Key features of this functionality include: Data Validation: Ensures that all exported data adheres to predefined validation rules to prevent inconsistencies or errors in the exported files. Data Decoding: Converts codes or encoded values in the data file into readable or standardized formats as required by the destination system. Customizable Export Templates: Allows users to define export configurations, including validation and decoding criteria, to align with specific operational needs. Error Reporting: Provides detailed logs of validation or decoding errors for troubleshooting and resolution. This feature supports Nebraska DHHS by maintaining data integrity during the export process, ensuring that files meet regulatory and
15.3.6*	The system must have the ability to produce standard or ad hoc data exports with a file type (.xlsx, .csv, .txt, .pdf) of complete or partial information and/or records.	YES	The VRVCloud system provides the ability to produce standard or ad hoc data exports in various file formats (.xlsx, .csv, .txt, .pdf) containing complete or partial information and records, tailored to user needs and operational requirements. Key features of this functionality include: File Format Flexibility: Supports multiple file formats to meet diverse data export requirements and compatibility with external systems. Customizable Export Scope: Allows users to select and export complete or partial datasets based on specific criteria, ensuring relevance and precision. Ad Hoc Reporting: Enables users to create and export data dynamically, facilitating quick access to essential information without predefined templates. Scheduled Exports: Provides options to automate regular data exports in specified formats and configurations, ensuring consistency and saving time. Data Accuracy and Integrity: Includes validation steps to ensure the accuracy and integrity of exported records, minimizing discrepancies. This feature supports Nebraska DHHS by streamlining data sharing and reporting processes, ensuring compliance with state and organizational standards while enhancing operational efficiency.

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15.3.7*	The system must have a way for the State of Nebraska to automate control of when a record needs to be sent or resent.	YES	The VRVCloud system ensures the ability to automate control for the State of Nebraska, enabling seamless determination and execution of when a record needs to be sent or resent, thereby enhancing workflow efficiency and compliance. Key features of this functionality include: Automated Resending Logic: Automatically identifies records requiring resending based on predefined triggers or status changes, reducing manual intervention. Customizable Criteria: Allows users to configure specific rules and conditions that dictate when a record should be sent or resent, ensuring tailored operational control. Compliance Integration: Aligns with Nebraska DHHS's policies and procedures, ensuring that records are managed and transmitted within regulatory requirements. This feature supports Nebraska DHHS by improving operational accuracy, streamlining record management processes, and maintaining
16	ANALYTICS TOOL		
16.1	ANALYTICS TOOL		
16.1.1	The system should have an analytics tool within the system to identify data duplication, discrepancies, and outliers.	YES	Mantech’s solution includes integration with a powerful data analytics tools -AWS QuickSight. AWS QuickSight empowers users to identify data duplication, discrepancies, anomalies, and trends to allows deeper understanding of the State’s data by asking natural language questions, exploring interactive dashboards, or even enabling pattern detection by machine learning. This could benefit the State by allowing additional capabilities beyond those requested. For example, QuickSight allows forecasting where the State can forecast scenarios such as deaths by Covid in the next 12 months. QuickSight can automatically analyze historical data using machine learning and provide a graphical forecast for future periods. Additionally, States have us create Annual tables at certain times each year when they “close” their files. What this does is freeze the data for that year in a separate table while the production data remains available for amendments, etc. Using QuickSight the State will be able to perform trend analysis, comparing multiple years’ worth of data for forecasting and to perform what if scenarios. QuickSight will allow enable data driven decision making, enhanced data quality, and improved operational efficiency.
16.1.2	The system should have the ability to apply data visualizations such as charts, graphs, and dashboards, which can be drilled into for more granular information.	YES	Mantech’s solution includes integration with a powerful data analytics tools -AWS QuickSight. AWS QuickSight empowers users to identify data duplication, discrepancies, anomalies, and trends to allows deeper understanding of the State’s data by asking natural language questions, exploring interactive dashboards, or even enabling pattern detection by machine learning. Quicksight includes charts, graphs, and dashboards which can be drilled into for more granular information.
17	HELP		
17.1	HELP		
17.1.1*	The system must provide online help connected to the relevant workflow, field, or report being used.	YES	The VRVCloud system includes the provision of integrated online help, directly connected to the relevant workflow, field, or report being used, promoting user efficiency and reducing operational interruptions. Key features of this functionality include: Context-Sensitive Field Level Help: Offers guidance specific to the active workflow, field, or report, ensuring users receive tailored assistance exactly when and where needed. Step-by-Step User Guides: Provides detailed, step-by-step instructions for common workflows or processes to aid users in real-time tasks. This feature supports Nebraska DHHS by enabling efficient user support, reducing training overhead, and enhancing overall system usability through readily accessible guidance.
17.1.2	The system should provide an overall up-to-date online tutorial to assist users learning the software as well as online help tool with glossary, index, and search capabilities.	YES	For online help, the user guides (which are tailored to specific user roles, tasks, and contexts) are available online with a link to the guide, and any tutorials or specific documentation the State may want to develop can also be hosted in the cloud and accessed via a link that is displayed in the VRVcloud application.
17.1.3	The system should provide online documentation for all modules.	YES	The VRVCloud system includes the availability of comprehensive online user guides for all modules, facilitating ease of use and operational efficiency. Key features of this functionality include: Module-Specific Documentation: Offers detailed online documentation for every module, covering functionality, workflows, and best practices. Up-to-Date Resources: Provides the ability for documentation to be regularly updated. This feature supports Nebraska DHHS by ensuring that all staff members have access to reliable and detailed information, promoting self-

ATTACHMENT 2
Technical Specifications
Vital Records Management System
Request for Proposal Number 120277 O3 REBID

Bidder Name: ManTech Advanced Systems International, Inc. (ManTech)

Important Scoring Dynamic: Attachment 2 – Technical Specifications shall be subject to a “Pass” or “Fail” assessment. Bidder to review Section (I)(P)(2) of the Request for Proposal (RFP) document for understanding the methodology that will be applied. The items highlighted in **gold** and notated with an asterisk (*) within this document represent the capability and/or requirement that will be subject to the “Pass” or “Fail” assessment, as these are “must” requirements.

Instructions: Bidders shall review the tables below to understand the structure of this document and how to effectively complete this attachment for inclusion with the RFP submission. See section (VII) of the Request for Proposal for instructions on how to include with your Technical Response. Failure to include this completed attachment shall result in the bidder’s Solicitation Response as being deemed a “Non-Responsive Solicitation Response”. DO NOT ALTER THE FORMAT OR ANY OF THE EXISTING CONTENT WITHIN THIS DOCUMENT. Bidder may increase the size of the response box to provide the necessary information. If the response includes other attachments, bidder to indicate that information in the response box. Such attachments must be included with the completed “Attachment 2 – Technical Response”.

This document is comprised of four (4) separate categories that are expressed in the table directly below. Each category is identified by the following initial characters:

Category	Description
ARCH	Architecture Capabilities and/or Requirements
SPC	Security and Compliance Capabilities and/or Requirements
DM	Database/Data Management Capabilities and/or Requirements
OM	Operations Management Capabilities and/or Requirements

Each category above contains multiple sub-categories. The table directly below describes the functionality of each column:

Column Description	Bidder Responsibility
Req #	The unique identifier for the item as assigned by the State of Nebraska.
Capability and/or Requirement	The description of the item to which the Bidder shall respond.

CAPABILITIES AND/OR REQUIREMENTS

How to complete the Capabilities and/or Requirements: Bidders shall provide information in each respective “Response” box provided. Each individual response shall include the information as indicated. Such responses shall include specific details, characteristics and key aspects to demonstrate the bidder’s proposed solution and how it meets the conformance specification outlined in relation to the project. Use the format provided to complete this attachment in its entirety. Do not alter the color coding, content, or format of this attachment.

Architecture Capabilities and/or Requirements

Req #	Capabilities and/or Requirements
ARCH-1	Describe the bidder solution to addressing the following architectural details: Technology Architecture: Describe the software components, including third-party software products, open-source libraries, and utilities that complete the platform for running a service or supporting an application. This section should document any technical requirements for accessing the software, including but not limited to client desktop installs, etc. Further, the section should clearly outline any State required infrastructure, such as setting up VPN, SFTP, etc., to implement or operate the system. Network Architecture: Describe the means of communication, the method of sending and receiving information, between the assets in the Technology Architecture. Application Architecture: Describe how the solution components are assembled and interact to meet the business needs. Describe the solution's ability to manage and store documents and attachments. Data Flow Architecture: Describe the data flows into and out of the system boundary, include transmission and storage, along with ports, protocols, and services of all inbound and outbound traffic.

Response:

Technology Architecture: Describe the software components, including third-party software products, open-source libraries, and utilities that complete the platform for running a service or supporting an application. This section should document any technical requirements for accessing the software, including but not limited to client desktop installs, etc. Further, the section should clearly outline any State required infrastructure, such as setting up VPN, SFTP, etc., to implement or operate the system.

ManTech has the expertise to provide Software as a Service (SaaS) hosting in the cloud using the industry leading Amazon Web Services (AWS) cloud. This service provides detailed auditing, cybersecurity monitoring, and surveillance in real-time. It provides audit and infrastructure logs, with automatic alarm and notification triggers which will be configured to meet the State's requirements. All the software components (including third-party, open-source libraries, and utilities) to execute the *VRVcloud* application are included in the hosting environment and are maintained by ManTech. The list of software components that are included in the cloud platform include operating systems, databases, load balancers, email servers, AWS utilities, and many others, some of which depend upon the State's requirements. AWS policy is that when software versions are no longer supported by the manufacturer, they will no longer be supported in the AWS cloud. Therefore, ManTech will be utilizing current versions of third-party software products, open-source libraries, and utilities to ensure the most secure versions are used. See below in this response for a high-level diagram of the cloud environment components. The *VRVcloud* is a web-based application and all that is needed to access it from a client computer is a web browser and internet access. The *VRVcloud* application supports the latest browser version of Edge, Firefox, Chrome and Safari. We support the latest browser version and the two previous versions to ensure the State's partners are maintained as they move to the latest browser version. There is no need for plug-ins, applets, or other software to use the *VRVcloud* application. If the user requires documents to be printed or rendered, the client computer is required to have the correct software installed to render the document. For example, if the output is in Word, the user would require Word to open the document. The *VRVcloud* application is compatible with a variety of iPads and Android tablets, as well as other slate computers. For mobile devices such as smartphones, including iPhone and Android, ManTech already has in production native apps for entering cause of death and certifying deaths. If the State requires direct access to the cloud (as opposed to logging into the application) ManTech will provide a VPN and credentials for the access. Depending upon what the State intends to do with the direct access, additional software may need to be installed on the client computer. For example, in one State they have direct access to a set of non-production tables that have data replicated from production. The State statisticians execute their statistical software scripts (SAS) against the tables. For ease of use these users have installed the AWS VPN software to access the database and execute their scripts. ManTech maintains the VPN accounts for the statisticians.

Network Architecture: Describe the means of communication, the method of sending and receiving information, between the assets in the Technology Architecture.

Below is an architecture diagram for the Amazon Cloud, where the application servers represent where the *VRVcloud* application resides, and that documents the means of communication and the method of sending and receiving information. Regular users who will access the *VRVcloud* application using their browsers will only be able to access it using HTTPS to send and receive information. Users with direct access will use the VPN for access. All other internal means and methods of communication utilize HTTPS. For security a virtual private cloud (VPC) has been created, which restricts access to the *VRVcloud* servers from any other servers in the cloud and a Demilitarized Zone (DMZ) has been created in the VPC using the private subnet configuration. The DMZ contains separately configured security groups to control access to resources for users, protocols, and ports. Security group controls can be configured using the Amazon web console. For outside operational management of the servers in the cloud, secure access is provided using Secure Shell Protocol (SSH) or Remote Desktop Protocol (RDP). Secure access can be limited to an IP address or a user and even secured further by only allowing access using a virtual private network (VPN) from the State's network. Regular users who will access the *VRVcloud* application using their browsers will only be able to access it using HTTPS. The DMZ private subnets are created to house AWS Elastic Compute Cloud (EC2) instances for application servers. These private subnets cannot be accessed from outside since they do not have a route to the internet gateways used

by the VPC. One of the private subnets has the load-balanced application servers running on any Linux or Windows edition. The second private subnet has the database (Oracle or SQL Server). The AWS cloud also offers services such as elastic load balancing, server image backups, Amazon S3 storage backups, identity access management, and cloud monitoring tools and alarms. The virtual private cloud hosting the VRVcloud application can easily interface with these Amazon services to provide secure backup, recovery, and monitoring operations. Note: due to space constraints we are not showing redundancy and fail over in the diagram.

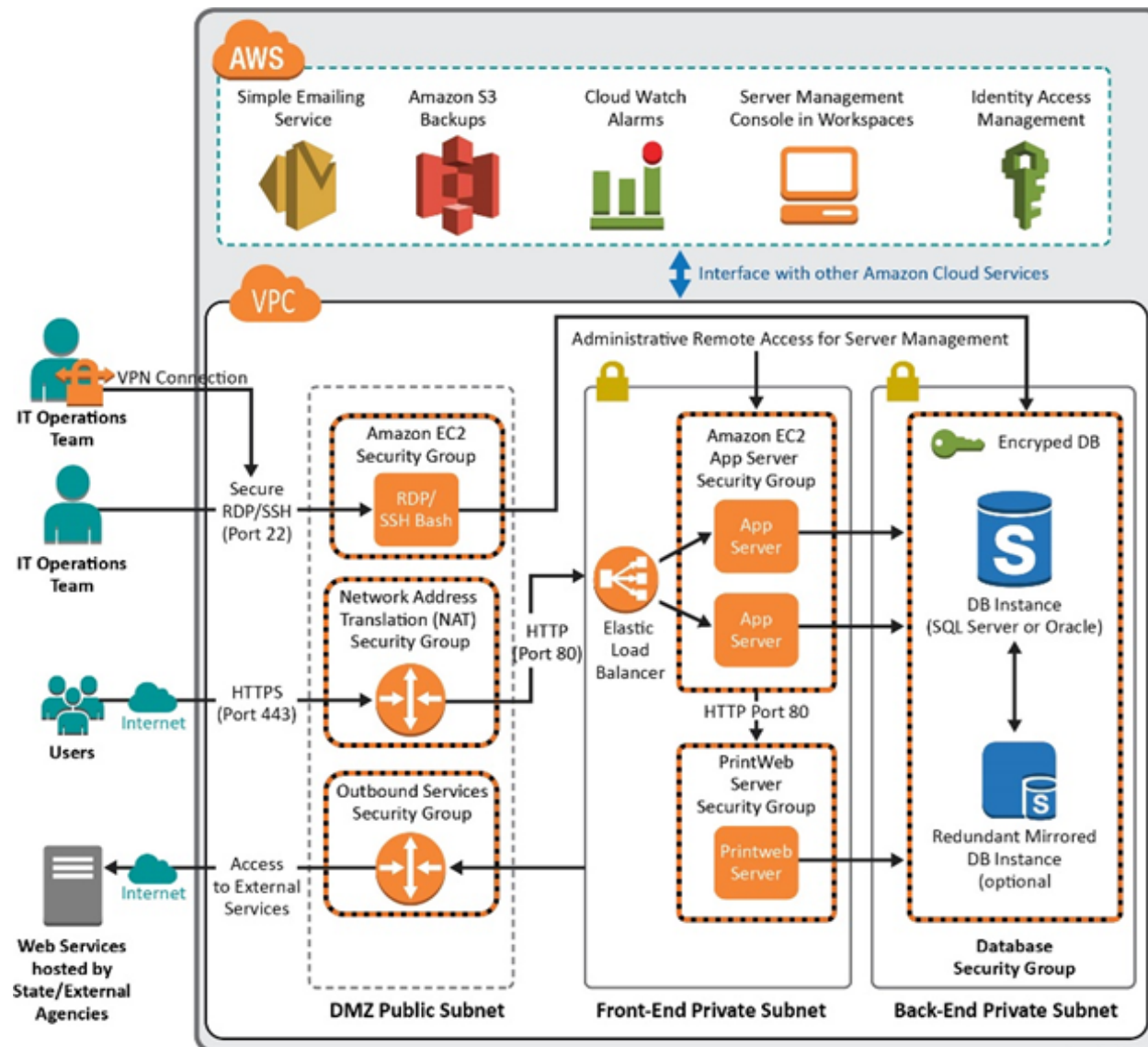


Exhibit 1: Virtual Cloud Hosting.

Application Architecture: Describe how the solution components are assembled and interact to meet the business needs. Describe the solution's ability to manage and store documents and attachments.

To ensure the State receives a common, modern technology platform, ManTech used an industry-standard approach to develop the VRVcloud application and continues to use this standard for implementation. In the most basic terms, there are three pieces of software for a web-based application. First, there is the application itself—in our case the VRVcloud application. Second, is the application server (software), which is used to present the application to the user. This approach exposes the VRVcloud application business logic and business processes and serves them as webpages to the user's browser. Third, is the database server (software) that houses the data. This type of implementation is industry standard and often referred to as an N-Tier configuration. Although there are alternative methods for implementing the VRVcloud application, for the most flexibility and reliability ManTech implements an N-Tier configuration. The VRVcloud application uses a modular design approach in its architecture and internal design. The VRVcloud application was designed using the Model View Controller (MVC) design pattern, which separates the data (model), presentation (view), and business logic (controller). This separation of functions ensures maximum maintainability and flexibility. ManTech will implement the VRVcloud application using an N-Tier implementation and use a centralized database for all vital events. This approach ensures the State is receiving an industry-standard, modern technology platform.

ManTech took a best-of-breed approach with the VRVcloud application by writing it in Java using Java EE standards. Because standards were used, the VRVcloud application can run on most application servers that support the Java EE standards and most JDBC/SQL-compliant database servers. ManTech has successfully implemented the VRVcloud application in a production environment with a BEA WebLogic application server (now owned by Oracle), JBoss application server, and an Oracle application server. The VRVcloud application has been implemented with Oracle and Microsoft SQL database servers. Because Java is the most widely used language for complex internet applications, we see no timeframe for technical obsolescence. We urge the State to compare VRVcloud with the technology other vendors may propose, where they tie themselves to proprietary software. Other vendors may also propose that their application requires a full download of the .Net framework for their application to execute. The VRVcloud application only requires a web browser and internet connection.

ManTech maintains each State VRVcloud version that is unique to the State, while also sharing common code across States. For example, when security patches are applied, they can be applied to the common code that is distributed to multiple customers ensuring everyone receives the security patch. However, items like screen designs are all database stored for each State and adding a field to one State's screen does not mean another State now suddenly sees that new field. ManTech monitors market trends, emerging technologies, technology advancements, alternative processing approaches, new tools, methodologies, and business processes and if applicable will incorporate latest trends into VRVcloud.

VRVcloud includes an Attachment feature that allows the user to manage and store documents and attachments to vital event records. The following screen shot shows that an attachment has already been tied to the selected record.

Add Attachment

File: \Sample Attachment.pdf
Browse...

Remarks: ments about document

Category: Paper Certificate

Attach

Scan Attachment

View Attachments

NAME	FILE SIZE (KB)	UPLOAD DATE	DOWNLOAD	CATEGORY	REMARKS	DELETE
Paternity Affidavit.pdf	44	2018-02-20	Download	Paternity Affidavit		Delete

Continue Cancel

Exhibit 2: Add Attachment.

The user clicks the Browse button to find and select the file (e.g., supporting document) they now need to tie to the record, selects the category, adds comments and clicks the Attach button. The attachment is added to the list of attachments tied to the record, where it can be downloaded or deleted.

Add Attachment

File: g\Documents\Sample At
Browse...

Remarks: ments about document

Category: Paper Certificate

Attach

Scan Attachment

View Attachments

NAME	FILE SIZE (KB)	UPLOAD DATE	DOWNLOAD	CATEGORY	REMARKS	DELETE
Sample Attachment.pdf	264	2019-11-15	Download	Paper Certificate	Comments about document	Delete
Paternity Affidavit.pdf	44	2018-02-20	Download	Paternity Affidavit		Delete

Continue Cancel

Exhibit 3: Add Multiple Attachments.

Req #	Capabilities and/or Requirements
	The use of this feature is configurable. Access to Add or Delete an attachment is configurable based on the users' Group assignments. Data Flow Architecture: Describe the data flows into and out of the system boundary, include transmission and storage, along with ports, protocols, and services of all inbound and outbound traffic. The network architecture diagram above describes the data flows into and out of the system boundary. The transmissions are in HTTPS, and storage of the data will be accomplished via the database. Specific ports are opened based on the States's requirements. If the State requires port numbers, along with specific protocols for specific traffic, ManTech can provide all those details while we are creating the hosting environment for the State.
ARCH-2*	The bidder solution must be a cloud-based hosted environment with all components and data residing in the United States and consisting of ready-made software products that do not require major modifications but support customization to meet the functional specifications as outlined in Attachment 2 – Functional Specifications. Bidder must describe how their approach will meet these requirements.

Response:

ManTech uses Amazon Web Services (AWS) for the hosting of our VRVcloud application. ManTech is an advanced AWS Partner. AWS is separated into regions and ManTech only utilizes continental US regions to host and for failover.

VRVcloud is a true web-based vital records application that performs all vital records business processes from entering a vital record, to issuing a certified copy and collection of monies and does not require users to download software to utilize the application. It is a customizable off-the-self product that is configurable to meet the unique requirements for each State. With our Software as Service option, the State can focus on the business of Vital Records and not worry about maintaining and keeping servers running. VRVcloud is comprised of Birth, Death, Fetal Death, Marriage (including Same Sex and Civil Partnership), Divorce, Induced Termination of Pregnancy, Customer Service (Point of Sale or Issuance), and Infant Hearing modules with a complete end-to-end solution for each module from the data provider to all back-office functions. All of these modules are currently executing in production environments.

The majority of the configuration will use the Dynamic Screen Engine (DSE), which is one of the key features of the VRVcloud application. On Day One ManTech will demonstrate this feature by quickly altering data input screens for the State to see an immediate change in the application. This capability allows ManTech to easily provide immediate changes to the application for the State to view the functionality than other vendors. Other vendors will need to wait for a build to add a number of fields or edits, while ManTech analysts will immediately add fields and edit rules to the application without the need for any code changes. This will allow the State to view working functionality earlier in the lifecycle, thus ensuring they receive an application that meets their requirements. While ManTech provides the labor to perform this service during implementation, this configurability is available to users from the State after the implementation is complete. The DSE provides the ability to:

- Add, modify, and delete screens
- Add, modify, and delete data entry fields
- Add, modify, and delete data entry field properties (help text, field size, display type, etc.)
- Add, modify, or delete data entry field edit rules (including cross field edit rules)
- Add, modify, delete value tables
- Add, modify, delete value table data
- Add, modify, delete workflow queues (business logic)
- Alter many other components of the data entry process

This is a key distinguishing feature between ManTech and our competitors, where they will state their application is “flexible”, but it will require a build, some “outside the application manipulation”, or some other methods to make configuration changes to the application. They may also limit the number of fields that can be added, or the types of fields, or require the development team add the field. All data entry screens in our eight State production vital records implementations were built using the DSE, therefore we are confident our DSE can meet future State requirements and growth. On day one we can present an example of how to add a field to the screen using the DSE. For example, while viewing the birth entry process, envision the State indicates that they have a field on the birth record that is not collected in any other State (or that is only collected at one hospital), and that this field is required to be collected in Nebraska. Other vendors may take days and need to interact with the development team before the State sees how this one field appears in the application. ManTech can use the DSE to add the field, and edit rules, while the State is viewing us making the change with no source code changes or database

intervention required, no need for a build, or need for developer intervention. ManTech will place the field on the birth entry screen, and if the State makes a request to move the field below another field or add additional edit rules ManTech can make those changes immediately for the State to view the working functionality. The field is automatically added and available for data entry after we perform the changes, nothing else is required for the requirement to be met. Our ability to use our DSE feature from the earliest stages of the project to implement rapid functional changes and iterative prototypes is a proven methodology to accomplish the work required and to keep the project on schedule through the avoidance of delays caused by requirements confusion and associated rework late in the project.

Below is an example of how a field is added to a screen:

How to Create a New Field:

Once sections have been created for a screen, fields can be added to the sections. The process for adding a field is the same for each section on a screen. This process begins by defining the new field.

To define a new field:

From the Main menu click System then the module where you want to create the field then DSE Configuration, and then click a specific module and form (Birth for this example). A list of screens for the selected form appears.

Main -- System -- DSE Configuration -- Death -- Death				
DSE Screens List				
Add a new DSE Screen				
<u>Modify an existing DSE Screen in module: Death</u>				
Screen Label	Sort	Screen Description	Edit Rule	Sections
1 Decedent	1	Name, last name before first marriage, gender, SSN, date of death, date of birth, and age		ADD/EDIT
Decedent AKAs	2	AKA name fields	ADD/EDIT	ADD/EDIT
2 Decedent Info	3	Birthplace, residence, US armed forces, marital status, surviving spouse`s name, father`s name, mother`s name	ADD/EDIT	ADD/EDIT
3 Informant/Place	4	Informant name, address, relationship to decedent; place of death	ADD/EDIT	ADD/EDIT
4 Disposition/Funeral Home	5	Method and place of disposition, funeral home; trade service	ADD/EDIT	ADD/EDIT
5 Embalmer/Funeral Director	6	Funeral director name and license number; embalmer and student embalmer information	ADD/EDIT	ADD/EDIT

Exhibit 4: DSE Screen List Main Menu.

Click ADD/EDIT in the in the right-hand column (Sections) for a specific Screen Label. A list of sections for the selected screen appears.

Section Label	Sort	Section Description	Fields
Mother's Med Record No and Newborn Specimen Control No	1	Mother's r newborn s and trol number	ADD/EDIT
Special Circumstances of this Birth	2	Special cir safe haven ling,	ADD/EDIT
M1 Baby's Name	3	Name field middle na first-	ADD/EDIT
Affidavit to Name Child	4	Is an affidavit to name child required	ADD/EDIT
F1 Date of Birth	5	Date of birth; hard edits*	ADD/EDIT
F2 Time of Birth	6	Time and time indicator	ADD/EDIT
F3 Sex	7	Gender	ADD/EDIT
Adoption	8	Type of adoption	ADD/EDIT
M2 Mother's Current Legal Name	9	Name fields; type of parent and label	ADD/EDIT
M5 Mother Ever Married	10	Mother ever married	ADD/EDIT
M6 Mother's Name Prior to First Marriage	11	Mother's name prior to first marriage	ADD/EDIT

Click
ADD/EDIT
for Fields.

Exhibit 5: Add/Edit for Screen Label.

Click ADD/EDIT in the right-hand column next (Fields) for a specific Section Label. A list of fields for the selected section appears.

Click Add
a new DSE
Field.

DSE Fields List

[Add a new DSE Field](#)

[Modify an existing DSE Field in module: Birth](#)

Field Name	Field Label	Edit Rule	Populate	Disable Rule
PRIOR_SAME_AS_CURRENT	Same as current name	ADD/EDIT		ADD/EDIT
MOTHER_GNAME_PRIOR	First	ADD/EDIT		ADD/EDIT
MOTHER_MNAME_PRIOR	Middle	ADD/EDIT		ADD/EDIT
MOTHER_LNAME_PRIOR	Last	ADD/EDIT		ADD/EDIT
MOTHER_SUFFIX_PRIOR	Suffix	ADD/EDIT		ADD/EDIT

Cancel

Exhibit 6: Add/Edit DSE Field.

Click Add a new DSE Field. The Add a new DSE Field page appears.

Add a new DSE Field

Screen:

Section:

Name:

Label:

Alternate (Second language) Label:

Long Name:

Default Value:

Description:

Category:

Display Order:

Data Base Stored Flag: Yes ☐ No ☒

Hidden Flag: Yes ☐ No ☒

Store Value in: Upper Case ☐ Mixed Case ☒ Lower Case ☐

Presentation Type:

Help:

Exhibit 7: Add a New DSE Field.

The remainder of the steps include adding the label that will show up on the screen, adding any default values for the field, defining the category that determines who gets read/write/view access to the field, the type of field being added (numeric, date, text, etc.), parameters, codes, and the remainder of the field properties.

Most of the configuration will be performed using the VRVcloud application interfaces. When code changes are required, the ManTech development team will create the code in the VRVcloud application to be included with the Nebraska code branch of VRVcloud. This ensures that any specific code required for Nebraska does not get included with another State, and other State code changes are not included with Nebraska's branch. With respect to hard coding, ManTech limits hard coding as much as possible. As demonstrated above, all the fields on the data entry screens are configurable and are not "hard coded". For example, this includes every field that is a drop down. When the user selects Sex, a drop down is presented to them, typically Male, Female, and Unknown. The drop down is a code table which is created and maintained using VRVcloud application screens, which is then displayed to the user when they select Sex. If the State wants to add a new Sex to the birth process, they will simply add the new Sex value (for example Binary) to the code table and the next time the user selects Sex the Binary selection is there and available for selection and will be stored as the Sex. No code changes at all are required. However, the new Sex may be exported to external agencies who do not accept the Binary sex value. Our export configuration screens allow us to configure "data translations" to the field being exported. In this instance, we would probably configure a translation of the Sex Binary to Unknown (or whatever the State decides to translate to) and then the next time data is exported if anyone selected Binary it would be sent to external agency as Unknown. This would all be done with no coding, only configuration using the DSE.

Req #	Capabilities and/or Requirements
ARCH-3	Describe the bidder solution to address the following: • Type of Software – SaaS, PaaS or, IaaS • Licensing Model- Perpetual or Subscription based licenses • Single or Multi-Tenant architecture
Response: Type of Software – SaaS, PaaS or, IaaS ManTech will be delivering the VRVcloud application using a Software as a Service (SaaS) model. ManTech will be managing the AWS hosting environment to ensure the State can focus on the business of Vital Records and not worry about maintaining and keeping servers running. ManTech is an advanced AWS Partner and ManTech will configure the AWS environment to meet the State's requirements and will walk through our AWS environment configuration with the State to ensure the State understands how it will meet their requirements. Licensing Model- Perpetual or Subscription Based Licenses ManTech provides a perpetual license to the State. There are no annual or subscription licensing costs, or any other ongoing license costs for the VRVcloud application. The VRVcloud license is good for any number of users (concurrent or not). Single or Multi-Tenant Architecture ManTech is providing a single tenant architecture.	

Req #	Capabilities and/or Requirements
ARCH-4*	The bidder solution must provide multiple environments concurrently to support functions including production, testing, and training. Bidder must describe how their approach will meet these requirements.
	Response: The hosted environment will have a quality assurance (QA) test, training, UAT, production, and development environment. Only the production environment will have access to live production data. ManTech manages data across environments and does not move data between environments without explicit approval from the State. To move builds into an environment, ManTech uses tools such as Maven. Maven dependency management is a system for handling external libraries and frameworks in a Java project by declaring them in the project's pom.xml file. Maven automatically downloads libraries from repositories, resolves transitive dependencies, and ensures compatibility by managing versions, often through a Bill of Materials (BOM) for multi-module projects. This process simplifies project setup, prevents dependency conflicts, and keeps projects organized and up to date. Due to its declarative nature and built-in conventions, Maven projects are often easier to setup and maintain in the long run. On purpose, configurations are not consistent across environments. As a new build is delivered to the development environment, build 1.1, the other environments may be on different builds, depending upon the use of the build in the environment. Builds progress through the environments until they reach the production environment. ManTech does not move builds to environments without approval from the State. Typically, a date and time for the build to be deployed is mutually agreed upon. ManTech also provides warnings to users indicating what environment they are to prevent users from accidentally adding production data to a test, or other environment. ManTech hosts a development environment to implement changes for the State and to also demonstrate to the State “what if” scenarios. Once the implementation is agreed upon and ManTech conducts regression testing the release is delivered to the test environment. The test environment is available to the State to perform testing of the latest release, and any other testing the State may want to perform. Typically, integration, system, and user acceptance testing are performed using a separate dedicated UAT environment. The training environment can be used by the State to provide training to new users and is typically set up with pre-populated data to perform training exercises. ManTech can provide backups of the training environment to restore it to the previous version before the next training session, which will eliminate the need to reload training exercises when the training is completed. Throughout the project, additional environments may be necessary on an as-needed basis. For example, we anticipate a staging environment for data conversion, a performance and load test environment, and other environments as necessary. Those environments would be available as they are needed and may be taken off-line when not needed. ManTech will provide all the environments in the Amazon Web Services (AWS) cloud.
ARCH-5*	Review the accessibility requirements described in the following: • Section 508 compliance standards (https://www.section508.gov/manage/laws-and-policies/) • 45 CFR Part 85 (https://www.ecfr.gov/current/title-45/subtitle-A/subchapter-A/part-85) • State of Nebraska Accessibility requirements (https://nitc.nebraska.gov/standards/index.html#2). Bidder must confirm that your company has read, understands, and can meet all the capabilities and/or requirements as outlined for each of the items <u>and</u> indicate how your solution will meet such requirements as they relate to the accessibility requirements.

Response:

ManTech confirms that our company has read, understands, and can meet all the capabilities and/or requirements as outlined for each of the items.

Section 508 compliance standards (<https://www.section508.gov/manage/laws-and-policies/>)

The VRVcloud user interface is fully compliant with WCAG2.1 standards and compliant with Section 508 requirements (revised 508 incorporate by reference the WCAG 2.0 Level AA Success Criteria and apply the WCAG 2.0 Level AA success criteria and conformance requirements). WCAG2.1 standard is the primary guiding force in our style decisions. Our development team utilizes the WebAIM Web Accessibility Evaluation tool (WAVE) during development to ensure WCAG compliance while our design team is fully cognizant of WCAG standards, applying them to all design decisions as shown below. In addition to the testing and compliance actions performed during our development and testing phases, several State customers also perform WCAG compliance testing using third party tools and/or consultants to further validate the solution.

45 CFR Part 85 (<https://www.ecfr.gov/current/title-45/subtitle-A/subchapter-A/part-85>)

ManTech complies with 45 CFR Part 85.

State of Nebraska Accessibility requirements (<https://nitc.nebraska.gov/standards/index.html#2>).

For the State of Nebraska Accessibility requirements, it states that the application should meet:

E205.4 Accessibility Standard. Electronic content shall conform to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0

Please see the response above about Section 508 compliance and how our application meets WCAG 2.1 standards.

Additionally, ManTech has completed Voluntary Product Accessibility Templates version 2.3 for other States and would be willing to provide one to Nebraska to ensure compliance with industry standard accessibility standards. ManTech can also provide an Accessibility Conformance Report using the WAVE tool to ensure accessibility standards are met and we will review the report with the State. See the screen shot below for one of the Wave outputs:

Exhibit 8: WHALES Vital Records.

Security and Compliance Capabilities and Requirements

Req #	Capabilities and/or Requirements
SPC-1*	Review the standards and policies described in the following: • DHHS Information Technology (IT) Security Policies and Standards (http://dhhs.ne.gov/ITSecurity). • Nebraska Information Technology Commission (NITC) Standards and Guidelines (https://nitc.nebraska.gov/standards/index.html). • Health Insurance Portability and Accountability Act (HIPAA) of 1996. Bidder must confirm that your company has read, understands, and can meet all the capabilities and/or requirements as outlined for each of the items <u>and</u> indicate how your solution will meet such requirements as they relate to the standards and policies described above.

Response:

ManTech confirms we have read, understand, and can meet all the capabilities and/or requirements as outlined for each of the items as they relate to the standards and policies described above.

DHHS Information Technology (IT) Security Policies and Standards (<http://dhhs.ne.gov/ITSecurity>).

VRVcloud adheres to Nebraska DHHS application security guidelines by implementing comprehensive threat risk modeling as recommended by OWASP. The application ensures rigorous input validation, preventing malicious code execution by screening input values, validating input length, and checking data types. Error handling is designed to deny processing on any failure, with error messages carefully crafted to avoid revealing specific system details. User authentication follows strict DHHS standards, with unique credentials, password masking, and session management that automatically disconnects users after logout or inactivity.

As an AWS-hosted application, VRVcloud meets DHHS cloud service requirements through FedRAMP certification and comprehensive security controls. The application implements multi-factor authentication for access, FIPS 140-2 compliant encryption for data at rest and in transit, and ensures all data remains stored within the United States. Credential management includes rapid de-provisioning (Voiding / Locking etc.) of application credential upon user termination. The application maintains rigorous vulnerability scanning protocols for web traffic using AWS Web Application Firewall and a robust patch management for both the application and the underlying server infrastructure.

VRVcloud implements DHHS access control standards through role-based access management. The application enforces the principle of least privilege, providing users with only the minimum necessary permissions for their job functions. User accounts are uniquely identified, with password requirements including:

- Minimum 12 characters (configurable as per State requirements)
- Combination of uppercase and lowercase letters, Numeric values, Special characters
- Mandatory 90-day password changes (configurable time frame)
- Prevention of password reuse (configurable number to reuse)

The comprehensive Cloudwatch monitoring of the VRVcloud environment ensures immediate incident reporting. The retention policies for audit, application and networking logs allow for detailed chain of custody for potential evidence review to support systematic investigation procedures. The incident response includes critical steps such as system isolation, evidence preservation, and coordinated communication with appropriate DHHS officials.

VRVcloud implements secure information and data protection standards through full-disk encryption for all stored data. The application ensures secure data handling, with strict protocols for media storage, transport, and disposal. Any media containing application data would be sanitized using multiple overwrite methods.

The application provides comprehensive audit logging capabilities aligned with DHHS standards. VRVcloud captures detailed event information including:

- User identification
- Attempted actions
- Specific webpage accessed
- Timestamp of activities

- Action success/failure status

Logs are retained with automatic backups to the s3 buckets for long time archival purposes.

VRVcloud follows industry accepted hardware and software security standards through strict configuration management and implementation of approved antivirus and intrusion detection systems. The servers are hardened to remove unnecessary system services and prevent unauthorized access to ports. Any licensed software used by the application is periodically patched using vendor-provided updates following change management processes.

By meticulously addressing these specific DHHS policy requirements, VRVcloud demonstrates a robust, compliant, and secure web application architecture specifically tailored for cloud-hosted environments, providing comprehensive protection for sensitive information and maintaining the highest standards of information security.

Nebraska Information Technology Commission (NITC) Standards and Guidelines (<https://nitc.nebraska.gov/standards/index.html>).

VRVcloud demonstrates exceptional compliance with the Nebraska Information Technology Commission's comprehensive Technical Standards and Guidelines, addressing security and technological requirements across multiple domains.

In Chapter 1 (General Provisions), VRVcloud adheres to rigorous planning and project management standards. The application follows strict project review procedures, maintains detailed information technology plans, and ensures transparent procurement processes. The system supports enterprise-level project management and documentation requirements.

Chapter 2 (Accessibility) showcases VRVcloud's commitment to inclusive design. The application fully complies with the Revised 508 Standards, ensuring accessibility for individuals with disabilities. This includes providing comprehensive user interface adaptability to different screen sizes and devices through responsive design of the user interface.

Network security (Chapter 7) is a cornerstone of VRVcloud's architecture. The system implements comprehensive State network acceptable use policies, advanced DNS forwarding, secure SMTP routing, and network access rules. Additionally, detailed monitoring and logging of network traffic at the VPC (Virtual Private Cloud) level and Network interface level makes it possible to perform comprehensive auditing.

The Information Security Policy (Chapter 8) represents the most extensive compliance framework. VRVcloud's security architecture encompasses:

1. Comprehensive access control mechanisms
2. Advanced network security protocols
3. Rigorous system security configurations
4. Sophisticated application security standards
5. Comprehensive auditing and compliance procedures
6. Advanced vulnerability and incident management strategies
7. Robust data security frameworks

Key highlights include:

- Multi-factor authentication across all access points

- Continuous security monitoring and logging
- Encrypted data transmission and storage
- Regular vulnerability scanning and penetration testing
- Comprehensive incident response capabilities
- Strict data classification and protection mechanisms

The application goes beyond mere compliance, implementing proactive security measures that anticipate and mitigate potential risks. *VRVcloud*'s approach integrates cutting-edge security technologies with a holistic risk management strategy.

Data security protocols follow the most stringent standards, with multilayered protection for HIGH IMPACT and MODERATE IMPACT information. The system implements advanced encryption, secure access controls, and comprehensive data lifecycle management.

The AWS Cloud computing implementation adheres to FedRAMP guidelines, with robust third-party risk management, secure interconnection agreements, and continuous security assessments. The application supports complex deployment models while maintaining the highest security standards.

We follow the principle of continuous improvement for the *VRVcloud* application with ongoing risk assessment through third party security evaluations and implementing mitigation strategies for any new risks that are identified.

Health Insurance Portability and Accountability Act (HIPAA) of 1996

The *VRVcloud* application follows HIPAA compliance through a comprehensive, multi-layered approach addressing the Act's key requirements:

Security Rule Compliance:

- Implements robust administrative, physical, and technical safeguards
- Develops comprehensive security management processes
- Conducts regular risk assessments and management procedures
- Creates detailed security policies and procedures documentation

Technical Safeguards:

Access Control

- Unique user authentication mechanisms
- Multi-factor authentication
- Role-based access controls
- Automatic session timeouts
- Granular user permission settings

Transmission Security

- End-to-end encryption for Protected Health Information (PHI)
- Secure SSL/TLS protocols for data transmission
- Encryption of data in transit and at rest
- Secure VPN connections for remote access

Audit Controls

- Comprehensive logging of all system access
- Detailed tracking of PHI interactions
- Monitoring and recording user activities
- Maintaining audit trails for number of years required by HIPAA

Integrity Controls

- Prevention of unauthorized PHI modifications
- Cryptographic hash verification
- Electronic signature mechanisms
- Change tracking and versioning of amendments

Authentication

- Strong password requirements
- Multi-factor authentication
- Certificate-based authentication options
- Continuous user verification processes

Privacy Rule Compliance:

- Minimum necessary principle implementation

Data Handling and Storage:

- Secure, HIPAA-compliant cloud infrastructure
- Encrypted database systems
- Secure data backup and recovery processes

Third-Party Risk Management:

- Continuous compliance monitoring
- Third-party access controls

Req #	Capabilities and/or Requirements
	• Regular security audits <i>Advanced Technological Protections:</i> • Real-time threat traffic monitoring through AWS Web Application Firewall By implementing the above listed comprehensive security measures in the AWS cloud environment, VRVcloud ensures robust HIPAA compliance, protecting the data through advanced technological and administrative safeguards while providing a secure, user-friendly web application experience.
SPC-2*	The bidder must agree to conduct an independent, third-party penetration test for the solution in which they are offering within one year prior to the anticipated go-live date, that includes, at a minimum, the Open Web Application Security Project (OWASP) Top 10. Identified risks must be classified by severity and additional information must be provided for any risks identified as medium and above. This must be conducted at no additional charge to the State. Bidder must confirm their intent to conduct this test at the appropriate time and describe how their approach will meet these requirements.

Req #	Capabilities and/or Requirements
	Response: ManTech agrees to conduct an independent, third-party penetration test for the solution in which we are offering within one year prior to the anticipated go-live date, that includes, at a minimum, the Open Web Application Security Project (OWASP) Top 10. Identified risks will be classified by severity and additional information will be provided for any risks identified as medium and above. This will be conducted at no additional charge to the State. ManTech confirms our intent to conduct this test at the appropriate time. ManTech has used independent penetration testing in the past and will conduct this penetration testing according to the State's requirements. We are confused about the timeline where the State is asking the testing to be done one year prior to the go live date. Our penetration testing will cover both the software and environment, and since the timeline for production is 15 months, we do not expect to have the production environment set up within the first 3 months to meet the "one year prior" requirement. Additionally, the software will be customized to meet the State's requirements therefore testing it so early is not optimal. However, if the State desires this penetration testing to be done one year prior to the go live, ManTech will work with the State to identify how the testing will be conducted in an early "one year prior to go live" environment. Additionally, ManTech uses Amazon Web Services (AWS) for the cloud hosting. AWS has an intelligent threat detection service (GuardDuty) that is configured by ManTech in the AWS cloud. GuardDuty is a threat detection service that continuously monitors AWS accounts and workloads for malicious activity and delivers detailed security findings for visibility and remediation. GuardDuty combines machine learning, anomaly detection, network monitoring, and malicious file discovery, utilizing both AWS-developed and industry-leading third-party sources to help protect workloads and data on AWS. GuardDuty is capable of analyzing tens of billions of events across multiple AWS data sources, such as AWS CloudTrail event logs, Amazon Virtual Private Cloud (VPC) flow Logs, Amazon Elastic Kubernetes Service (Amazon EKS) audit logs, and DNS query logs. Amazon GuardDuty identifies unusual activity within accounts, analyzes the security relevance of the activity, and gives the context in which it was invoked. This allows ManTech to determine if they should spend time on further investigation and what action should be taken. ManTech will walk through how GuardDuty will detect suspected fraud or abuse with the State if requested. ManTech will report to the State any detection of suspected fraud or abuse, along with logs and other relevant data. ManTech will walk through with the State any threat reported to ensure corrective measures were taken to the meet the State's requirements. The VRVcloud application is also compliant with secure application coding standards. For example, rules for password length, complexity (strength), and expiration (rotation rules) are State defined and enforced in VRVcloud; all transmission of data is encrypted; accounts are locked after State defined attempts; CAPTCHA is used when more than three attempts to guess a username are detected to prevent brute force attacks by bots; session ID is regenerated for every login and destroyed after logout, not persisted between sessions; input validation is performed at both client side and server side; and OWASP CSRFGuard has been integrated into the application. Audit logs maintain all successful and unsuccessful login attempts.
SPC-3*	The bidder must agree to conduct an annual independent third-party penetration test of the solution that includes the Open Web Application Security Project (OWASP) Top 10. The report must provide details of the critical, high, and medium findings and associated risks. This must be conducted at no additional charge to the State. Bidder must confirm their intent to conduct this test at the appropriate time and describe how their approach will meet these requirements.

Req #	Capabilities and/or Requirements
Response: ManTech will conduct an annual independent third-party penetration test of the solution that includes the Open Web Application Security Project (OWASP) Top 10. The report will provide details of the critical, high, and medium findings and associated risks. This will be conducted at no additional charge to the State. ManTech confirms our intent to conduct this test at the appropriate time. ManTech has used independent penetration testing in the past and will conduct this penetration testing according to the State's requirements. ManTech has used independent penetration testing in the past and will conduct this penetration testing according to the State's requirements. See our response to SPC-2 for additional security measures ManTech takes.	
SPC-4*	The bidder must agree to conduct an independent, third-party security and privacy controls assessment that aligns with the National Institute for Standards and Technology (NIST) SP 800-53 moderate standard, within one year prior to the go-live date. Identified security gaps must be classified by severity and additional information must be provided for any gap identified as medium and above. This must be conducted at no additional charge to the State. Bidder must confirm their intent to conduct this assessment at the appropriate time and describe how their approach will meet these requirements.
Response: ManTech agrees to conduct an independent, third-party security and privacy controls assessment that aligns with the National Institute for Standards and Technology (NIST) SP 800-53 moderate standard, within one year prior to the go-live date. Identified security gaps will be classified by severity and additional information will be provided for any gap identified as medium and above. This will be conducted at no additional charge to the State. ManTech confirms their intent to conduct this assessment at the appropriate time and describe how their approach will meet these requirements. ManTech has successfully performed independent security and privacy controls testing in the past and will conduct this security and privacy controls testing according to the State's requirements. We are confused about the timeline where the State is asking the testing to be done one year prior to the go live date. Our security and privacy control testing will cover both the software and environment, and since the timeline for production is 15 months, we do not expect to have the production environment set up within the first 3 months to meet the "one year prior" requirement. Additionally, the software will be customized to meet the State's requirements therefore testing it so early is not optimal. However, if the State desires this security and privacy control testing to be done one year prior to the go live, ManTech will work with the State to identify how the testing will be conducted in an early "one year prior to go live" environment. See our response to SPC-2 for additional security measures ManTech takes.	
SPC-5*	The bidder must agree to conduct an annual independent third-party security controls assessment that meets the National Institute for Standards and Technology (NIST) SP 800-53 moderate standard. The report must provide details of the critical, high, and medium findings and associated risks. This must be conducted at no additional charge to the State. Bidder must confirm their intent to conduct this assessment at the appropriate time and describe how their approach will meet these requirements.
Response: ManTech agrees to conduct an annual independent third-party security controls assessment that meets the National Institute for Standards and Technology (NIST) SP 800-53 moderate standard. The report will provide details of the critical, high, and medium findings and associated risks. This will be conducted at no additional charge to the State. ManTech confirms their intent to conduct this assessment at the appropriate time and describe how their approach will meet these requirements. ManTech has successfully performed independent security and privacy controls testing in the past and will conduct this security and privacy controls testing according to the State's requirements. See our response to SPC-2 for additional security measures ManTech takes.	

Req #	Capabilities and/or Requirements
SPC-6	Describe the bidder solution for the following: • Support for self-service password activities. • Automatic log-off procedures after determined time of session inactivity. • Automatic account disablement after 120 days of inactivity. • Administrators' ability to lockout user(s). • Support and approach for single sign-on • Support and approach for Multi-Factor Authentication • Automatic locking of account after determined number of failed logon attempts.

Response:

Support for self-service password activities:

The VRVcloud provides the ability for users to self-service password activities, such as set password, change password, change user profile information, etc. Password reset self-service is configured for each State to meet their requirements. Typically, it involves an email being sent to the users email on file when they request to reset their password with a link for the reset. Based on the State's requirements the link may only be available for an hour, or for a day, and when the user clicks on the link, they are taken to a specific password reset screen. The methods to identify a user without their password is configured to meet State specific requirements. For example, does Nebraska require a user to enter a pin, or to answer questions to enable them to reset their password? ManTech will work with the State to configure self-service password resets to meet the State. Also, when a user is added to the application, an email is typically sent to the user for the user to perform the initial set up. Below is an example of an email letting the user know that their password is about to expire in 14 days.

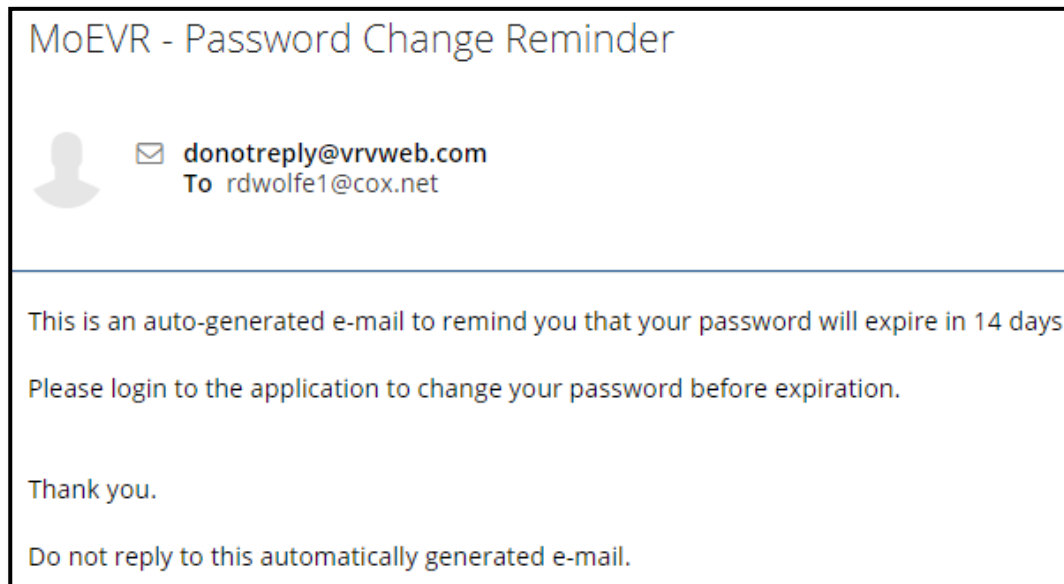


Exhibit 9: Password Change Reminder.

Automatic log-off procedures after determined time of session inactivity.

The VRVcloud application is configured with an auto-save feature to ensure no, or minimal, data loss when a page is timed out. The first part of this is a warning to the user of a timeout indicating they have 5 minutes prior to the record timing out due to inactivity. If that warning is ignored, then the auto-save process is invoked, and the user is timed out. The VRVcloud application automatically saves completed parts of the record to ensure the most recent data is saved. If the user accidentally closes the window, or if there is an inactivity timeout a "temporary" record is saved and the next time the user logs in they can continue with the record from where they were or release the temporary record which removes the record, and it will no longer be available to the user. The automatic save can be configured for to be any amount of time, and the inactivity timeout is also a configurable option.

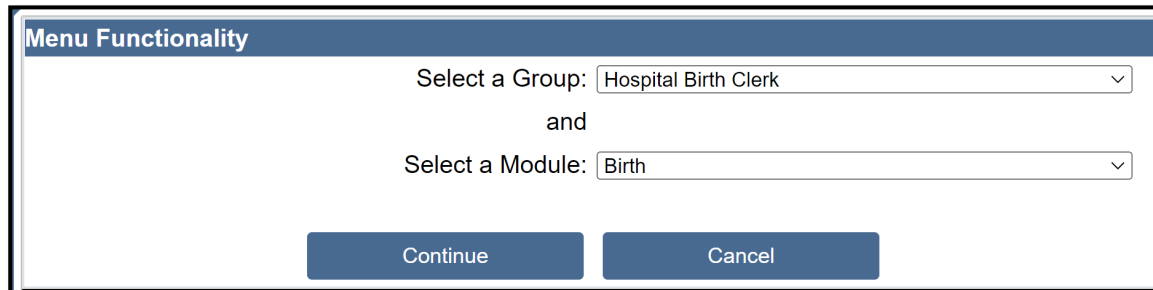
Req #	Capabilities and/or Requirements
	Automatic account disablement after 120 days of inactivity. The VRVcloud application provides system administrator control over various security parameters, including password complexity, minimum length, number of days before mandatory password change, number of days prior to mandatory password change to remind the user, number of failed log on attempts to allow before deactivation of user profiles, number of passwords to store to prevent reuse of passwords, single logon per user, and whether to require the user to establish a set of secret questions, answers that are then chosen randomly as part of the log on process, and number of days of inactivity before locking account. When users violate policies such as invalid number of attempts their account is automatically locked. ManTech will work with the State to invoke State security policies of when to lock users accounts. The VRVcloud application prevents a person from logging in more than once by keeping track of user sessions using event listeners which observe for events related to new session creation, session invalidation or session expiration. If a user has logged in with a username and password, the event listener for new session is triggered to add the username to a list of active sessions. When the same username and password is used to login again, the application checks if an active session exists for this username. If an active session already exists, then the application doesn't allow a new session to be started for that username. If a user logs out or if their session times out due to inactivity, then the application removes their username from the list of active sessions. This method to prevent simultaneous sessions for a username works across the VRVcloud application and the mobile Apps. Administrators' ability to lockout user(s). The VRVcloud application provides system administrator the ability to lock or unlock user accounts. Support and approach for single sign-on The VRVcloud application can connect to single sign-on methods using industry standard methods like SAML, OpenID, OAuth2, or other proprietary APIs or libraries provided by the State's Single Sign-On system. Support and approach for Multi-Factor Authentication ManTech provides 2-Factor Authentication (2FA) out of the box in the VRVcloud app. ManTech will also integrate the VRVcloud application with the State's 2-Factor Authentication (2FA) product or integrate the VRVcloud application with any external industry leader 2FA vendor chose by the State such as OKTA. ManTech has already integrated in one State with their OKTA implementation. The integration would be either using either Security Assertion Markup Language (SAML), or the Open Authorization (OAuth2) authentication framework, or by using the Software Development Kit (SDK) provided by the 2FA system. When a user wants to access the VRVcloud application they would first be authenticated using 2FA. Please note ManTech is not providing the license for third party 2FA systems in our proposal. We are providing the integration with a 2FA system in our proposal. Automatic locking of account after determined number of failed logon attempts. The VRVcloud application provides system administrator control over various security parameters, including password complexity, minimum length, number of days before mandatory password change, number of days prior to mandatory password change to remind the user, number of failed log on attempts to allow before locking of user profiles, number of passwords to store to prevent reuse of passwords, single logon per user, and whether to require the user to establish a set of secret questions, answers that are then chosen randomly as part of the log on process, and number of days of inactivity before locking account.
SPC-7*	The bidder solution must use role-based security. Bidder must describe how their approach will meet this requirement.

Response:

The VRVcloud application has a robust user security module that enforces State staff and external parties' access rights for defined modules and menu options down to the role level, field level, or location level. User and access rights are set up through role assignments. Each role is assigned specified access and security rights. A role can be as small as one member, depending on the type of security and access to be granted. These roles are not preassigned by the application, they are configured based on the State's requirements to ensure the names and configuration match the State's verbiage. Contrast this to some other vendors which use static roles that States must adopt. Because the VRVcloud is configurable without static roles, the exact same roles and authorizations from the current system can be configured as needed by each State in the VRVcloud. For example, in one State there is a role named SuperG. That role was derived from their legacy application, and it had specific rights associated with it. The VRVcloud application can use the exact same names for the roles and that helps the users understand their roles in the VRVcloud. Also, because we allow read/write access down to the field level, any access the role has in the current system can be replicated in the VRVcloud. ManTech will configure the State's roles in the VRVcloud application security configuration ensures internal and external users can access, collect, store, and report all required data and perform all functionalities of their assigned User Role while preventing them from accessing data if it is not in line with their User Role. To support this security, users authorized to set up and manage user accounts assign users to groups and locations. Groups (roles) may include, administration, hospital birth staff, funeral home data entry, funeral directors, physician data entry, physicians, etc. Locations are the State office, specific hospitals, funeral homes, etc.

Each user of the system users must exist at a defined location, and locations at a given level have ownership of records. A location must exist for each entity that can own a record, or a specific section of a record. Using the Birth module as an example, ownership automatically takes place when creating a record. Each birthplace location can only view and update records that they own.

Functions such as adding, updating, and printing documents related to their duties, that are available to users are assigned as part of the VRVcloud security configuration process. The following two screen shots show how this functionality is configured. First the Group and Module are selected.



The screenshot shows a dialog box titled "Menu Functionality". Inside the dialog, there are two dropdown menus. The first dropdown is labeled "Select a Group:" and has "Hospital Birth Clerk" selected. Below this dropdown is the word "and". The second dropdown is labeled "Select a Module:" and has "Birth" selected. At the bottom of the dialog, there are two buttons: "Continue" and "Cancel".

Exhibit 10: Menu Functionality.

Next the functions and features that will be available to the selected Group are selected. Only those selected can be executed by the user.

Response:

How user accounts are assigned and managed.

The State will be expected to authenticate and add new users to the application using the VRVcloud application interface. This will include adding the users name and information along with assigning the user to the proper role. Once the user is added an email is sent to the user that allows them to add/verify user information and passwords or pins. Once the user performs those tasks, they can access the VRVcloud application and begin performing work. See our response to SP-7 for how to assign and maintain adding the user to a role. Additionally, ManTech will provide support to the State when the State requests assistance for tasks such as setting up a new user or adding values to code tables.

How the system provides usage reports, such as a listing of all users and their last usage date.

The VRVcloud is configured with usage reports, usually defined by the State to provide specific information required by the State. Below is an example of a report (from our development site therefore the watermark across it) showing the user id, user name, last name, first name, when they first signed in, the last time they signed in, if they are voided or not, and the last time they changed their password, for all users (in addition to being able to run the report for selected dates and/or users).

User Last Active Report

Date: 12/10/2024

Users ID	Username	User Last Name	User First Name	First Sign-in	Last Sign-in	Date Account Created	Void	Last Password Change Date
7889	jvann	Vann	John	11/26/2013 10:17:28 AM	11/24/2020 10:41:51 AM	9/6/2013 1:07:34 PM	0	08/08/2024
10032	jjames	James	James	1/29/2021 3:33:10 PM	2/11/2021 2:17:04 PM	1/29/2021 3:25:05 PM	1	01/29/2021
10035	joelopez	Lopez	Joe	6/16/2021 8:58:04 AM	5/23/2022 10:32:40 AM		0	04/18/2022
7184	tgorrill	Gorrill	Timothy	5/23/2022 10:35:13 AM	5/23/2022 10:36:15 AM	8/22/2012 3:17:53 PM	0	08/22/2022
10036	pkaner	Kaner	Peter	8/25/2022 1:39:33 PM	2/9/2023 9:50:02 AM		1	02/09/2023
4120	lmanis	Manis	Lenny	11/30/2015 10:58:28 AM	3/31/2023 5:32:19 PM		0	03/31/2023
10039	thirdcoroner	Coroner	Third	7/11/2023 2:52:53 PM	7/12/2023 2:38:04 PM		0	07/11/2023
10045	ericka.cole	Cole	Ericka	7/12/2023 10:03:57 AM	7/18/2023 10:06:22 AM	7/12/2023 10:00:42 AM	0	07/12/2023
10044	dmcDonald	McDonald	Dennis	6/21/2023 11:30:06 AM	7/19/2023 9:58:06 AM	6/21/2023 11:14:29 AM	1	06/21/2023
10011	Mdoctor	Doctor	Mobile	8/7/2018 9:47:03 AM	8/2/2023 10:27:35 AM	8/7/2018 9:37:13 AM	0	10/25/2023
3997	hrolfe	Rolfe	Hillary	7/11/2023 9:15:13 AM	9/28/2023 3:31:15 PM		0	09/28/2023
1144	dbaldry	Baldry	Diana	2/8/2016 4:06:38 PM	12/7/2023 5:00:25 PM		1	11/14/2023
1140	rwolfe	Wolfe	Robin	7/7/2014 5:22:54 PM	2/21/2024 2:01:36 PM	3/20/2014 9:36:12 AM	0	02/20/2024
1140	rwolfe	Wolfe	Robin	7/7/2014	2/21/2024	3/20/2014	0	02/20/2024

Exhibit 12: Neevia docCreator Report.

There may also be business incidents, where for example a user accidentally gave their log in credentials to a hacker, or the State accidentally gave credentials to a hacker posing as a physician and the hacker was able to log into the application. In these instances, we have audit reports that will allow us to identify what the person did once they gained access. In the case of someone giving away their credentials, we can look at the logs to determine the IP address the user typically logged in with before they were hacked. We can then look at the user id where the IP address does not match where they typically logged in at and that would be where the hacker logged in. We can determine what the hacker performed and then while coordinating with the State determine corrective actions. See one of the audit reports below identifying the user logged in, action performed, and the IP address.

VRVWeb User Access Report

Username PGUTOWSKI action from 09/01/2024 to 12/10/2024

Date: 12/10/2024

	User Action :: User IP address	Date
1	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	10-DEC-24
2	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	10-DEC-24
3	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	19-NOV-24
4	User pgutowski has successfully logged out.	14-NOV-24
5	Assign/change personal passwordChange Request (User-Change Personal Password)::IP-ADDRESS=67.252.73.228::EVENT_ID=1053::USERID=5211::USERNAME=Unknown user::RECORD_ID=5211::CHANGE-FROM::XXXXXX::CHANGE-TO::XXXXXX	14-NOV-24
6	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	14-NOV-24
7	Change Request (User-Unlock-Change Password)::IP-ADDRESS=67.252.73.228::USERID=5211::USERNAME=Unknown user::CHANGE-USERID::null::CHANGE-FROM::XXXXXX::CHANGE-TO::XXXXXX	23-SEP-24
8	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	23-SEP-24
9	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	23-SEP-24
10	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	11-SEP-24
11	Password changed date	14-NOV-24

Exhibit 13: VRVWeb User Access Report.

How the system supports authorization at an attribute/field level (e.g., edit, view).

See our response to SP-7 for how the VRVcloud allows user access down to the field level.

Req #	Capabilities and/or Requirements
SPC-9*	Review the State DHHS Information Technology (IT) Audit Standards located at: (https://www.dhhs.ne.gov/ITSecurity). Bidder must confirm that your company has read, understands, and can meet all the capabilities and/or requirements as outlined and indicate how your solution will meet such requirements. As a part of the bidder's response, at minimum, the State desires specific information regarding the following elements: • Detail the data elements that are audited. • Outline the level of audit tracking being maintained. • Provide a sample of their audit reports. • Capabilities for automated audit log evaluation to identify security issues. • How the bidder monitors, identifies, and reports on events impacting the system, such as attacks and other unauthorized use of the system.

Response:

ManTech confirms that we have read, understand, and can meet all the capabilities and/or requirements as outlined above.

Our proposed solution demonstrates comprehensive alignment with the Nebraska DHHS Information Technology (IT) Audit Standards through a multi-layered auditing approach implemented across application, infrastructure, and security domains. The application leverages both application-level logging and AWS cloud monitoring tools to provide extensive, granular audit capabilities.

At the application level, we implement comprehensive event tracking which is saved to dedicated security and user activity audit tables. These tables capture critical data elements including user identification, event type, timestamp, IP address, action details. Furthermore, in case of any modifications to a registered record, a detailed audit trail is maintained to record each field that was modified between the older and the newer version. We also provide detailed application-level logging for each workflow that captures the date and time, record identifier, workflow actions being performed and the value of flags that are set while saving a record or exporting/importing data or while making any security related changes in the application. Each logged event includes comprehensive metadata to support thorough forensic analysis and compliance tracking. Access logs are also maintained for each web request entering the server along with the date and time of the request, the IP address, the path of the requested resource and a code indicating the status of the web request.

AWS cloud infrastructure provides additional robust monitoring through tools like CloudTrail, CloudWatch, and GuardDuty. CloudTrail captures all API-level events, providing a comprehensive governance and compliance trail. CloudWatch enables real-time monitoring of application and infrastructure metrics, with custom dashboards for security and performance tracking. GuardDuty offers intelligent threat detection, continuously monitoring the AWS account and workloads for potential malicious activities.

Our audit tracking methodology follows a multi-tiered approach consistent with DHHS standards. We provide access to reports in the system that can allow the system administrator to implement periodic reviews of system activity. Application-level logs and Access logs are available for review to ensure rapid detection of any anomalous activities or potential security incidents.

Our incident monitoring and reporting mechanism is comprehensive and multi-layered. The AWS Web Application Firewall continuously tracks and logs all inbound traffic, including user authentication attempts, data access modifications, system configuration changes, and potential security breaches.

When any critical events are detected during log analysis, an incident response workflow is triggered, which includes:

1. Immediate notification to the Administrator
2. Backup of logged event for detailed analysis
3. Ensure that the compromised resource is isolated
4. A comprehensive incident report will be presented to the State including details about the incident and mitigative action.

To ensure data privacy and security, all logs are encrypted, securely stored, and retained according to configurable retention policies.

By combining application-level logging, AWS cloud monitoring tools, and intelligent threat detection mechanisms, our solution provides a comprehensive, proactive approach to system auditing that fully meets and exceeds the Nebraska DHHS Information Technology Audit Standards.

Sample Report: A trail is a configuration that enables delivery of events as log files to an Amazon S3 bucket. CloudTrail log files contain one or more log entries. An event represents a single request from any source and includes information about the requested action, the date and time of the action, request parameters, etc. The following example shows a CloudTrail log entry that demonstrates the data plane event. This is a sample of a technical report generated by AWS. For more user-friendly sample audit reports, see our response to SPC-8 where we provide a sample reports of user activities, including down to the IP address the user logged in at.

CloudTrail log file:

```
{
  "eventVersion": "1.08",
  "userIdentity": {
    "type": "AssumedRole",
    "principalId": "111122223333:aws:ec2-instance:i-123412341234example",
    "arn": "arn:aws:sts::111122223333:assumed-role/aws:ec2-instance/i-123412341234example",
    "accountId": "111122223333",
    "accessKeyId": "AKIAI44QH8DHBEXAMPLE",
    "sessionContext": {
      "sessionIssuer": {
        "type": "Role",
        "principalId": "111122223333:aws:ec2-instance",
        "arn": "arn:aws:iam::111122223333:role/aws:ec2-instance",
        "accountId": "111122223333",
```

```
"userName": "aws:ec2-instance"

},

"attributes": {

  "creationDate": "2023-03-05T04:00:21Z",

  "mfaAuthenticated": "false"

},

"ec2RoleDelivery": "2.0"

}

},

"eventTime": "2023-03-05T06:03:49Z",

"eventSource": "guardduty.amazonaws.com",

"eventName": "SendSecurityTelemetry",

"awsRegion": "us-east-1",

"sourceIPAddress": "54.240.230.177",

"userAgent": "aws-sdk-rust/0.54.1 os/linux lang/rust/1.66.0",

"requestParameters": null,

"responseElements": null,

"requestID": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",

"eventID": "a1b2c3d4-5678-90ab-cdef-EXAMPLEbbbbbb",

"readOnly": false,
```

Req #	Capabilities and/or Requirements
	<pre> "resources": [{ "accountId": "111122223333", "type": "AWS::GuardDuty::Detector", "ARN": "arn:aws:guardduty:us-west-2:111122223333:detector/12abc34d567e8fa901bc2d34e56789f0" }], "eventType": "AwsApiCall", "managementEvent": false, "recipientAccountId": "111122223333", "eventCategory": "Data", "tlsDetails": { "tlsVersion": "TLSv1.2", "cipherSuite": "ECDHE-RSA-AES128-GCM-SHA256", "clientProvidedHostHeader": "guardduty-data.us-east-1.amazonaws.com" } </pre>

Database/Data Management Capabilities and/or Requirements

Req #	Capabilities and/or Requirements
DM-1*	The bidder solution must use industry standard cryptographic modules such as those certified to meet FIPS 140-2/-3 for encrypting data at rest and in transit. Bidder must describe how their approach will meet this requirement.

Req #	Capabilities and/or Requirements
	Response: The VRVcloud application encrypts data in transit to and from the users' browser using the latest TLS 1.2 and TLS 1.3 standards. Data at rest is encrypted by the database software, which supports Advanced Encryption Standard (AES) 256-bit encryption. ManTech uses Amazon Web Services (AWS) for the cloud hosting. AWS supports FIPS 140-2/3.
DM-2*	The bidder solution must securely dispose of State data from its systems upon request and in accordance with the National Institute for Standards and Technology (NIST) Special Publication 800-88 revision 1 (https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-88r1.pdf) and must provide to the State of Nebraska a certificate of data destruction. Bidder must describe how their approach will meet this requirement.
	Response: ManTech uses Amazon Web Services (AWS) for the hosting of our VRVcloud application. Media storage devices used to store customer data are classified by AWS as Critical and treated accordingly, as high impact, throughout their life cycles. AWS has exacting standards on how to install, service, and eventually destroy the devices when they are no longer useful. When a storage device has reached the end of its useful life, AWS decommissions media using techniques detailed in NIST 800-88. Media that stored customer data is not removed from AWS control until it has been securely decommissioned. Upon request from the State, ManTech will decommission the storage devices, and provide a certificate of data destruction.
DM-3	Describe the bidder's technical approach for supporting data conversion and data migration.

Response:

ManTech will develop, maintain, and follow a comprehensive data/file conversion and migration plan. The plan will detail how data that has not been recorded in the current system is populated in the new system. For example, there may be flags and other fields specific to VRVcloud that the current application does not maintain. Our data mapping will account for all current application fields and how they map to the VRVcloud application, including how VRVcloud fields are populated during conversion to ensure every flag and necessary data is correct in the VRVcloud application. ManTech will work closely with the State's project team to ensure the data tables and structure have the required level of data accuracy.

The data/file conversion and migration plan will describe the data/file conversion process and explain the process of transforming data and files from one format or architecture to another. The plan will describe the data/file migration process and explain the process of moving data and files from the current system to the new system. The plan will also define the roles and responsibilities for those responsible for data/file conversion and migration tasks. The plan will identify specific tasks needed to be completed for the conversion and migration, assign due dates and task owners. The plan will also describe the approach to any foreseeable obstacles regarding data migration during the transition period. The plan will include information about contingency procedures in the unlikely event of an unsuccessful cutover.

ManTech's approach to the transition from the legacy system to the VRVcloud application will begin during the project kick off. ManTech will begin gathering information about the legacy data sources to ensure all data to be converted is included in our data/file conversion and migration plan. ManTech will deliver a data/file conversion and migration plan for all vital events that explains how the data conversion will be accomplished for each event type. ManTech will coordinate with the State to complete the conversion plan, which will describe the objectives of the data conversion, the methodology used to convert the data, including the tools, techniques, and how we may use the VRVcloud application import for the data conversion, along with how staging tables will be used, how sampling data will be used to ensure data integrity, and all other aspects of the data conversion. The plan will describe the process to be used to move data from the existing systems to the VRVcloud application, and the process that the State will use to validate that the data in the new system is valid and complete. Data conversion reports will be generated with records successfully converted and records not successfully converted, with information for the State to identify the records and remedy any data issues. The data/file conversion and migration plan will also include:

- A formal system tailored to the State to track, document, and manage conversion issues .
- A detailed mapping of legacy data fields to the fields in the new solution, including any images/documents, or external digital files to be converted.
- A detailed conversion schedule including all activities, milestones, and resources necessary to convert the legacy data to the new solution.

ManTech works closely with the State project team, and with Nebraska's strong understanding of their current system and ManTech's breadth and depth of the State implementations we have completed, the outcome should be an application that just does not replace a 15-year-old system but one with improved user experiences and that is more secure with better performance. ManTech has converted data from other vital records vendors including State "home grown" applications, and we have converted data from various sources including flat file types (.csv, .txt, .xml, .xls, and others) along with imaging indexes. Additionally, ManTech has converted data from legacy application databases such as Oracle, SQL Server, MySQL, and DB2 all running on various operating systems. ManTech has a wealth of experience converting large amounts of data. Our experience includes converting millions of records at a time, which requires sufficient processing resources to perform the conversion. ManTech's experience in those conversions enables us to apply lessons learned to this project. For example, we know that turning off indexes while converting, tuning the environment server/database to allow the conversion to be performed, and dividing data conversion imports to improve performance can improve the conversion process for both speed and efficiency. In one State's application,

Req #	Capabilities and/or Requirements
	we were able to reconstruct the amendment history from the legacy system during conversion by comparing multiple versions of each record and populating the audit trail, as well as tables related to the Birth module, such as the Paternity table. This allowed an amendment trail for that particular State's legacy data, even though their legacy system did not maintain an audit trail. Of note, there is a difference between translating the data, i.e., taking the data sent and translating it into the source application for use, and cleansing the data, taking the source data and changing it prior to importing the data potentially altering the meaning of the data. ManTech does not "cleanse" data without specific guidance from the State on what changes to the data should be made. It is the State's data, and if the data are to be altered in any way, the State would determine how to alter the data. ManTech will work with the State to identify issues in the data that will then allow the State to make a determination on how they want to "cleanse" their data. This effort may involve changing the data at the source or providing ManTech with a translation algorithm for the data. ManTech also saves the conversion scripts and tools in case there is a need for them in the future. For example, if the State we to convert some paper records to an electronic format and they needed to convert the electronic data into usable data in the VRVcloud application, the scripts and tools used for the data conversion will be useful to get this older paper data into the new system. ManTech has performed this in the past, where over a year later additional data needed to be converted, and ManTech converted the data into our application for the State to then utilize.
DM-4*	The bidder's solution must support data integration. The bidder must confirm and describe how their solution will meet this requirement. In addition to confirmation on the ability to meet the requirement, the response must include the following, at a minimum the following details: • Ability to import and export data using these file types (XML, JSON, CSV). • Support for integration using industry standards approaches and principles for REST APIs and Webservices. • Support for industry integration data standards for Health Level 7 (HL7), Fast Healthcare Interoperability Resources (FHIR), X-12, HIPAA.

Req #	Capabilities and/or Requirements
	Response: Ability to import and export data using these file types (XML, JSON, CSV). The VRVcloud application will securely exchange data with various external State and Federal agency systems for sharing related data, using FHIR when the agency systems can accommodate it. The VRVcloud application has a robust, user friendly service for file generation (export/import) capability to produce and consume exports/imports. When agencies do not utilize FHIR ManTech has provided custom integration using XLS, CSV, XML, TXT, RTF, PDF, IJE, JSON, or HL7. Additionally, the VRVcloud application utilizes secure web services, including ManTech exposing customized web services to external agencies for the exchange of data. The VRVcloud application already streamlines the ability to exchange data with the latest versions of STEVE, Electronic Verification of Vital Events (EVVE), OnLine Verification System (OVS) from SSA, Validation and Interactive and Edits Web Service (VIEWS), medical and statistical software such as SuperMICAR, ACME, TRANSAX, and Standardized Occupation and Industry Coding (SOIC), and VitalChek. The results of the data exchanges provide data analysis on the exchange, and ensure accurate, timely, and secure data exchanges. ManTech will configure the exchange of data based on the requirements of the entity we are exchanging data with. ManTech has integrated numerous State agency data exchanges, and we will integrate the State agency interfaces to ensure the exchange of data meets the State's requirements. Support for integration using industry standards approaches and principles for REST APIs and Webservices. Our integrations have used product-specific APIs, REST based web service calls, and custom SOAP web service calls. ManTech supports all industry standard vital records integrations. Support for industry integration data standards for Health Level 7 (HL7), Fast Healthcare Interoperability Resources (FHIR), X-12, HIPAA. The VRVcloud application provides integration data standards for FHIR, X-12, and HIPAA. ManTech has been certified by NCHS for transmitting data via FHIR to STEVE and NCHS.
DM-5	Describe bidder solution for the following: • Documentation to support testing and collaboration with integrating systems. • Documentation of the system's data dictionary which includes user-defined fields and tables.

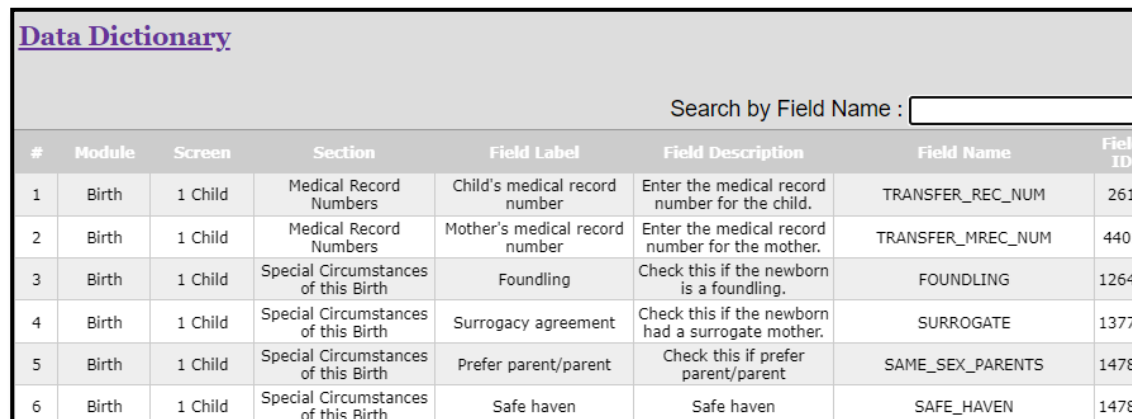
Response:

Documentation to support testing and collaboration with integrating systems.

For documentation to support testing and collaboration with integrating systems, it would depend upon what system is being integrated with. For example, when integrating with the SSA OVS system, we already have implemented OVS in several States and are quite familiar with the process, including having contact information for SSA. In those cases, ManTech can guide the State on where the documentation is from SSA on the integration, including how to run the SSA test deck that is required to integrate with them. For other interfaces, for example the State requests an integration with the Nebraska Cancer Registry, we would rely on the State providing contact information for the Nebraska Cancer Registry and to be present in any collaboration. For example, we would request the State be present when we work with the State agency to ensure ManTech receives the proper technical and functional information required to successfully integrate. ManTech can be present when reaching out to the Nebraska cancer registry for the integration documentation, but ManTech would want a State representative on the call to ensure the Nebraska cancer registry is responding, and if not for the State to make connections to the appropriate staff at the Nebraska cancer registry to resolve the issue.

Documentation of the system's data dictionary which includes user-defined fields and tables.

VRVcloud includes a feature that generates an on-demand current data dictionary and one that generates a design document that reflects the current configuration of each module (i.e., birth, death, etc.). Information includes tables, sections, fields, database information, rules, help text, etc. The following screen shot shows information about modules, screen, sections and fields. This information is particularly useful when working with creating and understanding reports.



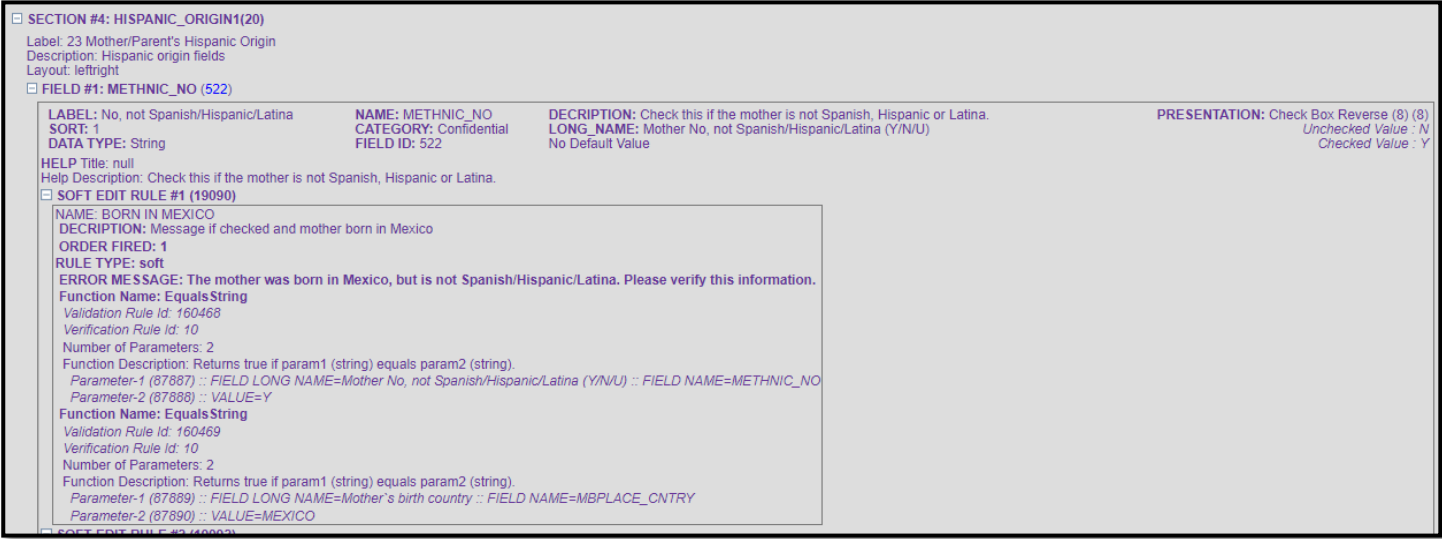
The screenshot displays a web-based 'Data Dictionary' interface. At the top, there is a search bar labeled 'Search by Field Name :'. Below the search bar is a table with the following columns: #, Module, Screen, Section, Field Label, Field Description, Field Name, and Field ID. The table contains six rows of data related to the 'Birth' module.

#	Module	Screen	Section	Field Label	Field Description	Field Name	Field ID
1	Birth	1 Child	Medical Record Numbers	Child's medical record number	Enter the medical record number for the child.	TRANSFER_REC_NUM	261
2	Birth	1 Child	Medical Record Numbers	Mother's medical record number	Enter the medical record number for the mother.	TRANSFER_MREC_NUM	4401
3	Birth	1 Child	Special Circumstances of this Birth	Foundling	Check this if the newborn is a foundling.	FOUNDLING	1264
4	Birth	1 Child	Special Circumstances of this Birth	Surrogacy agreement	Check this if the newborn had a surrogate mother.	SURROGATE	1377
5	Birth	1 Child	Special Circumstances of this Birth	Prefer parent/parent	Check this if prefer parent/parent	SAME_SEX_PARENTS	1478
6	Birth	1 Child	Special Circumstances of this Birth	Safe haven	Safe haven	SAFE_HAVEN	1478

Exhibit 14: Data Dictionary.

The screen shot below shows an excerpt from the design document for the birth module produced by our design document tool.

Note that it includes the database name, label, description, values, help text and one of the rules configured for this field.

Req #	Capabilities and/or Requirements
	 Exhibit 15: Screen of Design Document.
DM-6*	Review the data retention requirements described in the following: 45 CFR Part 164.316 (https://www.ecfr.gov/current/title-45/subtitle-A/subchapter-C/part-164/subpart-C/section-164.316) - DHHS Vital Records retention schedule is to retain information permanently. Bidder must confirm that your company has read, understands, and can meet all the capabilities and/or requirements as outlined for each of the items <u>and</u> indicate how your solution will meet such requirements as they relate to the data retention requirements.
Response:	ManTech confirms we have read, understand, and can meet all the capabilities and/or requirements as outlined for each of the items. - ManTech will ensure the confidentiality, integrity, and availability of all electronic protected health information that is created, received, maintained, or transmitted. - ManTech will protect against any reasonably anticipated threats or hazards to the security or integrity of such information. - ManTech will protect against any reasonably anticipated uses or disclosures of such information that are not permitted or required under our agreement with the State. - ManTech will ensure compliance with this subpart by its workforce. ManTech will retain information permanently for as long as the State maintains a maintenance contract with ManTech. Upon termination of the maintenance contract, ManTech will comply with State requirements to properly dispose of the data (please see response to DM-2 for additional information).

Operations Management Capabilities and/or Requirements

Req #	Capabilities and/or Requirement
OM-1	Describe the Business Continuity and Disaster Recovery (BCDR) plan for the solution they are offering. Bidder's response must describe, at a minimum, their plan to include the following information: • Procedures for data backup, restoration, communication to the State of Nebraska, and emergency mode operations in the event of: a. Hardware or Software Failures. b. Human Error. c. Natural Disaster; and/or d. Other unforeseeable emergencies.

Response:

ManTech already has in place plans for Business Continuity, Continuity of Operations, and Disaster Recovery.

Unforeseeable emergencies:

Business Continuity. ManTech anticipates responding to unforeseen emergencies, such as a pandemic, by providing a sufficient level of service for continuity until the emergency is resolved. All ManTech staff are cross trained on our vital records implementations and are capable of working from home (telecommuting) in addition to working at our office locations. During the coronavirus pandemic, ManTech continued to provide the same service level as we provided prior to the pandemic. We provided maintenance operations for all our customers, as well as providing enhancement work. The only item we are not able to provide during the pandemic were face-to-face meetings, which have been replaced by webinars until conditions allowed for safe travel.

Natural Disaster:

Continuity of Operations. Staff are dispersed in different locations, ensuring that if a natural disaster strikes one office, it should not affect staff located in other areas. In addition to the vital record staff, ManTech has more than 7,100 qualified professionals, many with advanced degrees that the vital record group has access to if necessary. Additionally, ManTech's development environment is based in the AWS cloud, where staff can access it from any location, allowing them to perform work anywhere. Communication channels are already set up to communicate with staff, and when those systems are overloaded, e.g., email is not available, ManTech can use other methods of communication such as webinars, alternate email addresses, and telephone. Additionally, the AWS cloud can be restored to new AWS Availability Zones quickly. Through these layers of skill and geographic dispersions, ManTech anticipates a recovery time for staff to recover from a major disaster to be a matter of hours.

Disaster Recovery Including Hardware or Software Failures:

Availability and Performance

Since ManTech is proposing using AWS for hosting, we will have access to various monitoring tools. The monitoring tools are referred to as Cloud Watch along with Simple Notification Services (SNS). Cloud Watch provides in depth, detailed metric monitoring including availability and performance. SNS can push a notification in a variety of methods out to notify staff of any issues. Cloud Watch can be set up to monitor numerous availability metrics and these metrics can be set to trigger an alarm that will then send out a message using SNS. The metrics can be monitored on a minute-by-minute basis, or other time and/or event methods. The number, complexity, and detail of the availability monitoring for the application on AWS are too in-depth and complex to define all the options in this SLA. For availability, the application deployed in the AWS cloud hosting environment will use metrics from the servers such as CPU usage, memory usage, as well as custom metrics from the JVM like the average heap memory usage, average response times, etc., to automatically scale the application to meet the growing workload demands. Using a pro-active, auto-scaling policy that responds to the real-time metrics by automatically scaling the servers up or down allows ManTech to meet not only the Quality of Service (QoS) requirements, but also the QoS requirements for the anticipated user workload over the future lifespan of the system. ManTech will configure the availability and performance monitoring to ensure the State has accurate and timely availability and performance reporting. This will ensure performance optimization of the VRVcloud application and environment. ManTech will target a minimum availability of 99.9% uptime, to include all unscheduled outages and exclude all scheduled maintenance times.

Database Management:

- *Disaster Recovery.* For the production environment, our hosted solution with AWS provides numerous disaster recovery options for the database and application servers (Hardware or Software Failures). For this proposal, ManTech will employ a recovery plan that is a mix of hot and cold backups. If the server hosting the application or database suffers a critical hardware failure, a replacement server can be launched from an image snapshot within minutes, and the backed-up server configuration retrieved from AWS S3 storage can be re-applied to the new servers without the need to re-install server software or configure it manually. This process is automated using cloud monitoring tools provided by AWS that allow automatically replacing a server with its image based on health check metrics from the server.
- *System Redundancy.* For complete system redundancy, the main infrastructure components such as the databases will be deployed into multiple Availability Zones, which are physically separated. AWS provides synchronization between database zones, and a stand-by mirror environment of the application servers will be configured and linked to the mirrored database. In case of a disaster, the load balancer will automatically switch in seconds to serve content from the mirrored environment where the State can then access the VRVcloud application in the same manner as before the disaster recovery procedure was implemented. Most likely users will not even be aware that an issue occurred. In the unlikely event that the mirrored site is not available, users will be directed to an alternative site with a status message concerning the availability of the application, while ManTech is communicating with the State on a regular basis until the application is available. We believe this will far surpass the State's recovery time requirement along with their availability requirement.
- *Backup and Recovery.* ManTech will automatically back up all system data on a daily basis using automated AWS tools and techniques, including automated verification procedures that confirm the execution of backups and provide notices of any backup issues. Backing up system data will not only include the database, but server images and other data pertinent to the environment. The backup will include full database backups daily, differential database backups hourly, and transaction log backups every 10 minutes. To recover from a failure, the transaction log backups and differential backup will be used to bring the database from a full backup restore up to the last transaction logged before failure, ensuring minimal or in most cases no loss of data. As a redundancy, the backup files are automatically copied to an off-site location in the AWS S3 storage for retrieval in case of a server disk failure. In case of a failure, new servers can be launched from the server image, and the configuration retrieved from S3 can be re-applied within minutes to the new server without the need to re-install server software or configure it manually. The application in the AWS cloud can recover quickly and AWS S3 storage is designed for 99.9% availability over a year, ensuring access when required. ManTech will conduct a review and test of the disaster recovery annually and will coordinate the test time with the State and report results.

Human Error:

To mitigate human error, ManTech's approach is to ensure that it is discovered as early as possible and then depending upon the error to mitigate it. Some of the strategies we use in our approach are:

- Employee Training and Education – ManTech personnel are continuously trained on our operations.
- Implementing Robust Procedures and Protocols – ManTech personnel understand the process for reporting an error.
- Creating a Supportive Work Environment – ManTech personnel are encouraged to support each other to prevent errors.

Req #	Capabilities and/or Requirement
	Encouraging Open Communication – ManTech strongly encourages open communication to ensure staff can communicate about any errors.
OM-2*	The bidder must agree to conduct a full disaster recovery test for the solution in which they are offering prior to the anticipated go-live date. The most recent test must be within one year prior to the go-live date. This must be conducted at no additional charge to the State. Bidder must confirm their intent to conduct this test at the appropriate time and describe how their approach will meet these requirements.
	Response: ManTech agrees to conduct a full disaster recovery test for the solution prior to the anticipated go-live date. The most recent test must be within one year prior to the go-live date. This will be conducted at no additional charge to the State. ManTech confirms our intent to conduct this test at the appropriate time and describe how their approach will meet these requirements. ManTech has successfully performed full disaster recovery tests for other States and will conduct this disaster recovery testing according to the State's requirements. Typically, the disaster recovery testing involves shutting down the production environment to ensure it fails over to the mirrored site, and to report on any data loss that occurred during the failover. We are confused about the timeline where the State is asking the disaster recovery testing to be done one year prior to the go live date. Our disaster recovery testing will cover the production environment, and since the timeline for production is 15 months, we do not expect to have the production environment set up within the first 3 months to meet the "one year prior" requirement. Additionally, the environment will be hardened to meet the State's security requirements therefore testing it so early is not optimal. However, if the State desires this disaster recovery testing to be done one year prior to the go live, ManTech will work with the State to identify how the testing will be conducted in an early "one year prior to go live" environment.
OM-3*	The bidder must agree to conduct an annual disaster recovery test for the solution and submit the annual results to the designated individual for the State of Nebraska. This must be conducted at no additional charge to the State. Bidder must confirm their intent to conduct this test at the appropriate time and describe how their approach will meet these requirements.
	Response: ManTech agrees to conduct an annual disaster recovery test for the solution and submit the annual results to the designated individual for the State of Nebraska. This will be conducted at no additional charge to the State. ManTech confirms our intent to conduct this test at the appropriate time. ManTech has successfully performed annual disaster recovery tests for other States and will conduct this disaster recovery testing according to the State's requirements. Typically, the disaster recovery testing involves shutting down the production environment to ensure it fails over to the mirrored site, and to report on any data loss that occurred during the failover.
OM-4	Describe the bidder solution for ability to meet the following: - Compliance with the Recovery Time Objective (RTO) of within twelve (12) hours when the system outage is declared as a disaster. - Compliance with the Recovery Point Objective (RPO) of fifteen (15) minutes of data lost before the disaster event.

Req #	Capabilities and/or Requirement
	Response: RTO: If the server hosting the application or database suffers a critical hardware failure, a replacement server can be launched from an image snapshot within minutes, and the backed-up server configuration retrieved from AWS S3 storage can be re-applied to the new servers without the need to re-install server software or configure it manually. This process is automated using cloud monitoring tools provided by AWS that allow automatically replacing a server with its image based on health check metrics from the server. This allows the application in the AWS cloud to have an RTO of a few minutes, well under the within 12 hours. Additionally, the AWS S3 storage is designed for 99.9% availability over a given year, ensuring access when required. RPO: To recover from a failure, the transaction log backups and differential backup will be used to bring the database from a full backup restore up to the last transaction logged before failure, ensuring minimal or in most cases no loss of data, well within the 15-minute requirement. As a redundancy, the backup files are automatically copied to an off-site location in the AWS S3 storage for retrieval in case of a server disk failure. In case of a failure, new servers can be launched from the server image, and the configuration retrieved from S3 can be re-applied within minutes to the new server without the need to re-install server software or configure it manually.
OM-5	Describe the bidder solution for the following: • Overall testing strategy and support for the following testing types: unit testing, system testing, integration testing, regression testing, user acceptance testing (UAT), parallel testing, performance and load testing, manual and automated and/or scripted testing, and end-to-end integration testing. • Approach to planning and preparing the test/staging environment. • Approach to conducting each test level. • Approach for testing nonfunctional requirements (security, performance, etc.) • Approach to test documentation (e.g., test cases, test scripts, test case matrices added as the design configuration progresses). • Approach to quality control/quality assurance. • Approach to test results reporting, traceability, and metrics.

Response:

Overall testing strategy and support for the following testing types: unit testing, system testing, integration testing, regression testing, user acceptance testing (UAT), parallel testing, performance and load testing, manual and automated and/or scripted testing, and end-to-end integration testing.

ManTech performs various testing throughout the life cycle. Below are some of the testing cycles that ManTech provides:

Unit Testing: Prior to UAT, ManTech continuously conducts our own unit and integration testing during code check-in and prior to demonstrating the tested solution to the State. ManTech developers and analysts will conduct unit and integration testing on agreed-upon functionality in our cloud environment, and the testing performed is based on the functionality being demonstrated. ManTech staff will review the requirements documents and derive a plan to execute unit testing prior to demonstrating the build. Through the prototype approach, the application will be tested early and often ensuring the application is tested formally through unit testing, and informally through review sessions prior to the UAT. Additionally, we often work with the State (in the cloud) to review functionality to ensure it meets the State requirements and to clarify any issues with workflows, data entry, and printed outputs.

Integration Testing: ManTech will collaborate with the State to perform integration testing of all inbound and outbound interfaces, including end to end testing. Integration testing will require State involvement from the initial identification of the specific integration to the testing of the integration, and throughout the production implementation. ManTech will rely on the State to first identify points of contact for the integration to ensure all integration requirements are identified and documented, and that ManTech, the State, and the party to be integrated understand how the integration will be accomplished. ManTech already has integrated with standard vital records integrations such as the Social Security Administration's (SSA) OnLine Verification System (OVS) and in these instances there will be limited State involvement other than for this integration it is the State's responsibility to execute the test deck provided by SSA. In cases like OVS ManTech already has points of contact and has worked directly with the integration staff. For something like a Nebraska agency integration, ManTech would rely on the State to ensure sufficient attention is provided by the Nebraska agency to the integration. ManTech has and will work directly with the external State agencies and other parties; however, we do request State involvement in communicating in these cases to ensure the successful integration. ManTech will perform initial integration testing of all inbound and outbound interfaces, including end to end, to ensure they are successful and will collaborate with the State on UAT testing scripts to ensure all inbound and outbound interfaces are included in the UAT.

System Testing/Performance Testing: ManTech will provide system testing to include load, stress, and performance testing. Load testing is usually defined as the process of exercising the system under test by feeding it the largest tasks it can operate with. Stress testing tries to break the system under test by overwhelming its resources or by taking resources away from it (in which case, it is sometimes called negative testing). Performance testing ascertains how the components of a system are performing, given a particular situation. Performance testing will show how long it takes a normal number of users to perform usual business activities using the application. Stress testing is ramping up the number of users until the application breaks, revealing the maximum number of users the application can handle. Load testing is ramping up users on the application to find out how the application performs under various scenarios.

ManTech will provide a system test plan documenting how ManTech will conduct automated and manual system testing. The plan will include the automated tool to be used and the scenarios to be simulated, along with an outline of how manual testing will be conducted. The automated tools used in the past were Playwright for functional regression testing and JMeter for performance testing, along with various tools from Microsoft and Oracle. ManTech will work with the State to identify the scenarios and transactions to be simulated, determine the total number of concurrent transactions to mimic peak system usage, and agree upon acceptable levels of performance as part of the planning process prior to the automated testing. ManTech will conduct the testing and review the results with the State. Based on performance results, the State and the ManTech will work together to optimize system performance.

The VRVcloud application is executing in multiple production environments with no customer reporting unacceptable response times. The graphs below are from our hosted vital records application of similar size and scope. The first one shows daily response times, the second one - the daily number of requests. The graph shows that the peak time for requests is Mondays, where ~70K requests are made and an initial response time is slightly over 1.2 seconds, and shortly afterwards the remainder of the week response time remained in sub second time ranges.

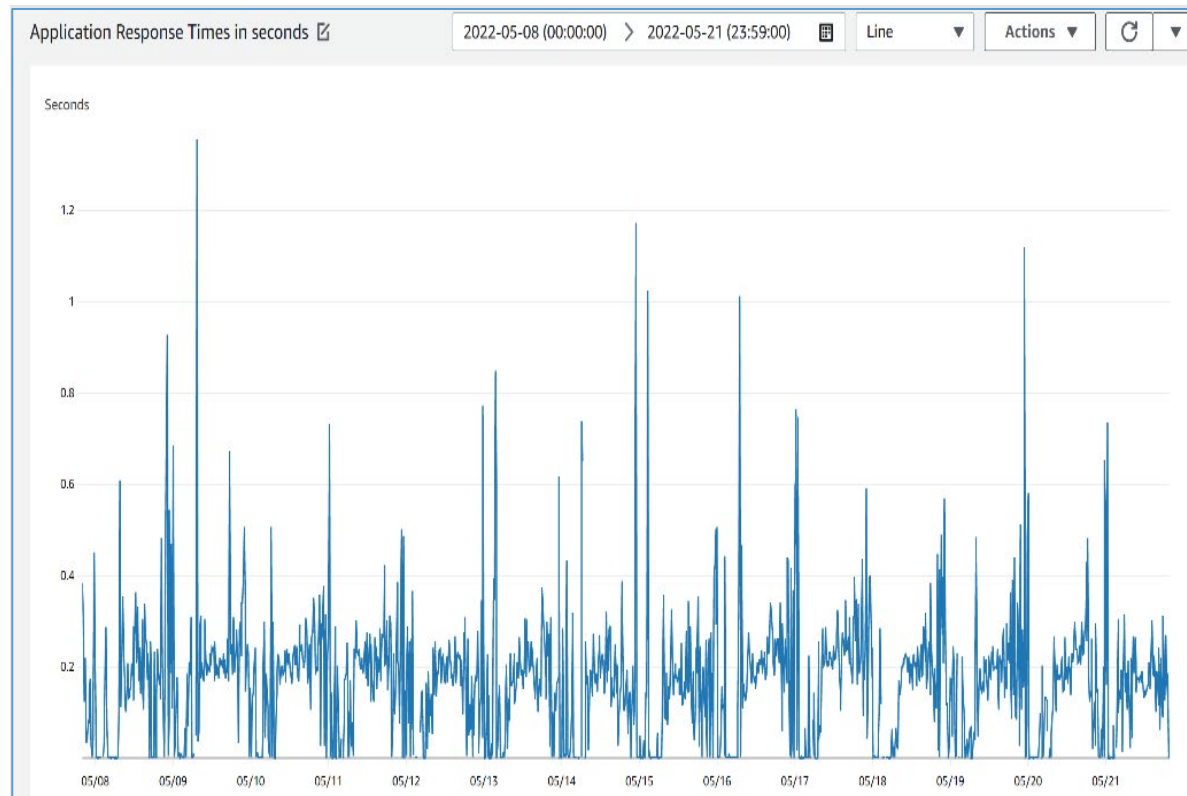


Exhibit 16: Application Response Times.

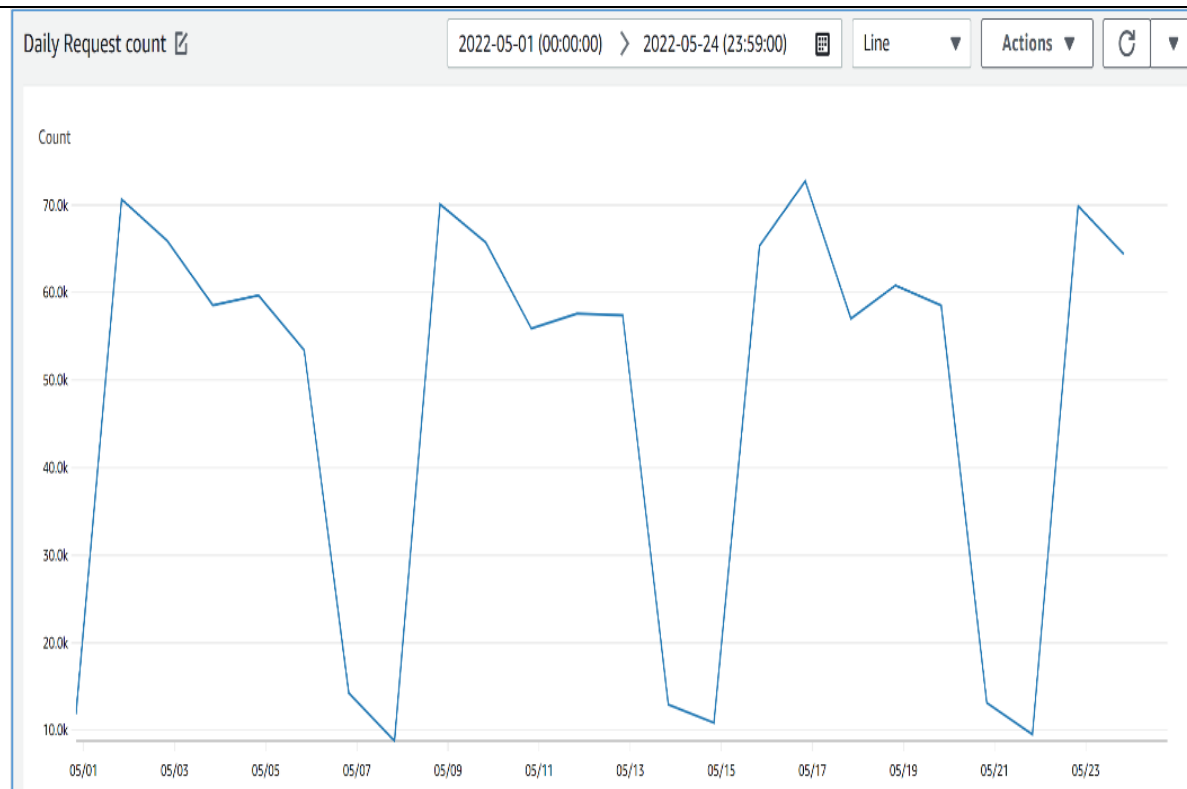


Exhibit 17: Daily Request Count.

ManTech is targeting that a majority of response times occur in sub seconds, with a maximum response time for large data requests at 5-10 seconds. For very large data requests, the response time would depend upon the data being requested and where it is to be rendered.

UAT testing support: ManTech will provide UAT support activities that meet, or exceed, 100% of the State requirements. ManTech will provide assistance (as coordinated between ManTech and the State) during UAT for all phases of the project, in addition to training selected State staff and stakeholders with UAT procedure training for reporting and tracking defects. ManTech anticipates being onsite for the initial UAT testing, and afterwards the support provided will be through webinars and meetings as the State performs their UAT. Additionally, our staff are very active in the configuration and testing phases and will also be able to provide insight during onsite visits. Because of the iterative agile prototype process and the fact State will have interacted with the application for some time, the State should be very familiar with the application workflows when performing UAT.

Defect Resolution: ManTech will provide defect resolution to resolve defects that will meet, or exceed, 100% of the State requirements. ManTech works closely with the State during the UAT to ensure any issues found, either with the application or the converted data, are quickly addressed and resolved. Issues found during UAT typically fall into the category of a classic bug where the application did not function as documented. In another scenario, the application functions as documented; however, during UAT the State has found a better way to implement the functionality. This occurs because UAT introduces new staff to test the application, or the State has discovered missing requirements that were not anticipated. In the case of a classic bug, ManTech will correct the defect through a build, or, oftentimes, the bug

can be corrected without a build by using the application's DSE functionality to address the issue. When the State has found a better way to implement functionality, or they discovered missing functionality, ManTech will respond on a case-by-case basis through the change control process. If the change is minor and does not impact the project schedule, ManTech would implement it as requested. For example, a common issue is that with the new application in UAT, and because of the introduction of the legacy data, a field or a report may not have been part of the agreed-upon requirements. Because ManTech has the most flexible application, adding edit rules, fields, and reports using the DSE will be much easier than it will be for other applications. Prior to delivering the application back to the State after a defect has been resolved, ManTech conducts unit testing first, and if passed regressions testing using the UAT testing script to ensure the defect has been resolved. ManTech understands the State will be executing the UAT in iterative fashion until the results are satisfactory. Because ManTech uses an agile prototyping approach throughout the project, ManTech will use this same approach to address any issues found during UAT and the State will be able to retest quickly.

Test Results: ManTech will document test results to include results of the testing, including defect management reporting, and confirmation of errors being retested and resolved. Test result documentation will include an updated requirements traceability matrix that maps all requirements in the detailed requirements document to the test scenarios.

Parallel Testing: If the State desires parallel testing, ManTech will work with the State to ensure the testing environment is available for them to enter the same data that was entered into the current system to be entered into the new system. Most States we have worked with did not conduct parallel testing. In most cases, data captured and printed outputs were changed meaning that if the State printed an output from the current system and the new system they would not match. Instead, the State focused on the new system to ensure it met their requirements.

Quality Management: ManTech will develop and maintain a quality management plan. The quality management plan identifies the quality standards for the project and how quality standards are measured. It includes the process steps and quality tools that will be used (e.g., templates, standards, and checklists), including those used for testing. The quality management plan that will ensure the work being performed under this contract will meet or exceed quality assurance checkpoints.

Collaboration and Acceptance process: ManTech works with the State during the UAT process by collaborating with the State to ensure the UAT testing is thorough and complete. ManTech will provide onsite and offsite collaboration depending upon the State's need, and ManTech staff will engage the State as necessary to resolve any issues during the UAT. Once UAT is successfully executed, the State will accept the UAT as completed.

Approach to planning and preparing the test/staging environment.

The test environment is available to the State to perform testing of the latest release, and any other testing the State may want to perform. Typically, integration, system, and user acceptance testing are performed using a one separate dedicated UAT environment. Setting up different environments for integration testing, one for system testing, and one for other testing would require the testing to be performed once again when everything is implemented in one environment. The testing environment can be used by the State to perform testing and can be set up with pre-populated data to perform testing exercises. ManTech can provide backups of the testing environment to restore it to the previous version before the next testing session, which will eliminate the need to reload testing exercises when the testing is completed. Throughout the project, additional environments may be necessary on an as-needed basis. For example, we anticipate a staging environment for data conversion, a performance and load test environment, and other environments as necessary. Those environments would be available as they are needed and may be taken off-line when not needed. ManTech will provide all the environments in the Amazon Web Services (AWS) cloud.

Approach to conducting each test level.

ManTech's approach to conducting each test level is dependent upon what level is being tested. For unit testing the State is not involved, and for UAT testing the State leads the effort to perform the testing. ManTech will work collaboratively with the State on each testing cycle to ensure it meets the State's requirements.

Approach for testing nonfunctional requirements (security, performance, etc.)

ManTech will provide nonfunctional testing to include load, stress, and performance testing. Load testing is usually defined as the process of exercising the system under test by feeding it the largest tasks it can operate with. Stress testing tries to break the system under test by overwhelming its resources or by taking resources away from it (in which case, it is sometimes called negative testing). Performance testing ascertains how the components of a system are performing, given a particular situation. Performance testing will show how long it takes a normal number of users to perform usual business activities using the application. Stress testing is ramping up the number of users until the application breaks, revealing the maximum number of users the application can handle. Load testing is ramping up users on the application to find out how the application performs under various scenarios.

ManTech will provide a system test plan documenting how ManTech will conduct automated and manual system testing. The plan will include the automated tool to be used and the scenarios to be simulated, along with an outline of how manual testing will be conducted. The automated tools used in the past were Playwright for functional regression testing and JMeter for performance testing, along with various tools from Microsoft and Oracle. ManTech will work with the State to identify the scenarios and transactions to be simulated, determine the total number of concurrent transactions to mimic peak system usage, and agree upon acceptable levels of performance as part of the planning process prior to the automated testing. ManTech will conduct the testing and review the results with the State. Based on performance results, the State and the ManTech will work together to optimize system performance.

For security testing ManTech agreed to conduct an independent, third-party penetration test that includes, at a minimum, the Open Web Application Security Project (OWASP) Top 10 and to conduct an independent, third-party security and privacy controls assessment that aligns with the National Institute for Standards and Technology (NIST) SP 800-53 moderate standard.

Approach to test documentation (e.g., test cases, test scripts, test case matrices added as the design configuration progresses).

ManTech's approach for each test cycle is to provide documents that record the process, objectives, and results of each testing cycle. The documents will include test plans, test cases, scripts, results, and related information for each cycle and will be tailored to the cycle.

Approach to quality control/quality assurance.

ManTech's approach to quality control involves setting clear quality standards for each test cycle, identifying, and correcting defects, and making necessary adjustments to maintain consistent quality levels.

Approach to test results reporting, traceability, and metrics.

ManTech's approach to test results reporting involves coordinating with the State on each test cycle to ensure the State understands the results and they are acceptable to the State. ManTech's approach to traceability is ManTech will deliver a Requirements Traceability Matrix (RTM) that will exceed the State's requirements. The RTM will map out the relationship between requirements and project work and where the requirement is met in the application. This will ensure project requirements are met and enable the testing process to use the RTM to test each requirement, and report issues or completion of the requirement. When developing the UAT test plan, ManTech and the State will work to ensure the test cases are aligned with the needs of the project and incorporate the RTM as much as possible. The RTM will be developed, maintained, and followed by ManTech and the State throughout the project lifecycle. ManTech will report and review metrics for each test with the State.

Req #	Capabilities and/or Requirement
OM-6	Describe the bidder solution for software maintenance processes that address the following: • Approach to managing software versions to ensure bidder support. • Approach to Change Management, including defects and enhancements. • Approach to testing and release management. • Approach to maintaining integrations with external and internal trading partners.

Response:

Approach to managing software versions to ensure bidder support.

To manage software versions that ensure ManTech support, ManTech's uses a configuration change control process that ensures all customizations made to the *VRVcloud* application and environment for the State are documented, tested, and properly approved. ManTech maintains a strict configuration change control process to prevent incorrect customizations to the application or environment, and to ensure no previous customizations are lost. The *VRVcloud* application source code is maintained using Git version control to ensure previous customizations are not lost, and to maintain all versions of the application that have been placed into production. This ensures a complete audit log of every change to the *VRVcloud* application is maintained. No automated changes are made to the *VRVcloud* application and ManTech does not place software customizations of the *VRVcloud* application into State's environment without prior consent of the State. An additional benefit to the State is ManTech does not require or force the State to take software customizations of the *VRVcloud* application that were made for other States. Any customization made to the *VRVcloud* application will be reviewed with the State, and the State will determine if it is a customization that they want included in the Nebraska version of the *VRVcloud* application. Each new release of the Nebraska *VRVcloud* application is accompanied with release notes documenting all changes made to the application and environment. Prior to the release, ManTech reviews the release notes with the State and only after approval can the release move forward.

Approach to Change Management, including defects and enhancements.

ManTech will deliver a change management plan that will exceed the State's requirements. The change management plan will outline the process for change management throughout the project lifecycle, such as how to submit a change request (enhancement) and how those requests are assessed. The comprehensive change management plan will be developed, maintained, and followed by ManTech and the State throughout the project lifecycle. If a change is made to the plan following the initial signature, the plan will be reviewed and electronically signed by the selected Unit stakeholder to accept the changes to the plan.

The change management plan will describe the process of submitting, evaluating, authorizing, managing, and controlling change requests. The plan will define the roles and responsibilities for those responsible for change management. The plan will provide a change request template for submitting changes and for collecting and tracking changes.

All change requests (updates/changes), including Federal or State legislative or regulatory requests, will be documented using the Change Request (CR) template, and from there the Change Management plan will be followed to incorporate the change. ManTech allows the State to determine the priority of the change and that will dictate the timeline for the implementation. Once the change is formally documented, ManTech will then determine if this is something that can be performed under maintenance (or within the 160 hours of additional labor provided every year that rolls over), or if there is an additional cost to implement the change. A general guide is used for pricing that if the change can be accomplished within 1-2 weeks of effort than there will be no cost. Additionally, because of the flexibility demonstrated with the *VRVcloud* application often time changes to the screens, workflows, and other items can be accomplished at no cost to the State.

Because ManTech has been in the vital records business arena for 25 years, we understand that Federal mandated changes are of importance to the State. Because of that, and because we would have to perform the change for all our customers, these are typically done at no cost. ManTech has implemented functionality in the *VRVcloud* application using a modular approach (web services for FHIR, OVS etc.) and we can make the changes to Nebraska branches of *VRVcloud* in a short period of time. For example, during the testing and certification of the FHIR implementation NCHS continuously made changes to the standard based on testing feedback. ManTech was actively testing for multiple States, and because of our modular approach we were able to quickly integrate the changes into the *VRVcloud* branch of our testing States.

Req #	Capabilities and/or Requirement
	To incorporate the State into the change making decisions, feedback from the State is solicited during our regular meetings about any changes that the State may be considering. ManTech dedicates a portion of the regular meetings to soliciting from the State how the application can be enhanced. In the same manner as the participatory design meetings, ManTech will be performing what if scenarios with the State that could lead to requested changes to the application. The requested changes will then be documented using the CR template, and from there the change management plan will be followed to incorporate the enhancement. There is no “average time” to implement a change. Each change is unique, and each State is unique on when they want the change delivered. ManTech allows the State to drive the priority of the change request and collaborates on the delivery of the change with the State. For defect tracking ManTech hosts a Bugzilla server to allow assigned representatives from the State to enter and track any defects. Bugzilla allows entries to be assigned a severity level and priority and tracks the status of a resolution. Defects are entered with a status of New, which when addressed is changed by ManTech to a resolution status such as Fixed, Invalid, or Works-As-Designed. Questions, clarifications, and remedies can be entered, and are documented in the permanent defect history. When a defect is resolved, the originator reviews the resolution, reopening the bug with additional information if not resolved, and eventually updating the status to Closed. Bugzilla can accommodate the reporting of a specific module, sub-module, build number, and other pertinent information to track the specific issue of a specific build and/or component of the build. Approach to testing and release management. The delivery of new releases is collaborated with the State to ensure both the State and ManTech can prepare for the new release in a timely manner. Every new release of the <i>VRVcloud</i> application is accompanied by release notes in addition to posting them to WorkDocs. The release notes explain in detail all new features (including change requests and upgrades) and all defect remedies included in the release. These release notes accompany the release and are reviewed with the State. If the release requires additional documentation, training, or test scripts ManTech will also deliver these items in advance of the release - at a minimum of two weeks prior of the release. Once the State accepts the release it is will be scheduled for production deployment. Approach to maintaining integrations with external and internal trading partners. ManTech follows the same change management plan for all changes to the <i>VRVcloud</i> application, including integrations. Like maintaining other <i>VRVcloud</i> functionality, ManTech maintains integrations with external and internal trading partners. When a change to the integration is necessary, the State will notify ManTech and ManTech will work with the State and the partner to first document the change, then provide a plan on how the change will be implemented.
OM-7	Describe the incident management process that will be used to report business and security incidents (such as any unauthorized access to, or incidents where, data may have been compromised).

Response:

To monitor security incidents, AWS has an intelligent threat detection service (GuardDuty) that is configured by ManTech in the AWS cloud. GuardDuty is a threat detection service that continuously monitors AWS accounts and workloads for malicious activity and delivers detailed security findings for visibility and remediation. GuardDuty combines machine learning, anomaly detection, network monitoring, and malicious file discovery, utilizing both AWS-developed and industry-leading third-party sources to help protect workloads and data on AWS. GuardDuty is capable of analyzing tens of billions of events across multiple AWS data sources, such as AWS CloudTrail event logs, Amazon Virtual Private Cloud (VPC) flow Logs, Amazon Elastic Kubernetes Service (Amazon EKS) audit logs, and DNS query logs. Amazon GuardDuty identifies unusual activity within accounts, analyzes the security relevance of the activity, and gives the context in which it was invoked. This allows ManTech to determine if they should spend time on further investigation and what action should be taken. ManTech will walk through how GuardDuty will detect suspected fraud or abuse with the State if requested.

If an incident is found, ManTech will immediately report to the State any detection of suspected fraud or abuse, along with logs and other relevant data. ManTech will walk through with the State any threat reported to ensure corrective measures were taken to meet the State's requirements.

There may also be business incidents, where for example a user accidentally gave their log in credentials to a hacker, or the State accidentally gave credentials to a hacker posing as a physician and the hacker was able to log into the application. In these instances, we have audit reports that will allow us to identify what the person did once they gained access. In the case of someone giving away their credentials, we can look at the logs to determine the IP address the user typically logged in with before they were hacked. We can then look at the user id where the IP address does not match where they typically logged in at and that would be where the hacker logged in. We can determine what the hacker performed and then while coordinating with the State determine corrective actions. For the case where the State gave the credentials to the hacker, we can track all the activities of the hacker and then while coordinating with the State determine corrective actions. See one of the audit reports below identifying the user logged in, action performed, and the IP address.

Req #	Capabilities and/or Requirement																																					
VRVWeb User Access Report Username PGUTOWSKI action from 09/01/2024 to 12/10/2024 Date: 12/10/2024 <table><tr><th></th><th>User Action :: User IP address</th><th>Date</th></tr><tr><td>1</td><td>User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228</td><td>10-DEC-24</td></tr><tr><td>2</td><td>User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228</td><td>10-DEC-24</td></tr><tr><td>3</td><td>User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228</td><td>19-NOV-24</td></tr><tr><td>4</td><td>User pgutowski has successfully logged out.</td><td>14-NOV-24</td></tr><tr><td>5</td><td>Assign/change personal passwordChange Request (User-Change Personal Password)::IP-ADDRESS=67.252.73.228::EVENT_ID=1053::USERID=5211::USERNAME=Unknown user::RECORD_ID=5211::CHANGE-FROM::XXXXXX::CHANGE-TO::XXXXXX</td><td>14-NOV-24</td></tr><tr><td>6</td><td>User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228</td><td>14-NOV-24</td></tr><tr><td>7</td><td>Change Request (User-Unlock-Change Password)::IP-ADDRESS=67.252.73.228::USERID=5211::USERNAME=Unknown user::CHANGE-USERID::null::CHANGE-FROM::XXXXXX::CHANGE-TO::XXXXXX</td><td>23-SEP-24</td></tr><tr><td>8</td><td>User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228</td><td>23-SEP-24</td></tr><tr><td>9</td><td>User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228</td><td>23-SEP-24</td></tr><tr><td>10</td><td>User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228</td><td>11-SEP-24</td></tr><tr><td>11</td><td>Password changed date</td><td>14-NOV-24</td></tr></table> Exhibit 18: VRV Web User Access Report.				User Action :: User IP address	Date	1	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	10-DEC-24	2	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	10-DEC-24	3	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	19-NOV-24	4	User pgutowski has successfully logged out.	14-NOV-24	5	Assign/change personal passwordChange Request (User-Change Personal Password)::IP-ADDRESS=67.252.73.228::EVENT_ID=1053::USERID=5211::USERNAME=Unknown user::RECORD_ID=5211::CHANGE-FROM::XXXXXX::CHANGE-TO::XXXXXX	14-NOV-24	6	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	14-NOV-24	7	Change Request (User-Unlock-Change Password)::IP-ADDRESS=67.252.73.228::USERID=5211::USERNAME=Unknown user::CHANGE-USERID::null::CHANGE-FROM::XXXXXX::CHANGE-TO::XXXXXX	23-SEP-24	8	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	23-SEP-24	9	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	23-SEP-24	10	User pgutowski has successfully logged in. ::REMOTE_ADDR:67.252.73.228	11-SEP-24	11	Password changed date	14-NOV-24
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11	Password changed date	14-NOV-24																																				
OM-8*	The bidder's solution must be responsive to mobile technology devices such as smartphones or tablets. Bidder must describe how their approach will meet this requirement.																																					

Req #	Capabilities and/or Requirement
	Response: The VRVcloud application is compatible with a variety of mobile devices such as tablets and smartphones including iPhone and Android. Additionally, the VRVcloud application is compatible with iPads and Android tablets, as well as other slate computers. As an innovative and creative feature ManTech will deliver our native mobile apps for entering the cause of death and certifying death records on Apple and Android phones, which is fully integrated with the mobile phone functionality. Users can download the VRVcloud app in the Apple or Google store on their phone and use the app like other mobile apps. See the screen shot below where we are showing the physician queues when they open the app on their phone. Additionally on their phone icon there is an indication of how many death records are in the queue for them. We have deployed the mobile app in two States and are working to deploy to a third State. In the same manner as users install other apps, they download and install our mobile app from the app store. Notifications on the phone allow the user to easily view work waiting for them. Once the user taps on the icon to open the app they are taken to their work queues. ManTech will customize the mobile apps to reflect the workflow of the State's requirements for the entry of the cause of death and death certification. To be consistent with cause of death data entry and certification, ManTech implements very similar workflows for the mobile apps and the hosted web application. This ensures users can utilize either the mobile app or the hosted web application and will be familiar with the process. ManTech has implemented our mobile apps for physicians, medical examiners, coroners, and their assistants in other States with very positive reviews. Please note this is different than running the web application on the phone's browser, which other vendors claim is "mobile capability". Running the application on the mobile browser will not allow it to take advantage of notifications on the phone, and the ease of use having an icon on the phone to launch the application, using facial recognition to log in, and other native phone features. One of the reasons we developed the mobile app was the difficulty getting physicians to perform their vital records work. With the ease of use of the mobile app there is no excuse they can make to not enter in cause of death and certify records that are waiting for them. See the mobility section in the precious response for additional information.

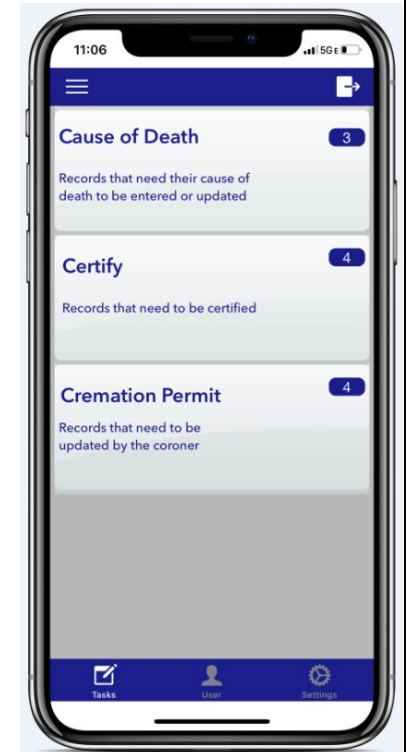


Exhibit 19: Phone Showing Mobile App.

Req #	Capabilities and/or Requirement
OM-9*	The bidder's solution must provide Scalability and High Availability Architecture. The bidder must confirm and describe how their solution will meet this requirement. In addition to confirmation on the ability to meet the requirement, the response must include the following, at a minimum the following details: • The system architecture must support scaling with increased load. • The system must provide high availability to support minimum disruptions to the business operations. • The system must handle notifications when a component or interface endpoint is unavailable. • The system must handle performance functionality and monitoring tools. • The system must handle recovery of failed transactions because of a component failure. • The system must be available online 24 hours a day and 7 days a week, 99.9% of the time each month excluding scheduled downtime.

Response:

The system architecture must support scaling with increased load.

The application deployed in the AWS cloud hosting environment will use metrics from the servers such as CPU usage, memory usage, as well as custom metrics from the JVM like the average heap memory usage, average response times, etc., to automatically scale the application to meet the growing workload demands. Using a pro-active, auto-scaling policy that responds to the real-time metrics by automatically scaling the servers up or down allows ManTech to meet not only the Quality of Service (QoS) requirements, but also the QoS requirements for the anticipated user workload over the future lifespan of the system.

The system must provide high availability to support minimum disruptions to the business operations.

To provide high availability to support minimum disruptions, ManTech will configure for complete system redundancy where the main infrastructure components such as the databases will be deployed into multiple Availability Zones, which are physically separated. AWS provides synchronization between database zones, and a stand-by mirror environment of the application servers will be configured and linked to the mirrored database. In case of a disaster, the load balancer will automatically switch in seconds to serve content from the mirrored environment where the State can then access the VRVcloud application in the same manner as before the disaster recovery procedure was implemented. Most likely users will not even be aware that an issue occurred. In the unlikely event that the mirrored site is not available, users will be directed to an alternative site with a status message concerning the availability of the application, while ManTech is communicating with the State on a regular basis until the application is available.

The system must handle notifications when a component or interface endpoint is unavailable.

The system must handle performance functionality and monitoring tools.

Since ManTech is proposing using AWS for hosting, we will have access to various monitoring tools. The monitoring tools are referred to as Cloud Watch along with Simple Notification Services (SNS). Cloud Watch provides in depth, detailed metric monitoring including availability and performance. SNS can push a notification in a variety of methods out to notify staff of any issues, including functionality and performance issues. Cloud Watch can be set up to monitor numerous availability metrics and these metrics can be set to trigger an alarm that will then send out a message using SNS. The metrics can be monitored on a minute-by-minute basis, or other time and/or event methods. This will allow ManTech to be notified when a component or endpoint is not available, or when performance is not meeting requirements.

The system must handle recovery of failed transactions because of a component failure.

RTO: If the server hosting the application or database suffers a critical hardware failure (component failure), a replacement server can be launched from an image snapshot within minutes, and the backed-up server configuration retrieved from AWS S3 storage can be re-applied to the new servers without the need to re-install server software or configure it manually. This process is automated using cloud monitoring tools provided by AWS that allow automatically replacing a server with its image based on health check metrics from the server. This allows the application in the AWS cloud to have an RTO of a few minutes, well under the within 12 hours. Additionally, the AWS S3 storage is designed for 99.9% availability over a given year, ensuring access when required.

RPO: To recover from a failure, it is handled using the transaction log backups and differential backup to bring the database from a full backup restore up to the last transaction logged before failure, ensuring minimal or in most cases no loss of data, well within the 15-minute requirement. As a redundancy, the backup files are automatically copied to an off-site location in the AWS S3 storage for retrieval in case of a server disk failure. In case of a failure, new servers can be launched from the server image, and the

Req #	Capabilities and/or Requirement
	configuration retrieved from S3 can be re-applied within minutes to the new server without the need to re-install server software or configure it manually. The system must be available online 24 hours a day and 7 days a week, 99.9% of the time each month excluding scheduled downtime. ManTech will target a minimum availability of 99.9% uptime for 24 hours a day, 7 days a week, to include all unscheduled outages and exclude all scheduled downtime.

CONTRACTUAL AGREEMENT FORM

BIDDER MUST COMPLETE THE FOLLOWING

By signing this Contractual Agreement Form, the bidder guarantees compliance with the provisions stated in this solicitation and agrees to the terms and conditions unless otherwise indicated in writing and certifies that bidder is not owned by the Chinese Communist Party.

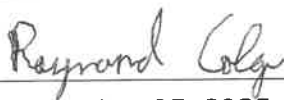
Per Nebraska's Transparency in Government Procurement Act, Neb. Rev Stat § 73-603, DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska Vendors. This information is for statistical purposes only and will not be considered for contract award purposes.

____ NEBRASKA VENDOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Vendor. "Nebraska Vendor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this Solicitation. All vendors who are not a Nebraska Vendor are considered Foreign Vendors under Neb. Rev Stat § 73-603 (c).

____ I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. § 73-107 and wish to have preference, if applicable, considered in the award of this contract.

____ I hereby certify that I am a blind person licensed by the Commission for the Blind & Visually Impaired in accordance with Neb. Rev. Stat. § 71-8611 and wish to have preference considered in the award of this contract.

THIS FORM MUST BE SIGNED MANUALLY IN INK OR BY DOCUSIGN

COMPANY:	ManTech Advanced Systems International, Inc.
ADDRESS:	2251 Corporate Park Drive, Herndon, VA 20171
PHONE:	703-659-5404
EMAIL:	Raymond.Colgan@Mantech.com
BIDDER NAME & TITLE:	ManTech Advanced Systems International, Inc. Raymond Colgan, Senior Contracts Manager
SIGNATURE:	
DATE:	December 05, 2025

VENDOR COMMUNICATION WITH THE STATE CONTACT INFORMATION (IF DIFFERENT FROM ABOVE)

NAME:	
TITLE:	
PHONE:	
EMAIL:	

II. TERMS AND CONDITIONS

Bidder should read the Terms and Conditions within this section and must initial either "Accept All Terms and Conditions Within Section as Written" or "Exceptions Taken to Terms and Conditions Within Section as Written" in the table below. The state will only consider exceptions that are expressly noted. Any exceptions not taken to a provision shall be deemed accepted as stated. If the bidder takes any exceptions, they must provide the following within the "Exceptions" field of the table below (Bidder may provide responses in separate attachment if multiple exceptions are taken):

1. The specific clause, including section reference, to which an exception has been taken;
2. An explanation of why the bidder took exception to the clause; and
3. Provide alternative language to the specific clause within the solicitation response.

By signing the solicitation, bidder agrees to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the solicitation response. The State reserves the right to negotiate rejected or proposed alternative language. If the State and bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the solicitation response. The State reserves the right to reject solicitation responses that attempt to substitute the bidder's commercial contracts and/or documents for this solicitation.

Accept All Terms and Conditions Within Section as Written (Initial)	Exceptions Taken to Terms and Conditions Within Section as Written (Initial)	Exceptions: (Bidder must note the specific clause, including section reference, to which an exception has been taken, an explanation of why the bidder took exception to the clause, and provide alternative language to the specific clause within the solicitation response.)
	RTC	Please see the following pages after Section II for ManTech's exceptions to the Section II Terms and Conditions.

The bidders should submit with their solicitation response any license, user agreement, service level agreement, or similar documents that the bidder wants incorporated in the Contract. The State will not consider incorporation of any document not submitted with the solicitation response as the document will not have been included in the evaluation process. These documents shall be subject to negotiation and will be incorporated as addendums if agreed to by the Parties.

If a conflict or ambiguity arises after the Addendum to Contract Award has been negotiated and agreed to, the Addendum to Contract Award shall be interpreted as follows:

1. If only one (1) Party has a particular clause, then that clause shall control,
2. If both Parties have a similar clause, but the clauses do not conflict, the clauses shall be read together,
3. If both Parties have a similar clause, but the clauses conflict, the State's clause shall control.

A. GENERAL

The contract resulting from this Solicitation shall incorporate the following documents:

- a. Solicitation, including any attachments and addenda;
- b. Questions and Answers;
- c. Bidder's properly submitted solicitation response, including any terms and conditions or agreements submitted by the bidder;
- d. Addendum to Contract Award (if applicable); and
- e. Amendments to the Contract. (if applicable).

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a future contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to the executed Contract with the most recent dated amendment having the highest priority, 2) Executed Contract and any attached Addenda 3) Addendums to the solicitation and any Questions and Answers, 4) the original solicitation document and any Addenda or attachments, and 5) the Vendor's submitted solicitation response, including any terms and conditions or agreements that are accepted by the State.

Unless otherwise specifically agreed to in writing by the State, the State's standard terms and conditions, as executed by the State, shall always control over any terms and conditions or agreements submitted or included by the Vendor.

Any ambiguity or conflict in the contract discovered after its execution, not otherwise addressed herein, shall be resolved in accordance with the rules of contract interpretation as established in the State of Nebraska.

B. NOTIFICATION

Bidder and State shall identify the contract manager who shall serve as the point of contact for the executed contract.

Communications regarding the executed contract shall be in writing and shall be deemed to have been given if delivered personally; electronically, return receipt requested; or mailed, return receipt requested. All notices, requests, or communications shall be deemed effective upon receipt.

Either party may change its address for notification purposes by giving notice of the change and setting forth the new address and an effective date.

C. BUYER'S REPRESENTATIVE

The State reserves the right to appoint a Buyer's Representative to manage or assist the Buyer in managing the contract on behalf of the State. The Buyer's Representative will be appointed in writing, and the appointment document will specify the extent of the Buyer's Representative authority and responsibilities. If a Buyer's Representative is appointed, the bidder will be provided a copy of the appointment document and is expected to cooperate accordingly with the Buyer's Representative. The Buyer's Representative has no authority to bind the State to a contract, amendment, addendum, or other change or addition to the contract.

D. GOVERNING LAW (Nonnegotiable)

Notwithstanding any other provision of this contract, or any amendment or addendum(s) entered into contemporaneously or at a later time, the parties understand and agree that, (1) the State of Nebraska is a sovereign state and its authority to contract is therefore subject to limitation by the State's Constitution, statutes, common law, and regulation; (2) this contract will be interpreted and enforced under the laws of the State of Nebraska; (3) any action to enforce the provisions of this agreement must be brought in the State of Nebraska per state law; (4) the person signing this contract on behalf of the State of Nebraska does not have the authority to waive the State's sovereign immunity, statutes, common law, or regulations; (5) the indemnity, limitation of liability, remedy, and other similar provisions of the final contract, if any, are entered into subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity; and, (6) all terms and conditions of the final contract, including but not limited to the clauses concerning third party use, licenses, warranties, limitations of liability, governing law and venue, usage verification, indemnity, liability, remedy or other similar provisions of the final contract are entered into specifically subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity.

The Parties must comply with all applicable local, state, and federal laws, ordinances, rules, orders, and regulations.

E. BEGINNING OF WORK & SUSPENSION OF SERVICES

The bidder shall not commence any billable work until a valid contract has been fully executed by the State and the successful Vendor. The Vendor will be notified in writing when work may begin.

The State may, at any time and without advance notice, require the Vendor to suspend any or all performance or deliverables provided under this Contract. In the event of such suspension, the Contract Manager or POC, or their designee, will issue a written order to stop work. The written order will specify which activities are to be immediately suspended and the reason(s) for the suspension. Upon receipt of such order, the Vendor shall immediately comply with its terms and take all necessary steps to mitigate and eliminate the incurrence of costs allocable to the work affected by the order during the period of suspension. The suspended performance or deliverables may only resume when the State provides the Vendor with written notice that such performance or deliverables may resume, in whole or in part.

F. AMENDMENT

This Contract may be amended in writing, within scope, upon the agreement of both parties.

G. CHANGE ORDERS OR SUBSTITUTIONS

The State and the Vendor, upon the written agreement, may make changes to the contract within the general scope of the solicitation. Changes may involve specifications, the quantity of work, or such other items as the State may find necessary or desirable. Corrections of any deliverable, service, or work required pursuant to the contract shall not be deemed a change. The Vendor may not claim forfeiture of the contract by reasons of such changes.

The Vendor shall prepare a written description of the work required due to the change and an itemized cost sheet for the change. Changes in work and the amount of compensation to be paid to the Vendor shall be determined in

accordance with applicable unit prices if any, a pro-rated value, or through negotiations. The State shall not incur a price increase for changes that should have been included in the Vendor's solicitation response, were foreseeable, or result from difficulties with or failure of the Vendor's solicitation response or performance.

No change shall be implemented by the Vendor until approved by the State, and the Contract is amended to reflect the change and associated costs, if any. If there is a dispute regarding the cost, but both parties agree that immediate implementation is necessary, the change may be implemented, and cost negotiations may continue with both Parties retaining all remedies under the contract and law.

In the event any good or service is discontinued or replaced upon mutual consent during the contract period or prior to delivery, the State reserves the right to amend the contract to include the alternate product at the same price.

*****Vendor will not substitute any item that has been awarded without prior written approval of DHHS*****

H. RECORD OF VENDOR PERFORMANCE

The State may document the vendor's performance, which may include, but is not limited to, the customer service provided by the vendor, the ability of the vendor, the skill of the vendor, and any instance(s) of products or services delivered or performed which fail to meet the terms of the purchase order, contract, and/or specifications. In addition to other remedies and options available to the State, the State may issue one or more notices to the vendor outlining any issues the State has regarding the vendor's performance for a specific contract ("Contract Compliance Request"). The State may also document the Vendor's performance in a report, which may or may not be provided to the vendor ("Contract Non-Compliance Notice"). The Vendor shall respond to any Contract Compliance Request or Contract Non-Compliance Notice in accordance with such notice or request. At the sole discretion of the State, such Contract Compliance Requests and Contract Non-Compliance Notices may be placed in the State's records regarding the vendor and may be considered by the State and held against the vendor in any future contract or award opportunity. The record of vendor performance will be considered in any suspension or debarment action.

I. NOTICE OF POTENTIAL VENDOR BREACH

If Vendor breaches the contract or anticipates breaching the contract, the Vendor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, a proposed cure, and may include a request for a waiver of the breach if so desired. The State may, in its discretion, temporarily or permanently waive the breach. By granting a waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

J. BREACH

Either Party may terminate the contract, in whole or in part, if the other Party breaches its duty to perform its obligations under the contract in a timely and proper manner. Termination requires written notice of default and a thirty (30) calendar day (or longer at the non-breaching Party's discretion considering the gravity and nature of the default) cure period. Said notice shall be delivered by email, delivery receipt requested; certified mail, return receipt requested; or in person with proof of delivery. Allowing time to cure a failure or breach of contract does not waive the right to immediately terminate the contract for the same or different contract breach which may occur at a different time.

The State's failure to make payment shall not be a breach, and the Vendor shall retain all available statutory remedies. (See Indemnity - Self-Insurance and Payment)

K. NON-WAIVER OF BREACH

The acceptance of late performance with or without objection or reservation by a Party shall not waive any rights of the Party nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

L. SEVERABILITY

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the provision held to be invalid or illegal.

M. INDEMNIFICATION

1. GENERAL

The Vendor agrees to defend, indemnify, and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all third party claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State for personal injury, death, or property loss or damage, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Vendor, its employees, Subcontractors, consultants, representatives, and agents, resulting from this contract, except to the extent such Vendor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

2. INTELLECTUAL PROPERTY

The Vendor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Vendor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Vendor prompt notice in writing of the claim. The Vendor may not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Vendor has indemnified the State, the Vendor shall, at the Vendor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Vendor, and the State may receive the remedies provided under this Solicitation.

3. PERSONNEL

The Vendor shall, at its expense, indemnify and hold harmless the indemnified parties from and against any claim with respect to withholding taxes, worker's compensation, employee benefits, or any other claim, demand, liability, damage, or loss of any nature relating to any of the personnel, including subcontractor's and their employees, provided by the Vendor.

4. SELF-INSURANCE

The State of Nebraska is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01. If there is a presumed loss under the provisions of this agreement, Vendor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §§ 81-8,239.01 to 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Neb. Rev. Stat. § 81-8,294), Tort (Neb. Rev. Stat. § 81-8,209), and Contract Claim Acts (Neb. Rev. Stat. § 81-8,302), as outlined in state law and accepts liability under this agreement only to the extent provided by law.

5. The Parties acknowledge that Attorney General for the State of Nebraska is required by statute to represent the legal interests of the State, and that any provision of this indemnity clause is subject to the statutory authority of the Attorney General.

N. ATTORNEY'S FEES

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Parties agree to pay all expenses of such action, as permitted by law and if ordered by the court, including attorney's fees and costs, if the other Party prevails.

O. ASSIGNMENT, SALE, OR MERGER

Either Party may assign the contract upon mutual written agreement of the other Party. Such agreement shall not be unreasonably withheld.

The Vendor retains the right to enter into a sale, merger, acquisition, internal reorganization, or similar transaction involving Vendor's business. Vendor agrees to cooperate with the State in executing amendments to the contract to allow for the transaction. If a third party or entity is involved in the transaction, the Vendor will remain responsible for performance of the contract until such time as the person or entity involved in the transaction agrees in writing to be contractually bound by this contract and perform all obligations of the contract.

- P. CONTRACTING WITH OTHER NEBRASKA POLITICAL SUBDIVISIONS OF THE STATE OR ANOTHER STATE**
The Vendor may, but shall not be required to, allow agencies, as defined in Neb. Rev. Stat. § 81-145(2), to use this contract. The terms and conditions, including price, of the contract may not be amended. The State shall not be contractually obligated or liable for any contract entered into pursuant to this clause. A listing of Nebraska political subdivisions may be found at the website of the Nebraska Auditor of Public Accounts.

The Vendor may, but shall not be required to, allow other states, agencies or divisions of other states, or political subdivisions of other states to use this contract. The terms and conditions, including price, of this contract shall apply to any such contract, but may be amended upon mutual consent of the Parties. The State of Nebraska shall not be contractually or otherwise obligated or liable under any contract entered into pursuant to this clause. The State shall be notified if a contract is executed based upon this contract.

- Q. FORCE MAJEURE**
Neither Party shall be liable for any costs or damages, or for default resulting from its inability to perform any of its obligations under the contract due to a natural or manmade event outside the control and not the fault of the affected Party ("Force Majeure Event") that was not foreseeable at the time the Contract was executed. The Party so affected shall immediately make a written request for relief to the other Party and shall have the burden of proof to justify the request. The other Party may grant the relief requested; relief may not be unreasonably withheld. Labor disputes with the impacted Party's own employees will not be considered a Force Majeure Event.

- R. CONFIDENTIALITY**
All materials and information provided by the Parties or acquired by a Party on behalf of the other Party shall be regarded as confidential information. All materials and information provided or acquired shall be handled in accordance with federal and state law, and ethical standards. Should said confidentiality be breached by a Party, the Party shall notify the other Party immediately of said breach and take immediate corrective action.

It is incumbent upon the Parties to inform their officers and employees of the penalties for improper disclosure imposed by the Privacy Act of 1974, 5 U.S.C. 552a. Specifically, 5 U.S.C. 552a (i)(1), which is made applicable by 5 U.S.C. 552a (m)(1), provides that any officer or employee, who by virtue of his/her employment or official position has possession of or access to agency records which contain individually identifiable information, the disclosure of which is prohibited by the Privacy Act or regulations established thereunder, and who knowing that disclosure of the specific material is prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than \$5,000.

- S. EARLY TERMINATION**
The contract may be terminated as follows:

1. The State and the Vendor, by mutual written agreement, may terminate the contract, in whole or in part, at any time.
2. The State, in its sole discretion, may terminate the contract, in whole or in part, for any reason upon thirty (30) calendar day's written notice to the Vendor. Such termination shall not relieve the Vendor of warranty or other service obligations incurred under the terms of the contract. In the event of termination, the Vendor shall be entitled to payment, determined on a pro rata basis, for products or services satisfactorily performed or provided.
3. The State may terminate the contract, in whole or in part, immediately for the following reasons:
 - a. if directed to do so by statute,
 - b. Vendor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business,
 - c. a trustee or receiver of the Vendor or of any substantial part of the Vendor's assets has been appointed by a court,
 - d. fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Vendor, its employees, officers, directors, or shareholders,
 - e. an involuntary proceeding has been commenced by any Party against the Vendor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Vendor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Vendor has been decreed or adjudged a debtor,
 - f. a voluntary petition has been filed by the Vendor under any of the chapters of Title 11 of the United States Code,
 - g. Vendor intentionally discloses confidential information,
 - h. Vendor has or announces it will discontinue support of the deliverable; and,
 - i. In the event funding is no longer available.

T. CONTRACT CLOSEOUT

Upon termination of the contract for any reason the Vendor shall within thirty (30) days, unless stated otherwise herein:

1. Transfer all completed or partially completed deliverables to the State,
2. Transfer ownership and title to all completed or partially completed deliverables to the State,
3. Return to the State all information and data unless the Vendor is permitted to keep the information or data by contract or rule of law. Vendor may retain one copy of any information or data as required to comply with applicable work product documentation standards or as are automatically retained in the course of Vendor's routine back up procedures,
4. Cooperate with any successor Contactor, person, or entity in the assumption of any or all of the obligations of this contract,
5. Cooperate with any successor Contactor, person, or entity with the transfer of information or data related to this contract,
6. Return or vacate any state owned real or personal property; and,
7. Return all data in a mutually acceptable format and manner.

Nothing in this section should be construed to require the Vendor to surrender intellectual property, real or personal property, or information or data owned by the Vendor for which the State has no legal claim.

U. PROHIBITED PRODUCTS

The State will not accept Gray Market Products for this solicitation. Gray Market is defined as the trade of a commodity through distribution channels which, while legal, are unofficial, unauthorized, or unintended by the original manufacturer. Gray Market items are not designed to be sold in a particular market and cannot be supported by the authorized importer because of various reasons.

The State will not accept any products made by a company owned by the Chinese Communist Party. Furthermore, pursuant to Executive Order No. 23-05, the State will not accept any communications equipment or services developed by organizations on the Federal Communications Commission's Covered List.

The State will not accept goods from countries or persons identified on the Office of Foreign Assets Control Sanctions List.

V. AMERICANS WITH DISABILITIES ACT

Vendor shall comply with all applicable provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12131–12134), as amended by the ADA Amendments Act of 2008 (ADA Amendments Act) (Pub.L. 110–325, 122 Stat. 3553 (2008)), which prohibits discrimination on the basis of disability by public entities.

W. LONG-TERM CARE OMBUDSMAN (Nonnegotiable)

Vendor must comply with the Long-Term Care Ombudsman Act, per Neb. Rev. Stat. § 81-2237 et seq. This section shall survive the termination of this contract.

X. OFFICE OF PUBLIC COUNSEL (Nonnegotiable)

If it provides, under the terms of this contract and on behalf of the State of Nebraska, health and human services to individuals; service delivery; service coordination; or case management, Vendor shall submit to the jurisdiction of the Office of Public Counsel, pursuant to Neb. Rev. Stat. § 81-8,240 et seq. This section shall survive the termination of this contract.

Y. LOBBYING

1. No federal or state funds paid under this RFQ shall be paid for any lobbying costs as set forth herein.
2. Lobbying Prohibited by 31 U.S.C. § 1352 and 45 CFR §§ 93 et seq, and Required Disclosures.
 - a. Contractor certifies that no federal or state appropriated funds shall be paid, by or on behalf of Contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this award for: (a) the awarding of any federal agreement; (b) the making of any federal grant; (c) the entering into of any cooperative agreement; and (d) the extension, continuation, renewal, amendment, or modification of any federal agreement, grant, loan, or cooperative agreement.
 - b. If any funds, other than federal appropriated funds, have been paid or will be paid to any person for influencing or attempting to influence: an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with

Contractor, Contractor shall complete and submit Federal Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. Lobbying Activities Prohibited under Federal Appropriations Bills.

- a. No funds paid under this RFP shall be used, other than for normal and recognized executive-legislative relationships, for publicity or propaganda purposes, for the preparation, distribution, or use of any kit, pamphlet, booklet, publication, electronic communication, radio, television, or video presentation designed to support or defeat the enactment of legislation before the Congress or any State or local legislature or legislative body, except in presentation of the Congress or any State or local legislature itself, or designed to support or defeat any proposed or pending regulation, administrative action, or order issued by the executive branch of any state or local government itself.
- b. No funds paid under this RFP shall be used to pay the salary or expenses of any grant or contract recipient, or agent acting for such recipient, related to any activity designed to influence the enactment of legislation, appropriations, regulation, administrative action, or Executive order proposed or pending before the Congress or any State government, State legislature or local legislature or legislative body, other than normal and recognized executive legislative relationships or participation by an agency or officer of an State, local or tribal government in policymaking and administrative processes within the executive branch of that government.
- c. The prohibitions in the two sections immediately above shall include any activity to advocate or promote any proposed, pending, or future federal, state or local tax increase, or any proposed, pending, or future requirement or restriction on any legal consumer product, including its sale or marketing, including but not limited to the advocacy or promotion of gun control.

4. Lobbying Costs Unallowable Under the Cost Principles. In addition to the above, no funds shall be paid for executive lobbying costs as set forth in 45 CFR § 75.450(b). If Contractor is a nonprofit organization or an Institute of Higher Education, other costs of lobbying are also unallowable as set forth in 45 CFR § 75.450(c).

Z. LIQUIDATED DAMAGES

The bidder hereby acknowledges that the timely establishment and persistence of 1) the user acceptance testing (UAT) environment, 2) the production environment, 3) a stable post-implementation system, and 4) the expedited resolution of Critical Incidents impacting time-sensitive functions of the system are all vital to the Vital Records Unit. Any deficiencies in these areas would impair the ability of the Vital Records Unit to do the work of the State of Nebraska and would cause damages to the Vital Records Unit. It is difficult to precisely ascertain the nature and extent of such damages.

Liquidated damages may be assessed by the State as specified below in sections (II)(Z)(1) and (II)(Z)(2). Payments to the Vendor may be reduced for the Vendor's failure to resolve Critical Incidents in accordance with tables in these sections. A Critical incident will be considered resolved when both parties agree that the vendor has provided a permanent solution. The Vendor will be notified in writing when liquidated damages will commence.

1. Failure of the vendor to satisfy the dates for the "Results Prior to Go-live" Deliverables defined below in Table 1 may result in an assessment of liquidated damages as indicated in Table 1.

Table 1: Timely completion of "Results Prior to Go-live" Deliverables.

Results Prior to Go-live	Liquidated Damages
The system must have a user acceptance testing (UAT) environment completed and fully accessible to users no later than twelve (12) consecutive months after the "Kick-off" meeting. Delays caused by the State or external third parties (e.g., SSA, NCHS, NAPHSIS) will be reviewed and may be exempted from liquidated damages. <i>RFP, Section (VI)(A)(4)(e) Development and Testing.</i>	Five hundred dollars (\$500.00) per business day for any failure to provide a UAT environment within the prescribed timeframe, with these liquidated damages continuing each business day until the UAT environment is completed and fully accessible to users.
The system must have the production environment completed and fully accessible to users no later than fifteen (15) consecutive months after the "Kick-off" meeting. Delays caused by the State or external third parties (e.g., SSA, NCHS, NAPHSIS) will be reviewed and may be exempted from liquidated damages. <i>RFP, Section (VI)(A)(4)(h) Implementation.</i>	Five hundred dollars (\$500.00) per business day for any failure to provide the production environment within the prescribed timeframe, with these liquidated damages continuing each business day until a production environment has been achieved that is fully functional and accessible to users.

2. The vendor's allowing Critical Incidents to occur during Post Implementation and/or during the period of performance for Support, Maintenance, and Operations, which are defined below in Table 2, may result in an assessment of liquidated damages as indicated in Table 2.

Table 2: Critical Incidents occurring either during the "Post Implementation" and/or the "Support, Maintenance, and Operations" period of performance.

Critical Incidents: Post-Implementation, Burn-in Period* Support, Maintenance, and Operations**	Liquidated Damages
<u>Out of Business:</u> A Critical Incident causes the system to be completely down, and the State of Nebraska is unable to conduct business with the system at any point following system implementation. <i>*Burn-in Period - RFP, SECTION (VI)(A)(4)(i)(i)</i> <i>**Support, Maintenance, and Operations - RFP, SECTION (VI)(A)(4)(j)</i>	<u>Out of Business</u> The vendor will provide a viable workaround or a permanent solution to the problem within two (2) business days of the Critical Incident. If a viable workaround is not provided within two (2) consecutive calendar days, damages of one thousand dollars (\$1,000.00) will be assessed on the third (3rd) consecutive calendar day and on each consecutive calendar day thereafter that the system is still down. If a permanent solution is not provided within thirty (30) consecutive calendar days of the Critical Incident, damages of two thousand five hundred dollars (\$2,500.00) will be assessed on the thirty-first (31st) consecutive calendar day and on each calendar day thereafter until the permanent solution is implemented, and both parties agree that the vendor has provided a permanent solution to the software problem.
<u>Time Sensitive:</u> The Critical Incident pertains to time-sensitive functions, such as recording vital events, processing payments, and issuing or amending certified copies of certificates, preventing the use of such functions at any point following system implementation. <i>*Burn-in Period - RFP, SECTION (VI)(A)(4)(i)(i)</i> <i>**Support, Maintenance, and Operations - RFP, SECTION (VI)(A)(4)(j)</i> <u>Data Movement:</u> The Critical Incident pertains to any interfaces required by the Vital Records Unit, such as the interface with the Online Verification System (OVS) or Fast Healthcare Interoperability Resources (FHIR) messaging at any point following system implementation. <i>*Burn-in Period - RFP, SECTION (VI)(A)(4)(i)(i)</i> <i>**Support, Maintenance, and Operations - RFP, SECTION (VI)(A)(4)(j)</i>	<u>Time Sensitive and Data Movement</u> The vendor will provide a viable workaround or a permanent solution within three (3) consecutive calendar days of the Critical Incident. If a viable workaround is not provided within three (3) consecutive calendar days, damages of five hundred dollars (\$500.00) will be assessed on the fourth (4th) consecutive calendar day and on each consecutive calendar day thereafter that no viable workaround is provided. If a permanent solution is not provided within thirty (30) consecutive calendar days of the Critical Incident, damages of five hundred dollars (\$500.00) will be assessed on the thirty-first (31st) consecutive calendar day and on each calendar day thereafter until the permanent solution is implemented, and both parties agree that the vendor has provided a permanent solution to the software problem.

Mantech has provided the following 4 exceptions for the State to consider:

- Exception 1: Pages 1-4
- Exception 2: Pages 4-6
- Exception 3: Pages 6-8
- Exception 4: Pages 8-9

Exception #	Exceptions: (Bidder must note the specific clause, including section reference, to which an exception has been taken, an explanation of why the bidder took exception to the clause, and provide alternative language to the specific clause within the solicitation response.)
1	Document RFP 12077 03 RFP Vital Records, Section Z Liquidated Damages, Page 16, Table 1 the first two items, UAT and Production environments: From the RFP: Item 1 Results prior to go live: The system must have a user acceptance testing (UAT) environment completed and fully accessible to users no later than twelve (12) consecutive months after the “Kick-off” meeting. Delays caused by the State or external third parties (e.g., SSA, NCHS, NAPHSIS) will be reviewed and may be exempted from liquidated damages. <i>RFP, Section (VI)(A)(4)(e) Development and Testing</i> Liquidated Damages: Five hundred dollars (\$500.00) per business day for any failure to provide a UAT environment within the prescribed timeframe, with these liquidated damages continuing each business day until the UAT environment is completed and fully accessible to users. Item 2 Results prior to go live: The system must have the production environment completed and fully accessible to users no later than fifteen (15) consecutive months after the “Kick-off” meeting. Delays caused by the State or external third parties (e.g., SSA, NCHS, NAPHSIS) will be reviewed and may be exempted from liquidated damages. <i>RFP, Section (VI)(A)(4)(h) Implementation</i> Liquidated Damages:

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	Five hundred dollars (\$500.00) per business day for any failure to provide the production environment within the prescribed timeframe, with these liquidated damages continuing each business day until a production environment has been achieved that is fully functional and accessible to users. Explanation of why we are taking an exception: The RFP is requiring the ManTech meet an arbitrary schedule for UAT and then may invoke uncapped liquidated damages if this schedule is not met. The schedule is unrealistic based on our knowledge of over 25 years of successful vital records implementations, including our most recent web-based implementations in the last 9 states. Additionally, we are aware of our competitor's implementations and have knowledge that none of them have implemented the number of modules with similar requirements within 15 months. ManTech knows this schedule is not just an aggressive schedule, but one that can only be met by forcing the State to accept changing their business practices to meet already configured functionality that may not serve the State, and where the state waives many RFP requirements. For example, there are many items that could delay the project, such as NCHS changing the FHIR specifications (which they have done numerous times in the last year alone), and many others which are outside the control of the ManTech. Instead of documenting every delay and negotiating schedule relief (which because this will occur frequently it will significantly ADD to the schedule) we would much rather deliver a vital records solution that is the BEST solution for the State. With the State currently having a 15-year-old hybrid application, many new business methods to performing the State's work should be reviewed, analyzed, and decided upon by the State. This schedule does not allow time to review and discuss potential improvements to business practices that may significantly reduce the time/labor for registrations to be completed. We understand the State is indicating that they will accept delays in certain circumstances, however that requires the ManTech to rely on the State accepting delays and that puts significant risk on the ManTech if the State PM does not agree or is not reasonable when it comes to the delays. For example, just because an external party such as SSA OVS indicates there will be a 2-week delay on their part, that does not mean that the entire project schedule will only be delayed by only 2 weeks. That deliverable may trigger multiple events, that cause ripple delays in other deliverables. ManTech would have to "trust" the State is going to understand the complexities and to be reasonable with schedule relief, otherwise ManTech faces liquidated damages. Additionally, because of this risk the pricing would have to be greatly increased to take into account the damages. <i>Vital Records Staff Capacity:</i> The success of this project heavily depends on the involvement of the State's vital records staff. While the State may have hired a project manager and ancillary staff and may also rely on its IT group for support, the vital records staff are indispensable. They are the only ones who can make key decisions that directly impact the project's critical path. However, these staff members will likely still be required to perform their regular duties while simultaneously managing the additional workload of this project. This dual responsibility could slow down decision-making and potentially lead to delays. Moreover, some decisions—such as reviewing and revising

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	business practices—may require revisiting State statutes, which is inherently time-consuming and challenging to estimate. ManTech should not be responsible for tracking and documenting the State staff who are not meeting deadlines, or external agencies who do not meet deadlines. Therefore, ManTech should not have to manage getting these types of delays agreed on with the State to obtain schedule relief to avoid damages. <i>Opportunities for Business Process Improvements:</i> A significant advantage of implementing a new vital records system is the opportunity to reimagine and improve existing processes. For example, while every State handle delayed birth registration, each has unique rules and workflows. In one State we worked with, they identified opportunities to simplify their delayed birth process after reviewing how other States managed it. However, this required legislative changes, which took additional time. With a 12 and 15-month timeline, these types of meaningful process improvements may not be feasible, as the focus will primarily be on meeting the schedule. This could result in missed opportunities to modernize and enhance the State’s vital records operations, limiting the long-term value of the project. It is in the State’s best interest to remove the damages and allow ManTech and State to have a flexible schedule without damages. <i>Liquidated Damages and Vendor Behavior</i> The inclusion of liquidated damages for not meeting the UAT and Production schedule creates additional pressure on ManTech to prioritize the timeline over the State’s best interests. ManTech will focus on adhering to the schedule, even if it means not presenting alternative approaches or improvements to business processes. This dynamic will discourage collaboration and innovation. Additionally, ManTech will be forced to aggressively document delays caused by the State or external parties to continually seek schedule relief and avoid penalties. While the State may believe it can avoid delays in this schedule, as stated above there are numerous factors beyond the control of either ManTech or the State that will impact the timeline. ManTech should not be responsible for tracking and documenting every time someone is not actively engaged and meeting deadlines. Therefore, ManTech should not have to manage getting these types of delays agreed on with the State to obtain schedule relief to avoid damages. <i>Challenges of Reverse-Engineering a Schedule</i> Vital records application development is like any other software development project: it is inherently challenging to “back into” a schedule. Building a timeline without fully documented requirements introduces risks to quality and increases the likelihood of overlooking critical needs. The phrase “nine women can’t make a baby in 1

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	month” applies here. A more traditional approach—fully developing requirements then develop a realistic schedule—would better ensure project success. <i>Potential Reasons for the 15-Month Timeline</i> We understand that the State may have specific reasons for the 15-month schedule, such as federal grant funding with a fixed expiration date, expiring maintenance agreements on the current application prompting the need for a quick transition, or others. If that is the case, ManTech has worked with other State that had funding deadlines where we could mutually agree with the State on performing work that allowed the State to obtain the funding, while understanding that additional work still needed to be completed. In particular with this case, the State is holding 50% of the cost until everything is in production, which is more than enough incentive for ManTech to work as quickly as possible. Alternative: ManTech requests that these 2 liquidated damages items be removed. As an alternative, ManTech will work with the State and provide a detailed schedule once the requirements are more completely documented. We understand the State may consider the RFP to contain all the requirements, but what is in the RFP are not detailed requirements. For example, nowhere is it documented what fields will be on the first birth screen, the second, etc. What workflows need to be implemented in the application that will meet the State’s need to register the record? Will the record need to be reviewed by the State prior to registration, or will it be automatically registered once the required fields are completed? These are the requirements that take time to analyze, document, and have the State sign off on BEFORE configuration of the application can begin. Once ManTech has all requirements details, then a project schedule can be produced that matches the level of effort required to implement the State’s requirements. As the project progresses, ManTech will update the project always keeping the State informed of the schedule. Additionally, if there are funding deadlines, ManTech will work with the State to mutually implement items that allow the State to access the funding. This will delivers an application that will meet the State’s current requirements while the State also realizes a 21st century solution, not just one that meets an arbitrary deadline.
2	Document 12077 03 RFP Vital Records Management System, Section Z Liquidated Damages, Page 17, Table 2 the first item Out of Business. From the RFP:

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	<u>Out of Business:</u> A Critical Incident causes the system to be completely down, and the State of Nebraska is unable to conduct business with the system at any point following system implementation. <i>*Burn-in Period - RFP, SECTION (VI)(A)(4)(i)(i) **Support, Maintenance, and Operations - RFP, SECTION (VI)(A)(4)(j)</i> <u>Out of Business</u> The vendor will provide a viable workaround or a permanent solution to the problem within two (2) business days of the Critical Incident. If a viable workaround is not provided within two (2) consecutive calendar days, damages of one thousand dollars (\$1,000.00) will be assessed on the third (3rd) consecutive calendar day and on each consecutive calendar day thereafter that the system is still down. If a permanent solution is not provided within thirty (30) consecutive calendar days of the Critical Incident, damages of two thousand five hundred dollars (\$2,500.00) will be assessed on the thirty-first (31st) consecutive calendar day and on each calendar day thereafter until the permanent solution is implemented, and both parties agree that the vendor has provided a permanent solution to the software problem. Explanation of why we are taking an exception: The RFP is asking for a hosted solution, which means either the vendor provides hosting in the “vendors cloud”, or a third-party hosting such as Amazon Web Services (AWS), MS Azure, etc. Most States prefer a third-party hosting, for many reasons such as they provide industry leading security and performance. However, even those providers suffer down time, which would be “out of business” in this liquidated damage clause. ManTech uses AWS, which is the world’s most comprehensive and broadly adopted cloud. They offer the greatest choice of innovative cloud capabilities and expertise, on the most extensive global infrastructure with industry-leading security, reliability, and performance. AWS has built the world’s largest and most extensive global infrastructure which is uniquely architected to offer unparalleled scalability, performance, and reliability for applications whether they are running in the cloud, on-premises, or at the edge. However, even the leading cloud provider can have out of business incidents. For example, AWS recently suffered an approximate 12 hour down time for thousands of applications. Although a two day out of service for AWS is very unlikely, when this type of “out of business” event occurs, ManTech has little recourse to provide a work around. ManTech does deploy into multiple availability zones, which are physically separated, however in the recent incident multiple availability zones were not available causing the out of business for many customers. Even though it is very unlikely to have a 2 day out of business, ManTech should not be responsible for out of business in the AWS environment. AWS Service Level:

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	AWS provides credits based on uptime. This is from the Amazon Compute Service Level: <i>For each individual Amazon EC2 instance ("Single EC2 Instance"), AWS will use commercially reasonable efforts to make the Single EC2 Instance available with an Instance-Level Uptime Percentage of at least 99.5%, in each case during any monthly billing cycle (the "Instance-Level SLA"). In the event any Single EC2 Instance does not meet the Instance-Level SLA, you will be eligible to receive a Service Credit as described below.</i> <i>Instance-Level Uptime Percentage</i> - Less than 99.5% but equal to or greater than 99.0% - Service Credit Percentage – 10% <i>Instance-Level Uptime Percentage</i> - Less than 99.0% but equal to or greater than 95.0% - Service Credit Percentage – 30% <i>Instance-Level Uptime Percentage</i> - Less than 95.0% - Service Credit Percentage – 100% Alternative: If the AWS environment does not meet any of the uptime percentages and ManTech receives a service credit based on the uptime, ManTech will pass the service credit to the State in the form a reduced monthly hosting cost for any month that does not meet the uptime percentages. ManTech believes this service credit may actually be more than the State is requesting, and the credit is invoked if the uptime percentage is less than 99.5 percent, it does not require a full 2 day out of business.
3	Document 12077 03 RFP Vital Records Management System, Section Z Liquidated Damages, Table 2 the second and third item Time Sensitive and Data Movement. From the RFP: <u>Time Sensitive:</u> The Critical Incident pertains to time-sensitive functions, such as recording vital events, processing payments, and issuing or amending certified copies of certificates, preventing the use of such functions at any point following system implementation. <i>*Burn-in Period - RFP, SECTION (VI)(A)(4)(i)(i)</i>

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	<i>**Support, Maintenance, and Operations - RFP, SECTION (VI)(A)(4)(j)</i> <u>Data Movement:</u> The Critical Incident pertains to any interfaces required by the Vital Records Unit, such as the interface with the Online Verification System (OVS) or Fast Healthcare Interoperability Resources (FHIR) messaging at any point following system implementation. <i>*Burn-in Period - RFP, SECTION (VI)(A)(4)(i)(i)</i> <i>**Support, Maintenance, and Operations - RFP, SECTION (VI)(A)(4)(j)</i> <u>Time Sensitive and Data Movement</u> The vendor will provide a viable workaround or a permanent solution within three (3) consecutive calendar days of the Critical Incident. If a viable workaround is not provided within three (3) consecutive calendar days, damages of five hundred dollars (\$500.00) will be assessed on the fourth (4th) consecutive calendar day and on each consecutive calendar day thereafter that no viable workaround is provided. If a permanent solution is not provided within thirty (30) consecutive calendar days of the Critical Incident, damages of five hundred dollars (\$500.00) will be assessed on the thirty-first (31st) consecutive calendar day and on each calendar day thereafter until the permanent solution is implemented, and both parties agree that the vendor has provided a permanent solution to the software problem. Explanation of why we are taking an exception: For time sensitive issues there could be any number of reasons why this event may occur, including an error by State staff that keeps the record from being amended, or issued, etc. The issue could be when the data was converted the State did not inform ManTech about certain values in fields and that is preventing the issuance of the certificate. Processing payment requires the payment processing application (for credit cards and which is external and not a ManTech product) is operational, otherwise the payment can't be processed. Additionally, data movement issues may require input from the State on how to resolve the issue. For example, a converted record can't be issued because the data from the conversion is missing a key piece of data (through no fault of ManTech) and we need to work with the State to determine how to proceed to populate the data in order for the record to be issued. There are literally hundreds, if not thousands, of cases that could occur that trigger time sensitive issues, many of which are completely outside the control of ManTech and

Exception #	Exceptions: (Bidder must note the specific clause, including section reference, to which an exception has been taken, an explanation of why the bidder took exception to the clause, and provide alternative language to the specific clause within the solicitation response.)
	potentially take days to resolve. We understand the State will indicate that they will be reasonable when invoking this liquidated damage, however that requires ManTech to rely on the State accepting responsibility for time sensitive issues, or to be reasonable. That puts significant risk on ManTech if the State PM is not reasonable when it comes to time sensitive issues. For data movement, the interfaces used are utilizing the external party's requirements for interfacing, and what is being interfaced to is an external party's application. Therefore, responsibility to ensure the interface is working does not seem reasonable, since ManTech has no authority over the interface uptime, or application being interfaced with. The FHIR interface is constantly being updated and only part of it is considered stable (death) at this time. For example, a version of VRDR was released for FHIR and because a variable name was changed by NCHS the interface broke. There was no prior warning of the change, therefore only by using the FHIR interface was the error discovered. Additionally, with the government shutdown the FHIR interface stopped working a few weeks ago, with no warning when it stopped working and no idea when it will come back up. Based on the language in these damages, ManTech would have incurred damages during the shutdown when clearly this is not the fault of ManTech. This is only one of many interfaces the State is requiring ManTech to interface with. If any application that is interfaced with changes their application or linkage requirements, that could invoke damages to ManTech. ManTech has no recourse to mitigate these potential damages, therefore data movement damages should be removed. ManTech has never seen a vital records RFP that requires ManTech to be responsible for someone else's application and interface requirements. For the data movement the damages should be dropped. Alternative: ManTech requests this liquidated damage item be removed for both time sensitive and data movement. As an alternative for data movement and time sensitive issues, ManTech will work with the State as a priority on any of these issues brought to ManTech's attention, regardless of the responsible party for the issue. ManTech will diligently work to resolve the issue while keeping the State fully informed of the progress.
4	Document 12077 03 RFP Vital Records Management System, missing limitation of liability. Explanation of why we are taking an exception: ManTech believes the contract should contain some limitation of liability. Otherwise, the risk of unlimited liability is a risk for ManTech that seems to be unreasonable. Alternative:

Exception #	Exceptions: (Bidder must note the specific clause, including section reference, to which an exception has been taken, an explanation of why the bidder took exception to the clause, and provide alternative language to the specific clause within the solicitation response.)
	If awarded, ManTech respectfully requests the contract award include a waiver of consequential and indirect damages and a reasonable limitation of liability as there are currently no limitations of liability identified in the Solicitation

III. VENDOR DUTIES

Bidder should read the Terms and Conditions within this section and must initial either "Accept All Terms and Conditions Within Section as Written" or "Exceptions Taken to Terms and Conditions Within Section as Written" in the table below. The state will only consider exceptions that are expressly noted. Any exceptions not taken to a provision shall be deemed accepted as stated. If the bidder takes any exceptions, they must provide the following within the "Exceptions" field of the table below (Bidder may provide responses in separate attachment if multiple exceptions are taken):

1. The specific clause, including section reference, to which an exception has been taken;
2. An explanation of why the bidder took exception to the clause; and
3. Provide alternative language to the specific clause within the solicitation response.

By signing the solicitation, bidder agrees to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the solicitation response. The State reserves the right to negotiate rejected or proposed alternative language. If the State and bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the solicitation response. The State reserves the right to reject solicitation responses that attempt to substitute the bidder's commercial contracts and/or documents for this solicitation.

Accept All Vendor Duties Within Section as Written (Initial)	Exceptions Taken to Vendor Duties Within Section as Written (Initial)	Exceptions: (Bidder must note the specific clause, including section reference, to which an exception has been taken, an explanation of why the bidder took exception to the clause, and provide alternative language to the specific clause within the solicitation response.)
RTC		

A. INDEPENDENT VENDOR / OBLIGATIONS

It is agreed that the Vendor is an independent Vendor and that nothing contained herein is intended or should be construed as creating or establishing a relationship of employment, agency, or a partnership.

The Vendor is solely responsible for fulfilling the contract. The Vendor or the Vendor's representative shall be the sole point of contact regarding all contractual matters.

The Vendor shall secure, at its own expense, all personnel required to perform the services under the contract. The personnel the Vendor uses to fulfill the contract shall have no contractual or other legal relationship with the State; they shall not be considered employees of the State and shall not be entitled to any compensation, rights or benefits from the State, including but not limited to, tenure rights, medical and hospital care, sick and vacation leave, severance pay, or retirement benefits.

By-name personnel commitments made in the bidder's solicitation response shall not be changed without the prior written approval of the State. Replacement of these personnel, if approved by the State, shall be with personnel of equal or greater ability and qualifications.

All personnel assigned by the Vendor to the contract shall be employees of the Vendor or a subcontractor and shall be fully qualified to perform the work required herein. Personnel employed by the Vendor or a subcontractor to fulfill the terms of the contract shall remain under the sole direction and control of the Vendor or the subcontractor respectively.

With respect to its employees, the Vendor agrees to be solely responsible for the following:

1. Any and all pay, benefits, and employment taxes and/or other payroll withholding,
2. Any and all vehicles used by the Vendor's employees, including all insurance required by state law,
3. Damages incurred by Vendor's employees within the scope of their duties under the contract,
4. Maintaining Workers' Compensation and health insurance that complies with state and federal law and submitting any reports on such insurance to the extent required by governing law,
5. Determining the hours to be worked and the duties to be performed by the Vendor's employees; and,

6. All claims on behalf of any person arising out of employment or alleged employment (including without limit claims of discrimination alleged against the Vendor, its officers, agents, or subcontractors or subcontractor's employees).

If the Vendor intends to utilize any subcontractor, the subcontractor's level of effort, tasks, and time allocation should be clearly defined in the solicitation response. The Vendor shall agree that it will not utilize any subcontractors not specifically included in its solicitation response in the performance of the contract without the prior written authorization of the State. If the Vendor subcontracts any of the work, the Vendor agrees to pay any and all subcontractors in accordance with the Vendor's agreement with the respective subcontractor(s).

The State reserves the right to require the Vendor to reassign or remove from the project any Vendor or subcontractor employee.

Vendor shall ensure that the terms and conditions contained in any contract with a subcontractor does not conflict with the terms and conditions of this contract.

The Vendor shall include a similar provision, for the protection of the State, in the contract with any Subcontractor engaged to perform work on this contract.

B. FOREIGN ADVERSARY CONTRACTING PROHIBITION ACT CERTIFICATION (Nonnegotiable)

The Vendor certifies that it is not a scrutinized company as defined under the Foreign Adversary Contracting Prohibition Act, Neb. Rev. Stat. Sec. § 73-903 (5); that it will not subcontract with any scrutinized company for any aspect of performance of the contemplated contract; and that any products or services to be provided do not originate with a scrutinized company.

C. EMPLOYEE WORK ELIGIBILITY STATUS

The Vendor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Vendor is an individual or sole proprietorship, the following applies:

1. The Vendor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at <https://das.nebraska.gov/materiel/docs/pdf/Individual%20or%20Sole%20Proprietor%20United%20States%20Attestation%20Form%20English%20and%20Spanish.pdf>
2. The completed United States Attestation Form should be submitted with the Solicitation response.
3. If the Vendor indicates on such attestation form that he or she is a qualified alien, the Vendor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Vendor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
4. The Vendor understands and agrees that lawful presence in the United States is required, and the Vendor may be disqualified, or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. § 4-108.

D. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION (Nonnegotiable)

The Vendor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Vendors of the State of Nebraska, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §§ 48-1101 to 48-1125). The Vendor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Vendor shall insert a similar provision in all Subcontracts for goods and services to be covered by any contract resulting from this Solicitation.

E. COOPERATION WITH OTHER VENDORS

Vendor may be required to work with or in close proximity to other Vendors or individuals that may be working on same or different projects. The Vendor shall agree to cooperate with such other Vendors or individuals and shall not commit or permit any act which may interfere with the performance of work by any other Vendor or individual. Vendor is not required to compromise Vendor's intellectual property or proprietary information unless expressly required to do so by this contract.

F. DISCOUNTS

Prices quoted shall be inclusive of ALL trade discounts. Cash discount terms of less than thirty (30) days will not be considered as part of the solicitation response. Cash discount periods will be computed from the date of receipt of a properly executed claim voucher or the date of completion of delivery of all items in satisfactory condition, whichever is later.

G. PRICES

Prices quoted shall be net, including transportation and delivery charges fully prepaid by the bidder, F.O.B. destination named in the Solicitation. No additional charges will be allowed for packing, packages, or partial delivery costs. When an arithmetic error has been made in the extended total, the unit price will govern.

Prices submitted on the cost sheet form, once accepted by the State, shall remain fixed for the initial five (5) year term of the contract. Any request for a price increase after the initial five (5) year term of the contract shall not exceed five percent (5%) of the previous contract period. If approved, only one (1) increase will be allowed. The request for a price increase must be submitted in writing to the DHHS a minimum of one hundred-twenty (120) days prior to the end of the current contract period. Documentation may be required by the State to support the price increase.

The State reserves the right to deny any requested price increase. No price increases are to be billed to any State Agencies prior to written amendment of the contract by the parties.

The State will be given full proportionate benefit of any decreases for the term of the contract.

H. PERMITS, REGULATIONS, LAWS

The contract price shall include the cost of all royalties, licenses, permits, and approvals, whether arising from patents, trademarks, copyrights or otherwise, that are in any way involved in the contract. The Vendor shall obtain and pay for all royalties, licenses, and permits, and approvals necessary for the execution of the contract. The Vendor must guarantee that it has the full legal right to the materials, supplies, equipment, software, and other items used to execute this contract.

I. OWNERSHIP OF INFORMATION AND DATA / DELIVERABLES

The State shall have the unlimited right to publish, duplicate, use, and disclose all information and data developed or obtained by the Vendor on behalf of the State pursuant to this contract.

The State shall own and hold exclusive title to any deliverable developed as a result of this contract. Vendor shall have no ownership interest or title, and shall not patent, license, or copyright, duplicate, transfer, sell, or exchange, the design, specifications, concept, or deliverable.

Notwithstanding the previously stated provisions of this section, Vendor shall retain all ownership and intellectual property rights to its commercial off-the-shelf system developed prior to this contract, provided the State receives a royalty-free, perpetual license for use of the system and related components.

The State shall be the owner of the vital records data which are collected, stored, accessed, utilized, manipulated or reproduced by the System.

J. INSURANCE REQUIREMENTS

The Vendor shall throughout the term of the contract maintain insurance as specified herein and provide the State with a current Certificate of Insurance/Acord Form (COI) verifying the coverage. The Vendor shall not commence work on the contract until the insurance is in place. If Vendor subcontracts any portion of the Contract the Vendor must, throughout the term of the contract, either:

1. Provide equivalent insurance for each subcontractor and provide a COI verifying the coverage for the subcontractor,
2. Require each subcontractor to have equivalent insurance and provide written notice to the State that the Vendor has verified that each subcontractor has the required coverage; or,
3. Provide the State with copies of each subcontractor's Certificate of Insurance, evidencing the required coverage.

The Vendor shall not allow any Subcontractor to commence work until the Subcontractor has equivalent insurance. The failure of the State to require a COI, or the failure of the Vendor to provide a COI or require subcontractor insurance shall not limit, relieve, or decrease the liability of the Vendor hereunder.

In the event that any policy written on a claims-made basis terminates or is canceled during the term of the contract or within two (2) years of termination or expiration of the contract, the Vendor shall obtain an extended discovery or

reporting period, or a new insurance policy, providing coverage required by this contract for the term of the contract and two (2) years following termination or expiration of the contract.

If by the terms of any insurance a mandatory deductible is required, or if the Vendor elects to increase the mandatory deductible amount, the Vendor shall be responsible for payment of the amount of the deductible in the event of a paid claim.

Notwithstanding any other clause in this Contract, the State may recover up to the liability limits of the insurance policies required herein.

1. WORKERS' COMPENSATION INSURANCE

The Vendor shall take out and maintain during the life of this contract the statutory Workers' Compensation and Employer's Liability Insurance for all of the contractors' employees to be engaged in work on the project under this contract and, in case any such work is sublet, the Vendor shall require the Subcontractor similarly to provide Worker's Compensation and Employer's Liability Insurance for all of the Subcontractor's employees to be engaged in such work. This policy shall be written to meet the statutory requirements for the state in which the work is to be performed, including Occupational Disease. **The policy shall include a waiver of subrogation in favor of the State. The COI shall contain the mandatory COI subrogation waiver language found hereinafter.** The amounts of such insurance shall not be less than the limits stated hereinafter. For employees working in the State of Nebraska, the policy must be written by an entity authorized by the State of Nebraska Department of Insurance to write Workers' Compensation and Employer's Liability Insurance for Nebraska employees.

2. COMMERCIAL GENERAL LIABILITY INSURANCE AND COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

The Vendor shall take out and maintain during the life of this contract such Commercial General Liability Insurance and Commercial Automobile Liability Insurance as shall protect Vendor and any Subcontractor performing work covered by this contract from claims for damages for bodily injury, including death, as well as from claims for property damage, which may arise from operations under this contract, whether such operation be by the Vendor or by any Subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall not be less than limits stated hereinafter.

The Commercial General Liability Insurance shall be written on an **occurrence basis**, and provide Premises/Operations, Products/Completed Operations, Independent Vendors, Personal Injury, and Contractual Liability coverage. **The policy shall include the State, and others as required by the contract documents, as Additional Insured(s). This policy shall be primary, and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory. The COI shall contain the mandatory COI liability waiver language found hereinafter.** The Commercial Automobile Liability Insurance shall be written to cover all Owned, Non-owned, and Hired vehicles.

REQUIRED INSURANCE COVERAGE	
COMMERCIAL GENERAL LIABILITY	
General Aggregate	\$2,000,000
Products/Completed Operations Aggregate	\$2,000,000
Personal/Advertising Injury	\$1,000,000 per occurrence
Bodily Injury/Property Damage	\$1,000,000 per occurrence
Medical Payments	\$10,000 any one person
Damage to Rented Premises (Fire)	\$300,000 each occurrence
Contractual	Included
XCU Liability (Explosion, Collapse, and Underground Damage)	Included
Independent Contractors	Included
Abuse & Molestation	Included
<i>If higher limits are required, the Umbrella/Excess Liability limits are allowed to satisfy the higher limit.</i>	
WORKER'S COMPENSATION	
Employers Liability Limits	\$500K/\$500K/\$500K
Statutory Limits- All States	Statutory - State of Nebraska
Voluntary Compensation	Statutory
COMMERCIAL AUTOMOBILE LIABILITY	
Bodily Injury/Property Damage	\$1,000,000 combined single limit
Include All Owned, Hired & Non-Owned Automobile liability	Included
Motor Carrier Act Endorsement	Where Applicable
UMBRELLA/EXCESS LIABILITY	
Over Primary Insurance	\$5,000,000 per occurrence
PROFESSIONAL LIABILITY	
Professional liability (IT Professional)	\$3,000,000
All Other Professional Liability (Errors & Omissions)	\$1,000,000 Per Claim / Aggregate
COMMERCIAL CRIME	
Crime/Employee Dishonesty Including 3rd Party Fidelity	\$1,000,000
CYBER LIABILITY	
Breach of Privacy, Security Breach, Denial of Service, Remediation, Fines and Penalties	\$10,000,000
MANDATORY COI SUBROGATION WAIVER LANGUAGE	
"Workers' Compensation policy shall include a waiver of subrogation in favor of the State of Nebraska."	
MANDATORY COI LIABILITY WAIVER LANGUAGE	
"Commercial General Liability & Commercial Automobile Liability policies shall name the State of Nebraska as an Additional Insured and the policies shall be primary and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory as additionally insured."	

3. EVIDENCE OF COVERAGE

The Vendor shall furnish the Contract Manager, via email, with a certificate of insurance coverage complying with the above requirements prior to beginning work at:

120277 03 REBID

DHHS Office of Procurement and Grants
Attn: Bradley Murphy
301 Centennial Mall South, 5th Floor
Lincoln, NE 68509
dhhs.rfpquestions@nebraska.gov

These certificates or the cover sheet shall reference the solicitation number, and the certificates shall include the name of the company, policy numbers, effective dates, dates of expiration, and amounts and types of coverage afforded. If the State is damaged by the failure of the Vendor to maintain such insurance, then the Vendor shall be responsible for all reasonable costs properly attributable thereto.

Reasonable notice of cancellation of any required insurance policy must be submitted to the contract manager as listed above when issued and a new coverage binder shall be submitted immediately to ensure no break in coverage.

- 4. DEVIATIONS**
The insurance requirements are subject to limited negotiation. Negotiation typically includes, but is not necessarily limited to, the correct type of coverage, necessity for Workers' Compensation, and the type of automobile coverage carried by the Vendor.
- K. ANTITRUST**
The Vendor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.
- L. CONFLICT OF INTEREST**
By submitting a solicitation response, vendor certifies that no relationship exists between the vendor and any person or entity which either is, or gives the appearance of, a conflict of interest related to this solicitation or project.
- Vendor further certifies that vendor will not employ any individual known by vendor to have a conflict of interest nor shall vendor take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the performance of its contractual obligations hereunder or which creates an actual or appearance of conflict of interest.
- If there is an actual or perceived conflict of interest, vendor shall provide with its solicitation response a full disclosure of the facts describing such actual or perceived conflict of interest and a proposed mitigation plan for consideration. The State will then consider such disclosure and proposed mitigation plan and either approve or reject as part of the overall solicitation response evaluation.
- M. STATE PROPERTY**
The Vendor shall be responsible for the proper care and custody of any State-owned property which is furnished for the Vendor's use during the performance of the contract. The Vendor shall reimburse the State for any loss or damage of such property; normal wear and tear is expected.
- N. SITE RULES AND REGULATIONS**
The Vendor shall use its best efforts to ensure that its employees, agents, and Subcontractors comply with site rules and regulations while on State premises. If the Vendor must perform on-site work outside of the daily operational hours set forth by the State, it must make arrangements with the State to ensure access to the facility and the equipment has been arranged. No additional payment will be made by the State on the basis of lack of access, unless the State fails to provide access as agreed to in writing between the State and the Vendor.
- O. ADVERTISING**
The Vendor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its goods or services are endorsed or preferred by the State. Any publicity releases pertaining to the project shall not be issued without prior written approval from the State.
- P. NEBRASKA TECHNOLOGY ACCESS STANDARDS (Nonnegotiable)**
1. The State of Nebraska is committed to ensuring that all information and communication technology (ICT), developed, leased, or owned by the State of Nebraska, affords equivalent access to employees, program participants and members of the public with disabilities, as it affords to employees, program participants and members of the public who are not persons with disabilities.
 2. By entering into this Contract, Vendor understands and agrees that if the Vendor is providing a product or service that contains ICT, as defined in subsection 3 (below) and such ICT is intended to be directly interacted with by the user or is public facing, such ICT must provide equivalent access, or be modified during implementation to afford equivalent access, to employees, program participants, and members of the public who have and who do not have disabilities. The Vendor may comply with this section by complying with Section 508 of the Rehabilitation Act of 1973, as amended, and its implementing standards adopted and promulgated by the U.S. Access Board.
 3. ICT means information technology and other equipment, systems, technologies, or processes, for which the principal function is the creation, manipulation, storage, display, receipt, or transmission of electronic data and information, as well as any associated content. Vendor hereby agrees ICT includes computers and peripheral equipment, information kiosks and transaction machines, telecommunications equipment, customer premises equipment, multifunction office machines, software, applications, web sites, videos, and electronic documents. For the purposes of these assurances, ICT does not include ICT that is used exclusively by a Vendor.

Q. DISASTER RECOVERY/BACK UP PLAN

The Vendor shall have a disaster recovery and back-up plan, of which a copy should be provided upon request to the State, which includes, but is not limited to equipment, personnel, facilities, and transportation, in order to continue delivery of goods and services as specified under the specifications in the contract in the event of a disaster.

R. DRUG POLICY

Vendor certifies it maintains a drug free workplace environment to ensure worker safety and workplace integrity. Vendor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

S. WARRANTY

Despite any clause to the contrary, the Vendor represents and warrants that its services hereunder shall be performed by competent personnel and shall be of professional quality consistent with generally accepted industry standards for the performance of such services and shall comply in all respects with the requirements of this Agreement. For any breach of this warranty, the Vendor shall, for a period of ninety (90) days from performance of the service, perform the services again, at no cost to the State, or if Vendor is unable to perform the services as warranted, Vendor shall reimburse the State all fees paid to Vendor for the unsatisfactory services. The rights and remedies of the parties under this warranty are in addition to any other rights and remedies of the parties provided by law or equity, including, without limitation actual damages, and, as applicable and awarded under the law, to a prevailing party, reasonable attorneys' fees and costs.

T. TIME IS OF THE ESSENCE

Time is of the essence with respect to Vendor's performance and deliverables pursuant to this Contract.

U. BUSINESS ASSOCIATE PROVISIONS

1. **BUSINESS ASSOCIATE.** "Business Associate" shall generally have the same meaning as the term "business associate" at 45 CFR § 160.103, and in reference to the party to the Contract, shall mean Vendor or Contractor.
2. **COVERED ENTITY.** "Covered Entity" shall generally have the same meaning as the term "covered entity" at 45 CFR § 160.103, and in reference to the party to the Contract, shall mean DHHS.
3. **HIPAA RULES.** "HIPAA Rules" shall mean the Privacy, Security, Breach Notification, and Enforcement Rules at 45 CFR Part 160 and Part 164.
4. **SECURITY INCIDENT.** "Security Incident" shall mean the attempted or successful unauthorized access, use, disclosure, modification, or destruction of information, or interference with system operations in an information system.
5. **OTHER TERMS.** For purposes of these Business Associate Provisions, the following terms shall have the same meaning as those terms in the HIPAA Rules: Breach, Data Aggregation, Designated Record Set, Disclosure, Health Care Operations, Individual, Minimum Necessary, Notice of Privacy Practices, Protected Health Information, Required by Law, Secretary, Subcontractor, Unsecured Protected Health Information, and Use.
6. **THE VENDOR shall do the following:**
 - 6.1. Not use or disclose Protected Health Information other than as permitted or required by the Contract or as required by law. Vendor may use Protected Health Information for the purposes of managing its internal business processes relating to its functions and performance under the Contract. Use or disclosure must be consistent with DHHS' minimum necessary policies and procedures.
 - 6.2. Implement and maintain appropriate administrative, physical, and technical safeguards to prevent access to, and the unauthorized use and disclosure of Protected Health Information. Comply with Subpart C of 45 CFR Part 164 with respect to electronic Protected Health Information, to prevent use or disclosure of Protected Health Information other than as provided for in the Contract and assess potential risks and vulnerabilities to the individual health data in its care and custody and develop, implement, and maintain reasonable security measures.
 - 6.3. To the extent Vendor is to carry out one or more of the DHHS' obligations under Subpart E of 45 CFR Part 164, comply with the requirements of Subpart E that apply to DHHS in the performance of such obligations. Contractor may not use or disclosure Protected Health Information in a manner that would violate Subpart E of 45 CFR Part 164 if done by DHHS.
 - 6.4. In accordance with 45 CFR §§ 164.502(e)(1)(ii) and 164.308(b)(2), if applicable, ensure that any agents and subcontractors that create, receive, maintain, or transmit Protected Health Information received from DHHS, or created by or received from Vendor on behalf of DHHS, agree in writing to the same

- restrictions, conditions, and requirements relating to the confidentiality, care, custody, and minimum use of Protected Health Information that apply to the Contractor with respect to such information.
- 6.5. Obtain reasonable assurances from the person to whom the information is disclosed that the information will remain confidential and be used or further disclosed only as required by law or for the purposes for which it was disclosed to the person, and that the person shall notify Vendor of any instances of which the person is aware that the confidentiality of the information has been breached.
 - 6.6. Vendor shall maintain and make available within fifteen (15) days in a commonly used electronic format:
 - 6.6.1. Protected Health Information to DHHS, as necessary to satisfy DHHS' obligations under 45 CFR § 164.524;
 - 6.6.2. Any amendment(s) to Protected Health Information, as directed or agreed to by DHHS, pursuant to 45 CFR § 164.526, or take other measures as necessary to satisfy DHHS' obligations under 45 CFR § 164.526;
 - 6.6.3. The information required to provide an accounting of disclosures to DHHS, as necessary to satisfy DHHS' obligations under 45 CFR § 164.528.
 - 6.7. Make its internal practices, books, and records relating to the use and disclosure of Protected Health Information received from or created or received by Vendor on behalf of DHHS available to the Secretary or DHHS for purposes of determining compliance with the HIPAA Rules. Vendor shall provide DHHS with copies of the information it has made available to the Secretary at the same time as it was made available to the Secretary.
 - 6.8. Report to DHHS within fifteen (15) days of when Vendor becomes aware, any unauthorized use or disclosure of Protected Health Information made in violation of the Contract or the HIPAA Rules, including any security incident that may put electronic Protected Health Information at risk. Vendor shall, as instructed by DHHS, take immediate steps to mitigate any harmful effect of such unauthorized disclosure of Protected Health Information pursuant to the conditions of the Contract through the preparation and completion of a written Corrective Action Plan that is subject to review and approval by DHHS. Vendor shall be responsible for all breach notifications in accordance with HIPAA rules and regulations, and all costs associated with security incident investigations and breach notification procedures.
 - 6.9. Business Associate shall indemnify, defend, and hold harmless DHHS for any financial loss as a result of claims brought by third parties and which are caused by the failure of Vendor, its officers, directors, agents, or subcontractors to comply with the terms of the Contract, or for penalties imposed by the HHS Office of Civil Rights for any violations of the HIPAA Rules caused by Vendor, its officers, directors, agents, or subcontractors. Additionally, Vendor shall indemnify DHHS for any time and expenses it may incur from breach notifications that are necessary under the HIPAA Breach Notification Rule, which are caused by a failure of Vendor, its officers, directors, agents, or subcontractors to comply with the terms of the Contract.
7. TERMINATION FOR VIOLATION OF BUSINESS ASSOCIATE PROVISIONS.
- 7.1. In addition to other termination provisions provided for herein, DHHS may immediately terminate the Contract, and any and all associated contracts, if DHHS determines that Vendor has violated a material term of these section III. U. Business Associate Provisions.
 - 7.2. Within thirty (30) days of expiration or termination of the Contract, or as agreed, unless Vendor requests and DHHS authorizes a longer period of time, Vendor shall return, or at the written direction of DHHS, destroy all Protected Health Information received from DHHS (or created or received by Vendor on behalf of DHHS) that Vendor still maintains in any form, and shall retain no copies of such Protected Health Information. Vendor shall provide a written certification to DHHS that all such Protected Health Information has been returned or destroyed (if so instructed), whichever is deemed appropriate. If such return or destruction is determined by DHHS to be infeasible, Vendor shall use such Protected Health Information only for purposes that makes such return or destruction infeasible, and the provisions of the Contract shall survive with respect to such Protected Health Information.
 - 7.3. The obligations of the Vendor under this Termination section shall survive the termination of the Contract.

IV. PAYMENT

Bidder should read the Terms and Conditions within this section and must initial either "Accept All Terms and Conditions Within Section as Written" or "Exceptions Taken to Terms and Conditions Within Section as Written" in the table below. The state will only consider exceptions that are expressly noted. Any exceptions not taken to a provision shall be deemed accepted as stated. If the bidder takes any exceptions, they must provide the following within the "Exceptions" field of the table below (Bidder may provide responses in separate attachment if multiple exceptions are taken):

1. The specific clause, including section reference, to which an exception has been taken;
2. An explanation of why the bidder took exception to the clause; and
3. Provide alternative language to the specific clause within the solicitation response.

By signing the solicitation, bidder agrees to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the solicitation response. The State reserves the right to negotiate rejected or proposed alternative language. If the State and bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the solicitation response. The State reserves the right to reject solicitation responses that attempt to substitute the bidder's commercial contracts and/or documents for this solicitation.

Accept All Payment Clauses Within Section as Written (Initial)	Exceptions Taken to Payment Clauses Within Section as Written (Initial)	Exceptions: (Bidder must note the specific clause, including section reference, to which an exception has been taken, an explanation of why the bidder took exception to the clause, and provide alternative language to the specific clause within the solicitation response.)
RTC		

A. PROHIBITION AGAINST ADVANCE PAYMENT (Nonnegotiable)

Pursuant to Neb. Rev. Stat. § 81-2403, "[n]o goods or services shall be deemed to be received by an agency until all such goods or services are completely delivered and finally accepted by the agency."

B. TAXES (Nonnegotiable)

The State is not required to pay taxes and assumes no such liability as a result of this Solicitation. The Vendor may request a copy of the Nebraska Department of Revenue, Nebraska Resale or Exempt Sale Certificate for Sales Tax Exemption, Form 13 for their records. Any property tax payable on the Vendor's equipment which may be installed in a state-owned facility is the responsibility of the Vendor.

C. INVOICES

Invoices for payments must be submitted by the Vendor to the agency requesting the services with sufficient detail to support payment.

The Vendor shall submit invoices as follows:

- Upon completion and sign-off of each respective project deliverable category as outlined in the Cost Sheet. At a minimum, invoices must clearly indicate charges broken down by project deliverable category as outlined in the Cost Sheet, the contract number, and date of invoice.
- Support, Maintenance, and Operations shall be billed quarterly, following the final sign-off of the post-implementation period, throughout the duration of the contract.

The terms and conditions included in the Vendor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract. The State shall have forty-five (45) calendar days to pay after a valid and accurate invoice is received by the State.

Invoices shall be sent to the Vital Records Unit **via email**. The specific name and email of the individual will be provided after contract award.

In the case of unforeseen circumstances not allowing the invoice to be sent via email, please send to:

DHHS Vital Statistics Unit
301 Centennial Mall South
P.O. Box 95065
Lincoln, NE 68509I

D. INSPECTION AND APPROVAL

Final inspection and approval of all work required under the contract shall be performed by the designated State officials.

The State and/or its authorized representatives shall have the right to enter any premises where the Vendor or Subcontractor duties under the contract are being performed, and to inspect, monitor or otherwise evaluate the work being performed. All inspections and evaluations shall be at reasonable times and in a manner that will not unreasonably delay work.

E. PAYMENT (Nonnegotiable)

Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. § 81-2403). The State may require the Vendor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any goods and services provided by the Vendor prior to the Effective Date of the contract, and the Vendor hereby waives any claim or cause of action for any such goods or services.

F. LATE PAYMENT (Nonnegotiable)

The Vendor may charge the responsible agency interest for late payment in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §§ 81-2401 through 81-2408).

G. SUBJECT TO FUNDING / FUNDING OUT CLAUSE FOR LOSS OF APPROPRIATIONS (Nonnegotiable)

The State's obligation to pay amounts due on the Contract for fiscal years following the current fiscal year is contingent upon legislative appropriation of funds. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal year(s) for which such funds are not appropriated. The State will give the Vendor written notice thirty (30) calendar days prior to the effective date of termination. All obligations of the State to make payments after the termination date will cease. The Vendor shall be entitled to receive just and equitable compensation for any authorized work which has been satisfactorily completed as of the termination date. In no event shall the Vendor be paid for a loss of anticipated profit.

H. RIGHT TO AUDIT (First Paragraph is Nonnegotiable)

The State shall have the right to audit the Vendor's performance of this contract upon a thirty (30) days' written notice. Vendor shall utilize generally accepted accounting principles, and shall maintain the accounting records, and other records and information relevant to the contract (Information) to enable the State to audit the contract. (Neb. Rev. Stat. § 84-304 et seq.) The State may audit, and the Vendor shall maintain, the Information during the term of the contract and for a period of five (5) years after the completion of this contract or until all issues or litigation are resolved, whichever is later. The Vendor shall make the Information available to the State at Vendor's place of business or a location acceptable to both Parties during normal business hours. If this is not practical or the Vendor so elects, the Vendor may provide electronic or paper copies of the Information. The State reserves the right to examine, make copies of, and take notes on any Information relevant to this contract, regardless of the form or the Information, how it is stored, or who possesses the Information. Under no circumstance will the Vendor be required to create or maintain documents not kept in the ordinary course of Vendor's business operations, nor will Vendor be required to disclose any information, including but not limited to product cost data, which is confidential or proprietary to Vendor.

The Parties shall pay their own costs of the audit unless the audit finds a previously undisclosed overpayment by the State. If a previously undisclosed overpayment exceeds one-half of one percent (.5%) of the total contract billings, or if fraud, material misrepresentations, or non-performance is discovered on the part of the Vendor, the Vendor shall reimburse the State for the total costs of the audit. Overpayments and audit costs owed to the State shall be paid within ninety (90) days of written notice of the claim. The Vendor agrees to correct any material weaknesses or conditions found as a result of the audit.

Solicitation Number 120277 03 REBID Vital Records Management System Questions

RFP Section Reference	RFP Page Number	Question
Document RFP 12077 03 RFP Vital Records, Section I.C.	2	Does the file upload link have a file size limitation?
Document RFP 12077 03 RFP Vital Records, Part I, Section H, 1.b	17, 63	"Submission of Solicitation Responses", 1.b. Electronic Solicitation Response FILE NAMES. Referenced also with Page 63 of 64, Part VII, SOLICITATION RESPONSE INSTRUCTIONS, A.4 - COST SHEET which states this file is to be labeled "RFP 120277 03 REBID Cost Sheet". To be consistent with the file naming details noted in Part I, H.1.b, should the bidder add "Company Name" after "Cost Sheet" to that document file name? That is, "RFP 120277 03 REBID Cost Sheet Company Name"?
Document RFP 12077 03 RFP Vital Records, Section Z Liquidated Damages, Table 1 the first item.	Page 16	The RFP is requiring the vendor meet an arbitrary schedule for UAT and then may invoke uncapped liquidated damages if this schedule is not met. The schedule is not based on any other State implementation, and if any State/vendor has indicated they have put all these modules in UAT and production in this amount of time we question the veracity of the that. As a vendor with 20+ years of successful implementations we know this schedule is not just an aggressive schedule, but one that can only be met by forcing the State to accept changing their business practices to meet already configured functionality that may not serve the State, and where the state waives many RFP requirements. For example, there are many items that could delay the project, such as NCHS changing the FHIR specifications (which they have done numerous times in the last year alone), and many others which are outside the control of the vendor. Instead of documenting every delay and negotiating schedule relief (which because this will occur frequently will significantly ADD to the schedule) we would much rather deliver a vital records solution that is the BEST solution for the State. With the State currently having a 15-year-old hybrid application, many new business methods to performing the State's work should be reviewed, analyzed, and decided upon by the State. This schedule does not allow time to review and discuss potential improvements to business practices that may significantly reduce the time/labor for registrations to be completed. We understand the State may indicate that they will accept delays in certain circumstances, however the State has not clarified any process for documenting such delays and obtaining a formal schedule extension. Because of that, the vendor has to rely on the State "accepting delays at the State's discretion", and that puts significant risk on the vendor if the State does not agree or is not reasonable when it comes to the delays. Additionally, just because an external party such as SSA OVS indicates there will be a 2-week delay on their part, that does not mean that the entire project schedule will only be delayed by only 2 weeks. That deliverable may trigger multiple events, that cause

Solicitation Number 120277 03 REBID Vital Records Management System Questions

RFP Section Reference	RFP Page Number	Question
		ripple delays in other deliverables. The vendor would have to “trust” the State is going to understand the complexities and to be reasonable with schedule relief. Also, because of this risk the pricing will be greatly increased to take this risk into account. Will the State drop liquidated damages for not meeting the UAT 12-month schedule? Will the State consider alternative timelines?
Document RFP 12077 03 RFP Vital Records, Section Z Liquidated Damages, Table 1 the second item.	Page 16	The RFP is requiring the vendor meet an arbitrary schedule for UAT and then may invoke uncapped liquidated damages if this schedule is not met. Same reasoning as previous question. Will the State drop liquidated damages for not meeting the production 15-month schedule? Will the State consider alternative timelines?
Document 12077 03 RFP Vital Records Management System, Section Z Liquidated Damages, Table 1 the third out of business.	Page 17	The RFP is asking for a hosted solution, which means either the vendor provides hosting in the “vendors cloud”, or a third-party hosting such as Amazon Web Services (AWS), MS Azure, etc. Most States prefer a third-party hosting, for many reasons such as they provide industry leading security and performance. However, even those providers suffer down time, which would be “out of business” in this liquidated damage clause. For example, AWS recently suffered an approximate 12 hour down time for thousands of applications. If this type of “out of business” event occurs for 2 days, the vendor has little recourse to provide a work around. For a workaround, the vendor would have to mirror everything in the hosted environment in 2 different hosting sites (example: AWS and Azure) to ensure there is a workaround to avoid this uncapped damage. This would essentially double the hosting cost to the State. Will the State drop liquidated damages for out of business? Will the State consider alternative damages? For example, AWS and Azure provide refunds for down times typically based on the amount of down time. Can the vendor propose alternative damages where any refunds provided by the third-party hosting solution will be refunded on the maintenance invoice (which includes hosting costs)?
Document 12077 03 RFP Vital Records Management System, Section	17	For time sensitive issues there could be any number of reasons why this event may occur, including an error by State staff that keeps the record from being amended, or issued, etc. We understand the State may indicate that they will accept time sensitive issues in certain circumstances, however the State has not clarified any process for

Solicitation Number 120277 O3 REBID Vital Records Management System Questions

RFP Section Reference	RFP Page Number	Question
Z Liquidated Damages, Table 1 the fourth and fifth item time sensitive and data movement.		documenting such exceptions and obtaining relief. Because of that, the vendor must rely on the State “accepting time sensitive issues at the State’s discretion”, and that puts significant risk on the vendor if the State does not agree or is not reasonable when it comes to accepting the time sensitive issue. Will the State drop liquidated damages for time sensitive issues? Will the State consider alternative damages for time sensitive issues? For data movement, the interfaces linked to are not the vendor’s linkage requirements or applications, therefore responsibility to ensure they are working does not seem reasonable. The FHIR interface is constantly being updated and only part of it is considered stable. For example, a version of VRDR was released for FHIR and because a variable name was changed the interface broke. There was no warning of the change by NCHS, therefore only by using the FHIR interface was the error discovered. Additionally, with the government shutdown the FHIR interface stopped working a few weeks ago, with no warning when it stopped working and no idea when it will come back up. Based on the language in these damages, the vendor would have incurred damages during the government shutdown when clearly this is not the fault of the vendor. If an application that is interfaced with changes their application or linkage requirements, that could invoke damages to the vendor, and the vendor has no recourse to mitigate these potential damages. We have never seen a vital records RFP that requires the vendor to be responsible for someone else’s linkage requirements and/or applications. We understand the State may indicate that they will accept data movement issues in certain circumstances, however the State has not clarified any process for documenting such exceptions and obtaining relief. Because of that, the vendor must rely on the State “accepting data movement issues at the State’s discretion”, and that puts significant risk on the vendor if the State does not agree or is not reasonable when it comes to accepting the data movement issue. Will the State drop liquidated damages for data movement? Will the State consider alternative damages?
Cost Sheet, Sections - Implementation	2	There are 2 items constitute 50% of the invoicing allowed and they are the last 2 items to be completed, meaning they cannot be invoiced for at least 15 months when the application is in production. The State is asking us to hold on invoicing for 50% of the work until the application is

Solicitation Number 120277 O3 REBID Vital Records Management System Questions

RFP Section Reference	RFP Page Number	Question
and Post Implementation		in production which is a considerable hold back. This means the vendor is carrying the cost until the application is implemented, regardless of delays that are the caused of the State, third party delays, and anything else that causes delays or additional work for the vendor that are outside the control of the vendor. Will the State consider alternative milestones to be invoiced?
Attachment 1, Row 33 Ref: 1.3.1	Tab Functional Specifications	<i>The system must have the ability to complete a data conversion of all existing data, including images and files. To confirm that images can be converted, and to be able to estimate the level of effort to convert them, we must know how the current images are stored. For example, if they are stored in a proprietary format, they may not be able to be converted. Can the State confirm what the number and types of images and files that they want converted?</i>

Cost Sheet
RFP 120277 O3 REBID
Vital Records Management System

Bidder Name: **ManTech Advanced Systems International, Inc. (ManTech)**

Important Instructions: Bidders are to complete all fields highlighted in yellow.

Do not alter existing format or content within the Cost Sheet. However, if Bidder identifies that other items are essential in **Part I** and/or **Part II** to create full functionality, and meet the requirements as outlined in the RFP document and any related attachments, then additional lines may be inserted as needed. Such additional lines must be included in **Part I and Part II** pricing and be reflected in the Total Overall Cost. Any inclusion of additional lines must still conform within the stated percentages as outlined in **Part I** and follow the prescribed format as shown. **Important:** In case of a mathematical error in extension of price, unit price shall govern.

Please indicate the "Total Overall Cost" for the Vital Records Management System **\$ 3,675,621.06**.

This amount shall equal the sum of the **Total** for both **Part I** and **Part II**. Do not include any costs for **Part III** and **Part IV** in the "Total Overall Cost", as these sections are not included in the cost evaluation.

Part I: Project section requirements as outlined in Section (VI)(A) of the Request for Proposal (RFP) document and any related attachments. Bidder to provide pricing for each of the project deliverable categories listed. The sum of all projects deliverable categories listed directly below constitutes the **Part I – Total**. Important: Bidders are to ensure that allocation of their percentages are based on the % provided for each category and that the total of all categories within **Part I** does not exceed 100%.

Description	% Breakdown by Category for Part I	Number of Units	Unit of Measure (UOM)	Cost (Unit Price)
Project Initiation: Includes creation, review, and acceptance of each of the following items. The total cost for this category shall be 5% of the total for Part I. Reference section VI.A.4.c	Project Initiation: Items i. through vii. shall <u>equal</u> 5% of the total cost for Part I	1	Each	\$ 92,056.38
i. Kick-off Event, Documentation, Review and Approval				
ii. Develop a Detailed Project Plan				
iii. Develop a Risk Management Plan				
iv. Develop a Communication Plan				
v. Develop a Staffing Management Plan				
vi. Develop a Change Management Plan				
vii. Develop an Issue Management Plan				
Design and Configuration: The total cost for this category shall be 10% of the total for Part I. Reference section VI.A.4.d.	Design and Configuration: Items i. through x. shall <u>equal</u> 10% of the total cost for Part I	1	Each	\$ 184,112.77
i. Establish Review and Acceptance Process				
ii. Develop a Requirements Traceability Matrix (RTM)				
iii. Coordinate and Facilitate On-Site Requirements Gathering Session(s)				
iv. Develop and Submit an Application for Configuration and Maintenance Plan				
v. Establish and Utilize a Deliverable Review and Acceptance Process				
vi. Configure Environments for Development, Testing, Training and Production				
vii. Complete Standard System Configuration				
viii. Assist the Unit with Configuration of System				
ix. Assist the Unit with User Role Determination				
x. Obtain Acceptance from Unit on Design and System Configuration				
Development and Testing: The total cost for this category shall be 20% of the total for Part I. Reference section VI.A.4.f.	Development and Testing: Items i. through viii. shall <u>equal</u> 20% of the total cost for Part I	1	Each	\$ 368,225.54
i. Complete all Necessary Custom Development				
ii. Complete all Necessary Reports				
iii. Complete all Necessary Integrations (Interfaces, Imports, and Exports)				
iv. Develop a Testing Plan				
v. Execute and Evaluate Testing				
vi. Document Testing Results				
vii. Assist the Unit with User Acceptance Testing (UAT)				
viii. Obtain Acceptance from the Unit on Testing Results				

Part I – Categories are continued on the next page

Cost Sheet
RFP 120277 O3 REBID
Vital Records Management System

Data/File Migration: The total cost for this category shall be 10% of the total for Part I. Reference section VI.A.4.f.	Data/File Migration: Items i. through v. shall <u>equal</u> 10% of the total cost for Part I	1	Each	\$ 184,112.77
i. Develop a Data/File Conversion and Migration Plan				
ii. Develop a Conversion Mapping Guide				
iii. Perform the Data/File Conversion and Migration				
iv. Provide a Data/File Conversion and Migration Results Report				
v. Obtain Acceptance from the Unit on Data/File Conversion and Migration Results				
Training: The total cost for this category shall be 5% of the total for Part I. Reference section VI.A.4.g.	Training: Items i. through iii. shall <u>equal</u> 5% of the total cost for Part I	1	Each	\$ 92,056.38
i. Coordinate and facilitate On-site Training Instruction				
ii. Provide Online Reference Training Materials for Administrator and User Manuals				
iii. Obtain Acceptance from the Unit on Training Results				
Implementation: The total cost for this category shall be 40% of the total for Part I. Reference section VI.A.4.h.	Implementation: Items i. through iv. shall <u>equal</u> 40% of the total cost for Part I	1	Each	\$ 736,451.07
i. Perform and Complete all Aspects of the Implementation				
ii. Go-live				
iii. Assist the Unit with On-site Implementation Assistance for Go-Live Week				
iv. Obtain Acceptance from the Unit on Implementation Results				
Post-Implementation: The total cost for this category shall be 10% of the total for Part I. Reference section VI.A.4.i.	Post-Implementation: Items i. through v. shall <u>equal</u> 10% of the total cost for Part I	1	Each	\$ 184,112.77
i. Burn-in Period (90 calendar days)				
ii. Coordinate and Facilitate Post-Implementation Review Teleconference Meeting				
iii. Provide a Plan for Enhancement Requests				
iv. Provide a Transition Plan from Implementation to Support, Maintenance, and Operations				
v. Obtain Final Sign-off				
Part I – Total				\$1,841,127.69

Part II – Support, Maintenance, and Operations -reference Section VI.A.4.j.
(Note: These items would be paid on a quarterly basis)

Bidder's price for Support, Maintenance, and Operations shall include all associated costs or fees (including but not limited to subscriptions costs). **Important:** Do not include statements in the RFP proposal submittals, attachments, etc. indicating that there will be additional fees which are not included in the table below. The sum of the extended cost (Number of Units x Unit Price) constitutes the **Part II – Total**.

Description	Contract Term	Unit of Measure (UOM)	Number of Units	Cost (Unit Price)	Extended Cost
Support, Maintenance, Operations, and any additional costs or fees (including but not limited to subscriptions) - Post Burn-in period (90 calendar days)	Year Two of the Initial Term*	Monthly	12	\$ 36,709.83	\$ 440,517.90
Support, Maintenance, Operations, and any additional costs or fees (including but not limited to subscriptions)	Year Three of the Initial Term	Monthly	12	\$ 37,699.44	\$ 452,393.25
Support, Maintenance, Operations, and any additional costs or fees (including but not limited to subscriptions)	Year Four of the Initial Term	Monthly	12	\$ 38,712.10	\$ 464,545.16
Support, Maintenance, Operations, and any additional costs or fees (including but not limited to subscriptions)	Year Five of the Initial Term	Monthly	12	\$ 39,753.09	\$ 477,037.06
Part II - Total					\$ 1,834,493.37

***No Support, Maintenance, and Operations compensation shall be paid until all requirements of the Burn-In Period have been satisfied.**

Cost Sheet
RFP 120277 O3 REBID
Vital Records Management System

Optional Services

Part III – Optional Renewal for Support, Maintenance, and Operations **Reference section VI.A.4.k**
 (Note: These items would be paid on an annual basis)

(Do **not** include these amounts in the Total Overall Cost associated with Part I and Part II)

Optional Five (5) Year Renewal Period					
Description	Contract Term	Unit of Measure (UOM)	Number of Units	Cost (Unit Price)	Extended Cost
Support, Maintenance, Operations and any additional costs or fees (including but not limited to subscriptions)	Renewal Year One (1)	Monthly	12	\$ 40,822.93	\$ 489,875.19
Support, Maintenance, Operations, and any additional costs or fees (including but not limited to subscriptions)	Renewal Year Two (2)	Monthly	12	\$ 41,920.40	\$ 503,044.81
Support, Maintenance, Operations, and any additional costs or fees (including but not limited to subscriptions)	Renewal Year Three (3)	Monthly	12	\$ 43,049.05	\$ 516,588.65
Support, Maintenance, Operations, and any additional costs or fees (including but not limited to subscriptions)	Renewal Year Four (4)	Monthly	12	\$ 44,207.61	\$ 530,491.31
Support, Maintenance, Operations, and any additional costs or fees (including but not limited to subscriptions)	Renewal Year Five (5)	Monthly	12	\$ 45,398.48	\$ 544,781.79
Part III - Total Cost for Optional Five (5) Year Renewal Period					\$ 2,584,781.76

Part IV – Optional Services Miscellaneous Enhancements
 (Do **not** include these amounts in the Total Overall Cost associated with Part I and Part II)

Custom Programming and Additional Features

Work may be needed that was not originally delineated in this RFP but considered within the scope of work (i.e., Custom Programming). This additional work may stem from legislative mandates, emerging technologies, secondary research and/or data integration solutions not otherwise addressed in this RFP or known at the time this RFP was issued. If additional work is needed, the Contractor must submit a detailed Scope of Work and detailed pricing to include items such as, but not limited to, Title/Role(s), number of hours, unit of measure, and due dates/deliverables for DHHS review and approval. The bidder shall provide hourly pricing for any current and future custom programming needs to meet specific requirements for the Vital Records Management System as requested and mutually agreed upon by the bidder and DHHS.

Hourly Rates for Miscellaneous Support/Maintenance (beyond RFP/Contract requirements)

The Bidder should provide the Title/Role with each respective hourly rate to perform additional services*.

Title / Role such as, but not limited to:	Hourly Rate
Account/Program Manager	\$ 300
Project Manager	\$ 230
Business Analyst	\$ 130
Technical Lead	\$ 200
Software Engineer	\$ 200

*Bidder may add additional lines as needed.