State of Nebraska (State Purchasing Bureau)
REQUEST FOR INFORMATION

RETURN TO:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508
Phone: 402-471-6500
Fax: 402-471-2089

SOLICITATION NUMBER	RELEASE DATE
RFI 52016	**May 20, 2016**
OPENING DATE AND TIME	PROCUREMENT CONTACT
June 30, 2016 2:00 p.m. Central Time	**Teresa Fleming/Robert Thompson**

This form is part of the specification package and must be signed in ink and returned, along with information documents, by the opening date and time specified.

PLEASE READ CAREFULLY!
SCOPE OF SERVICE

The State of Nebraska, Administrative Services, Materiel Division, State Purchasing Bureau, is issuing this Request for Information (RFI) 52016 for the purpose of gathering information to modernize the Nebraska Department of Motor Vehicles (State DMV) Vehicle Title and Registration System (VTR).

Written questions are due no later than June 3, 2016, and should be submitted via e-mail to as.materielpurchasing@nebraska.gov. Written questions may also be sent by facsimile to (402) 471-2089.

Bidder should submit one (1) original of the entire RFI response. RFI responses should be submitted by the RFI due date and time.

Sealed RFI responses should be received in the State Purchasing Bureau by the date and time of RFI opening indicated above.

BIDDER MUST COMPLETE THE FOLLOWING

By signing this Request for Information form, the bidder guarantees compliance with the provisions stated in this Request for Information.

FIRM: NebuLogic Technologies (Holdings), Inc.

COMPLETE ADDRESS: 5700 Granite Parkway Suite #405, Plano, TX, 75024

TELEPHONE NUMBER: 972-335-0699   FAX NUMBER: 214-432-0846

SIGNATURE: _N. Srinivasulu_   DATE: 6/28/2016

TYPED NAME AND TITLE OF SIGNER: Nivas Nallanthi, Chief Executive Officer

RESPONSE TO REQUEST FOR INFORMATION
RFI #52016

Nebraska Department of Motor Vehicles
Vehicle Title & Registration (VTR) Modernization

Response By

Canon

NebuLogic
Cloud Computing Delivered

Submitted to

DMV Nebraska

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508
Phone: 402-471-6500
Fax: 402-471-2089

FORM A

VENDOR CONTACT SHEET

Request for Information Number 52016

Form A should be completed and submitted with each response to this solicitation document. This is intended to provide the State with information on the vendor's name and address, and the specific persons who are responsible for preparation of the vendor's response.

Preparation of Response Contact Information	
Vendor Name:	NebuLogic Technologies, (Holdings) Inc.
Vendor Address:	5700 Granite Parkway, Suite #405 Plano, TX 75024
Contact Person and Title:	Mr. Nivas Nallanthi, Chief Executive Officer Ms. Peggy Hendricks, Operations Department
E-mail Address:	Nivas.Nallanthi@NebuLogic.com Peggy.Hendricks@NebuLogic.com
Telephone Number (Office):	972-335-0699
Telephone Number (Cellular):	214-929-7638/214-232-4157
Fax Number:	214-432-0846

Each vendor shall also designate a specific contact person who will be responsible for responding to the State if any clarification of the vendor's response should become necessary. This will also be the person who the State contacts to set up a presentation/demonstration, if required.

Communication with the State Contact Information	
Vendor Name:	NebuLogic Technologies, (Holdings) Inc.
Vendor Address:	5700 Granite Parkway, Suite #405 Plano, TX 75024
Contact Person and Title:	Ms. Peggy Hendricks, Operations Department
E-mail Address:	Peggy.Hendricks@NebuLogic.com
Telephone Number (Office):	972-335-0699
Telephone Number (Cellular):	214-232-4157
Fax Number:	214-432-0846

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Executive Summary

Canon/NebuLogic is pleased to provide the Nebraska Department of Motor Vehicles (DMV) with information on products, services, and solutions to assist your Vehicle Title and Registration (VTR) Modernization effort. This executive summary provides initial background information on Canon/NebuLogic, our experience, and our solution for the motor vehicle and driver licensing market.

The Canon/NebuLogic Team

Canon has partnered with NebuLogic Technologies ("NebuLogic"), the most experienced solution implementation partner within the Oracle partner network, for marketing to the motor vehicle and driver licensing market. NebuLogic has a proven, verified and impeccable track record of delivering complex solutions to clients, both in the public and commercial sectors, in the United States and worldwide. Having delivered multiple projects to several states across the nation, NebuLogic brings its deep level of application and subject matter expertise, as well as proven project management methodologies, implementation techniques and tools for the successful implementation of the project.

Canon has been working with NebuLogic for the past few years to explore, various solution verticals, in which we can combine our collective experience and commitment to deliver quality products and services to our end-clients. Canon and NebuLogic's teams have been engaged since 2013, to incorporate Canon's Enterprise Imaging Platform (EIP) into enterprise class CRM, process, policy, social and marketing automation solutions.

CANON

Canon is a $30 billion, debt-free global company with a net income of $2 billion, and nearly 200,000 employees around the world. Canon is a group of 268 corporations, subsidiaries and alliances. As such, Canon is a strong corporation with the experience, qualifications, and financial stability necessary for a project the size and complexity of the VTR Modernization Project.

Canon is known for innovation. For the last 29 consecutive years, Canon has been in the Top Five companies in the world, for new patents, for innovation in image capture, printing, photography, and other technologies. While best known for our cameras, printers, display units, and scanners, Canon is a leader in digital document workflow, document management systems, and medical solutions.

For DMVs, Canon's experience in the image capture and electronic document management systems, and digital workflow, is invaluable for streamlining operations and reducing reliance on paper. We are working with NebuLogic to integrate these market-leading components for our motor vehicle and driver licensing clients.

NEBULOGIC TECHNOLOGIES

NebuLogic is an ISO 9001:2015 (Quality Management Systems) certified company and an Oracle Platinum System Implementation Partner. With over 20 years of experience, NebuLogic is a leading systems implementation and integration information technology company, that has been delivering several successful projects for corporations of all sizes and governmental agencies, with a track record of delivering consistent results and the highest customer satisfaction. NebuLogic has delivered over 200 solutions in major business verticals such as Transportation (Automobiles and Airlines), High Tech, Manufacturing, Distribution, Accounting, Financial, Higher Education, Telecommunications, and others.

NebuLogic specializes in delivering comprehensive enterprise class processes, policy, sales, social, and marketing automation solutions, in various business verticals, to customers across the globe. With our innovative and result-oriented approach, NebuLogic has become the go-to solution implementation partner to many Fortune 500 companies such as IBM, Oracle, ACS Corporation, XEROX Corporation, and others. With over two decades of expertise in implementing similar projects, NebuLogic has positioned itself to deliver DMV modernization solutions such as Nebraska DMV's VTR modernization project. NebuLogic, in collaboration with Canon, would be responsible for implementing, delivering, supporting and maintaining the solution described in this response to DMV's RFI.

NebuLogic is proud of our accomplishments and successes as outlined below:

- NebuLogic is the only company to deliver three large Health Insurance Exchange Constituent Service (HIX) Center solutions successfully, on-time and on-budget, using Oracle applications, while many legislative mandates altered the scope several times during the implementation phase.

- NebuLogic is the only company that has successfully delivered several state and local service center solutions using the Oracle applications.

- NebuLogic was awarded the implementation of three large City 311 and utility service center solutions.

- NebuLogic has received an Experience Innovation Award consecutively in both 2014 and 2015 in the Technology category by CUSTOMER, an initiative of TMC.

- One of our implementations has been hailed by **The Wall Street Journal** as part of "the best implementation in the nation", while **MSNBC** reported the overall solution to be an "indisputable success".

- NebuLogic has been listed in "20 Best Cloud Computing Companies in the world" and was a recipient of numerous recognitions and accolades in the past several years.

- 100% successful deployment rate for our projects.

- 100% on-time and on-budget delivery.

- 100% customer satisfaction record.

Our People

Our people make the difference. Canon has nearly 200,000 employees worldwide, so we have the experience required to manage teams much larger than that required for a DMV system. Our size and diversity have necessitated the implementation of strong project management methodologies that we leverage in our client projects as well.

NebuLogic is established and managed by software engineers with decades of hands-on industry experiences. We follow and keep enhancing the best practices set for every task, from project kick-off to go-live and beyond. Our team consists of certified professionals, both in applications and related technologies. As we are an ISO certified company, every task goes through a strict internal audit process before being delivered. We are a team of dedicated engineers who are passionate about designing, configuring and delivering the most efficient and economical solutions.

NebuLogic is very proud of our team members and encourages their pursuit of professional certifications and accreditations. Our team members are certified in many areas including certifications as Project Management Professionals (PMP), Java development, .NET development, Oracle RightNow CX, Oracle CRM on Demand, CSM Scrum Masters, CSP Scrum Practitioners, CUA Usability Analysts, and many more.

Canon's strong product background, combined with NebuLogic's equally superior systems integration experience, result in a very well-rounded project team composition for delivering excellent client solutions.

The Canon/NebuLogic Qualifications

Canon

Canon's long corporate history is full of examples, which we could list, to show the company's qualifications for a project the size of Nebraska's VTR Modernization project. The list below highlights just a few of these:

- Internal Revenue Service - Canon provided over 4,500 multi-function devices (MFD) to IRS offices nationwide. Canon's Authorized Dealers nationwide provide delivery, networking, installation, relocations, firmware upgrades and maintenance for Canon. Additionally, Canon provides on-site service technicians at twelve IRS campuses. Canon worked with the US Government to standardize and streamline their document management needs, with a standard MFD machine and establish a firmware standard across all IRS offices for MFDs.

- Philadelphia Presbytery Homes, Inc. (Presby's Inspired Life) - The client was in the planning stages of reconstructing their flagship facility, called Rydal Park, which had grown over time. The client's work groups were scattered through the facility, and they relied on many small personal (non-networked) printers. Canon participated in the building design and workflow planning efforts, which ultimately eliminated a majority of the client's laser printers. Canon deployed solutions to provide secure printing to facilitate HIPAA compliance. During the project, Canon and the client discovered a need

for user identification at the equipment, since several groups of users had a 24/7 schedule. So the multifunction printers were "locked down", using Canon's uniFLOW software, and we employed access restrictions so each group only had access to the devices' capabilities needed for their job. In addition, Canon implemented various workflow automations to further streamline the client's operations.

- Thyssen Krupp – For this client, Canon digitized existing construction-related contract documents to regain filing space and provide a more efficient mechanism to find documents quickly. The conversion project entailed a combination of activities performed at the client site (boxing and inventory) and at a Canon processing facility (actual conversion). Canon continues to provide ongoing services to this client as they have broadened the scope of the project to several other departments as a result of the benefits received from the initial effort.

NEBULOGIC

NebuLogic has delivered on-time, on-budget solutions for many systems integration clients in our 20-year history. Many of these projects are applicable and relevant to Nebraska's VTR Modernization effort, which includes a strong customer-centric, customer service management focus. The list below provides some high-level details about these qualifications:

- Commonwealth of Kentucky Health Insurance Exchange (HIX) Customer Service Center
  - Oracle Customer Relationship Management (CRM) application
  - 1500+ customer service representatives
  - 35+ user roles
  - Service channels – web form, portal, telephone, IVR, email, and live chat
  - 360-degree view of data in real-time
  - 5,000,000 transactions per year
  - 2,000,000 customers
  - Highly-intuitive, dynamic, profile-based user interface
  - Intelligent queue management system
  - Highly secured FISMA-compliant NIST-certified application
  - Extensive data management with encryption, decryption, cleansing, extraction, and export to a variety of third parties
  - Enhanced single sign-on (SSO) and multi-factor authentication (MFA)

- General Motors Dealer Management and Customer Service Automation solution
  - Oracle CRM application
  - 3,000+ customer service representatives
  - 1,000,000 transactions per year
  - 100,000,000 customers across four continents
  - Highly-intuitive and dynamic user interface
  - Deployed in three dedicated instances serving users in four continents
  - Enhanced customer experience, using templates and auto-generated responses for consistent, structured follow-up
  - Post-production support and maintenance services

- Air Canada Baggage and In-Flight Entertainment Customer Service Automation solution

- o Oracle CRM application
- o 150+ customer service representatives
- o 500,000 transactions per year
- o 30,000,000 customers across the globe
- o Highly-intuitive and dynamic user interface
- o Deployed in secure instance serving users around the globe
- o Real-time web portal to CRM automation
- o Enhanced customer experience using 200+ email templates, auto-generated emails
- o Post-production support and maintenance services
- o Data center and hosting services

- Citywide 311 Non-Emergency Services & Utilities Customer Service Centers: City of Albuquerque, NM; City of Fort Wayne, IN; and City of Fort Worth, TX
  - o Oracle CRM application
  - o Profile-based user interface
  - o Highly secured FISMA-compliant NIST-certified application
  - o 360-degree view of data in real-time

The Canon/NebuLogic SMART DMV Solution

NebuLogic has developed and configured a solution for the motor vehicle and driver licensing public sector market. We've named it the SMART DMV solution. SMART because it provides for **S**ecure, **M**odern, **A**daptable, and **R**esponsive **T**ransactions.

Secure – SMART DMV is secured at all levels of the application with role based access, and intrusion detection and prevention tools so you can trust that only the people with the need and rights to get to the data are getting to the system.

Modern – SMART DMV is modern with a fresh, intuitive look-and-feel that allows DMV to quickly train employees, enables fast transactions, and opens up more self-service transactions so that DMV can reduce branch traffic with the knowledge that customers will be readily able to use self-service options.

Adaptable – SMART DMV is adaptable to actively monitor the status of records and respond with only the options appropriate to the record and also allow DMV to quickly respond to changes in business requirements, through the use of the business rules engine and configurable transaction workflows. No more months of development and testing will be required to change the fee or fund distribution for a transaction. No more months of development required to add a new license plate whenever the legislature passes a new law. No more months of development required to change or add a new process step to a transaction if a supervisor approval is added to a transaction process. No more months of effort to change the name of the DMV Director on notices or letters generated by the system or to add a new field to a screen.

Responsive – SMART DMV is responsive through the use of trend analysis, predictive modeling, and performance management tools, enable management of resources to respond to planned and unplanned events.

Transactions – SMART DMV includes transaction workflows that drive the user through the transaction from beginning to end with minimal effort. Transactions that integrate with the

back-end systems that support them – systems such as the financial and document management solutions required to manage the revenue, expenses, and documentation associated with customer activity.

Secure – **M**odern – **A**daptive – **R**esponsive – **T**ransactions = **SMART DMV** (See Figure 1)
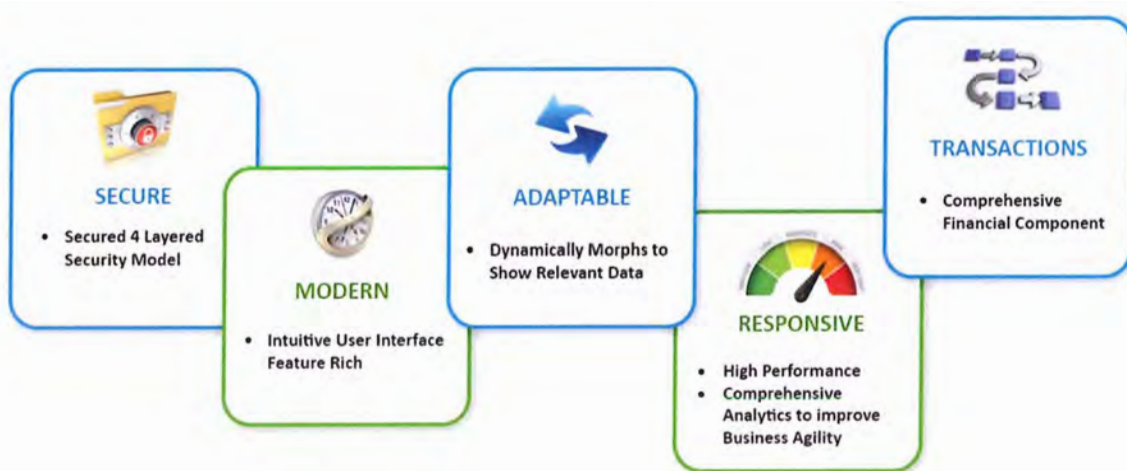
Figure 1 - The SMART DMV Solution

SMART DMV is configured using industry-leading, enterprise-level COTS products in the Oracle suite, leveraging the proven power and configurability of the Oracle stack. The foundation for SMART DMV is Oracle's SOA Suite, Oracle CRM, database, and business rules engine, Oracle Policy Automation. With these COTS products as the foundation for SMART DMV, NebuLogic is able to configure the SMART DMV solution for each state's specific requirements.

In addition, NebuLogic has developed many value-add frameworks and components for our Oracle-based solutions that further enable us to deliver superior service to our clients:

- NebuLogic Enterprise Application Development Framework (NEADF)
- Configurable integrations to third-part applications
- 150+ value-add components
- Multi-channel integration components for web portal, email, chat, SMS, CTI, IVR, fax, OCR, kiosk, social media, etc.
- Security components including single sign on, multi-factor authentication, and auto account provisioning
- Data Management Services
- Data Center and Hosting Services

Conclusion

In summary, with our team's experience, in combination with our SMART DMV solution, Canon/NebuLogic believes we are a premier provider of thought leadership and modern, technically-sound solutions in the motor vehicle and driver licensing field. we are excited about the opportunity to help the State of Nebraska deliver on your vision of the new Vehicle Title & Registration system and look forward to the opportunity for further discussions.

The remainder of our response provides our responses to the thirteen specific questions asked by DMV in the RFI.

1. Approach and Possible Solution

> *1.   Approach and Possible Solution:*
>
> *The Current Environment Report (CER), a description of the existing VTR system business and technical environment, is available at this link:*
>
> *http://www.dmv.nebraska.gov/dvr/pdf/DMVvtrCER.pdf*
>
> *The report will provide relevant background for answering the following questions:*
>
> *a.   What overall solution would you propose to replace the existing VTR system? Please specify commercial off the shelf (COTS), modified off the shelf (MOTS), or some other software design or approach. The State DMV is interested in any information you can provide about your high-level solution.*
>
> *b.   How many jurisdictions have adopted your VTR system solution?*
>
> *c.   Can you share any plans for future releases or a product roadmap, and explain any anticipated future enhancements?*

The response to this section contains confidential and proprietary solution information and hence has been made available in a separate document marked "Proprietary Information" as required per the RFI instructions.

2. Staff

2.   Staff:

a.   What are your expected requirements of the State DMV, county treasurer offices, and other stakeholder involvement with the solution design? What specific roles would they have and what kind of availability would they need to provide?

b.   What is your expectation for personnel and/or state staff to be dedicated to the transition from a legacy system to implementation of your solution (such as for testing, training, or conference room sessions)?

c.   What is your expectation of the State DMV's roles and responsibility, especially from a labor, staffing, or full-time equivalent (FTE) standpoint, with respect to data cleansing?

d.   What impact to State DMV personnel from an operation standpoint (post implementation) do you anticipate as a result of your solution's implementation?

e.   What staff from your organization or a hired third-party integrator are typically involved in the implementation of your solution? The State DMV is interested in any information you can provide relative to the integration/implementation team around:

   i.   Key roles (such as project manager, lead technical analyst, etc.)

   ii.   Overall size of the team

f.   What lessons learned from prior implementations of your system can you provide around staffing?

Partnership is essential to the success of any large project, especially one such as Nebraska DMV's VTR Modernization Project. This project will require high levels of participation and considerable involvement from the Nebraska DMV staff. This involvement is critical because only Nebraska DMV resources know the business rules specific to the operation of the business. Their participation from beginning to end will enable the Canon/NebuLogic team to learn the business requirements that the system needs to meet. Our collective participation would enable DMV to increase its ability to use and maintain the new system and allow the project schedule to stay on track.

Canon/NebuLogic understands that state resources are scarce and their time is very valuable. This situation is especially true for motor vehicle services agencies and their business and technical subject matter experts. These individuals are the "go-to" people in the agency and are called on for both day-to-day tactical operations and strategic planning issues. Usually, these people are already working at more than 100 percent capacity without the added responsibilities associated with a vehicle titling and registration modernization project. Unfortunately, their participation is critical through most of the project, to the extent that some activities stall until they are available to the project team.

Canon/NebuLogic recommends the DMV consider methods for offloading some of their normal duties so they can be available during the phases of the project in which their participation is critical.

We believe a typical project of this size requires a team of experienced resources at every level. The Canon/NebuLogic team consists of:

- Executive Sponsor
- Two PMO resources,
- One Project Manager,
- Two to Four Project coordinators,
- One Principal Solution Architect,
- Two to Four Technical Leads,
- Six to Ten Business Analysts,
- Six to Eight System Configurators,
- Six to Eight System Integration Component Developers,
- Four to Six Data Management Experts
- Five to Ten testers,
- Two to Four Technical document writers,
- Two to Four QA Analyst,
- Two to Four User Training Specialists,
- Two to Four Security and Network administrators,
- One to Two Compliance Verification and Audit review specialists
- Two to Four Web Technologies, Portal development, UI developers, Mobile App, Social Media specialists.

The following paragraphs provide more information to address the specific staffing questions raised in the RFI.

a. Requirements & Roles for DMV During Design

Canon/NebuLogic's solution design methodology is very collaborative in nature. Our expectation is that Canon/NebuLogic, DMV personnel, county treasurer representatives, and other stakeholders DMV includes in the design will work together as a collaborative team. The collaborative team will:

- Jointly identify, validate and document requirements and business rules
- Jointly evaluate the best way to configure the SMART DMV solution to meet your needs
- Jointly define a common look and feel for the Nebraska SMART DMV user interface that will be used for all transactions and service channels

DMV will need to provide design team resources that are:

- Available to the project team sufficiently to meet the agreed upon project schedule

- Knowledgeable in their areas of responsibility
- Committed to the success of the project
- Willing and empowered to make decisions

Adequate DMV team resources, with appropriate experience in areas such as business operations, requirements definition, project coordination, data conversion, technical requirements, and test planning need to be assigned to the project on a full time basis during solution design and configuration phases. DMV team member resources can expect to spend a significant amount of their time dedicated to the project during these phases. We anticipate some DMV team roles will require 100% dedication to the project during the design and configuration phases. Canon and NebuLogic would provide additional details on the roles and responsibilities during the formal RFP response.

b. Requirements for State Staff During Transition

Transition typically includes testing, training, data conversion, and implementation (go-live) tasks during a project. During transition phases of the project, Canon/NebuLogic assumes DMV and your stakeholders will provide a sufficient number of trained, experienced, and available resources to support the transition from the legacy system to the SMART DMV solution. Canon/NebuLogic would provide additional details about the Resources, Roles and responsibilities based on the scope during the formal RFP response.

Testing

For the testing phases of the project, Canon/NebuLogic assumes we will have lead responsibility for performing unit, system, integration, security, AAMVA casual testing, and performance testing functions with DMV resources, providing support where necessary, to coordinate with the State's data center and networking components and with AAMVA. Canon/NebuLogic assumes the state will have lead responsibility for user acceptance testing and AAMVA structure testing, while Canon/NebuLogic provides support. Canon/NebuLogic will develop test procedures which include test plans, scenarios, cases and test data during all stages of the development life cycle, as defined in an overall test plan, delivered as part of the project management plan for the project.

Canon/NebuLogic assumes DMV will provide a Testing Manager who will be responsible for defining the DMV's testing strategy for user acceptance testing (UAT) and AAMVA structured testing, manage the DMV's UAT testers and the UAT functions, including the development and tracking of test cases and results. We anticipate UAT testers will consist of DMV personnel, county treasurer personnel and perhaps members from other external stakeholders. The number of DMV testers required will be dependent upon the phasing strategy deployed, UAT schedule, tester knowledge, and other factors.

Training

Canon/NebuLogic can provide training in any of several methods. We design our training program to make sure that each training session is offered in the format and setting most conducive to learning and tailored to the receiving audience. Training may be offered using

a train-the-trainer approach, a face-to-face classroom setting, through a web-based instructor-led seminar, via a self-paced, online learning module, or through a combination of training approaches.

We have found that a combination of classroom instructor-led training, self-directed online training activities and train-the-trainer training provides usually provides the best overall training strategy. By using a train-the-trainer approach combined with self-directed online learning, DMV will be positioned with internal resources who can provide on-going training as needed, following the implementation of the Nebraska SMART DMV solution as new employees are hired or future system changes require. With self-directed online learning modules, any DMV user, new or experienced, can take training courses whenever the need arises.

If DMV elects to employ a train-the-trainer approach with a combination of instructor-led and self-directed training, Canon/NebuLogic will train a small number of DMV personnel (approximately 12-15), who would then provide training for the remainder of the DMV personnel and your stakeholders. Canon/NebuLogic and DMV training personnel will work together to develop the SMART DMV training curriculum, which would include instructor-led training materials and web-based self-directed training modules. In this scenario, DMV would provide a Training Manager to lead DMV's training responsibilities and act as the liaison with the Canon/NebuLogic training team. DMV will also need to provide resources to support Canon/NebuLogic in the development of the instructor-led training and self-directed training modules. This support would come in the form of resources who can provide the DMV and user perspective as it relates to business operations and how best to explain the SMART DMV solution to the user audience. DMV would also need to provide a number of experienced trainers who would participate in the training led by Canon/NebuLogic, become adept at use of the system and training materials, so they may then provide the instructor-led training to the remainder of DMV's user community.

If the DMV elects to have Canon/NebuLogic or another contractor provide end-user training, rather than use a train-the-trainer approach, DMV would still need to provide a Training Manager and other training support personnel to the project to support the project but would not need to provide a team of experienced trainers.

Regardless of which party is responsible for providing instructor-led training, if instructor-led training is planned, Canon/NebuLogic would suggest DMV be responsible for coordinating training locations and scheduling users for training, because DMV will know best how your daily operations will be impacted by having your users taken away from their regular duties to participate in training. Therefore, DMV should plan to provide resources to perform these functions as well.

Data Cleansing & Conversion

Please refer to Canon/NebuLogic's response in Section 2c.

Implementation/Go-Live

For the implementation/go-live phases of the project, DMV will need to assume almost an "all hands on deck" philosophy. The leadership team will be fully engaged, bringing all of the pieces of the project and organizational change management together for a successful

implementation. The Technical Manager, Implementation Manager, Configuration Manager, Data Conversion Manager, Training Manager, Testing Manager, and Product Manager(s) will all need to be fully or nearly fully dedicated to project tasks. The members of these teams will be actively working together to execute the implementation, go-live, final training, and data conversion tasks. The size of these teams will vary depending upon the implementation and training strategies DMV ultimately decides to take, so at this time Canon/NebuLogic is unable to predict the number of resources the DMV may need.

In addition, depending upon the need for any remote site hardware, software and network installation and configuration and whether DMV decides to contract out this effort, DMV can expect to have a team of either DMV staff or contract resources deployed for site installations. Typically site installations are done as close to go-live as possible for a site. If DMV staff are used for site installations, the number of installers needed will be dependent upon a number of factors, such as the deployment strategy, physical distance between sites, amount of installation and configuration requirements at each site, and time available to install (during business hours vs. after hours).

The Canon/NebuLogic and DMV technical and infrastructures teams, as well as the DMV testers can expect to be 100% dedicated to implementation and final testing activities right up to the go-live decision and cutover. Then, following the actual cutover, they can expect to be on-hand to address any issues that may arise following the cutover.

DMV leadership can also expect to spend significant time during the implementation and go-live activities, communicating and coordinating the organizational and procedural changes that may accompany the new system and providing leadership to alleviate some of the employee stress that comes with a big change, such as a new VTR system.

c. Requirements for State Staff for Data Cleansing

Cleansing and conversion of data from legacy systems to new platforms represents one of the most crucial tasks associated with a project such as the VTR Modernization Project. Experience has shown that the accurate and successful conversion of information in a state-wide motor vehicle environment tend to be even more magnified in importance than that of standard conversion projects. This increased importance stems from the reality that statewide motor vehicle data directly affects the public, state agencies, business partners, law enforcement, and the commercial sector. To that end, the accurate and timely data made available for use by DMV officials ultimately support the daily lives of the citizen as well as the economic health of the state.

Canon/NebuLogic has experience with data cleansing and conversion across a variety of public sector client projects, from small agencies to the largest agencies. We have performed data conversion for clients with a variety of legacy databases and adhoc files and have found that data cleansing and conversion for mission critical systems such as VTR is more successful when the client, who has resources who understand the data and how it has been gathered, stored, and used over the years, leads the data cleansing process and participates in the data conversion process. Often, the best resources for data mapping, data extraction, and data cleansing activities are the DMV's technical resources currently supporting the legacy applications. These resources are intimately familiar with the existing databases; they know how the data has been stored over the years and why (for example, "we didn't have time to add a new field for a legislative mandate so we re-used an existing

field for this specific case"); they know many of the data problems that will be encountered (for example, back in 1999 we had a coding error that resulting in "xxx" being stored in this field in certain cases when it should really be "yyy"); and they understand the non-standard values that may exist in legacy systems (for example, "CHV" means "Chevy" even though the NCIC standard is "CHE"). Your staff likely also knows best what data can be purged rather than cleansed and converted into the new system.

DMV should carefully consider whether its internal resources can be made available to perform these tasks, and if so, plan to leverage your database administrators, system analysts, and developers for these activities. In addition, data cleansing can almost never be completely automated. In most cases, there will be records that must be reviewed by a person before a decision can be reached as to how to handle the record. Consequently, the DMV will need to make a number of persons available to perform these manual reviews and corrections. In many cases, DMVs have leveraged headquarters clerks who understand customer and vehicle records in the legacy system to perform the review and correction activities.

For data conversion, Canon/NebuLogic recommends DMV assume responsibility for extraction of data from legacy data stores, mapping and translating of legacy data into the format required for the new system, and creation of load files that Canon/NebuLogic will use to load the new data stores. Canon/NebuLogic's data conversion team will provide the attributes and formats for the extracted, cleansed legacy data and will support DMV's data cleansing, mapping, and translation activities.

Canon/NebuLogic would provide additional details about the resources, roles and responsibilities based on the scope during the formal RFP response.

d. Operational Impact to State DMV Personnel

The operational impact to DMV personnel following the implementation of the Nebraska SMART DMV application will be impressive. DMV can expect operational improvements in many areas as well as the potential for significant organizational and job responsibility changes that should be considered and addressed. Some of the operational improvements are as follows:

- Efficiency
- Configurable
- Scalable
- Secured
- Unified Data Model
- Faster seek and response times
- Reduction in dependency on paper
- Streamlined operations – more transactions per user

However, in order to take advantage of this modern solution DMV should expect the assessment, cross training and transition of personnel to adequately support and maintain the deployed solution. Canon/NebuLogic would work hand-in-hand with the State with the above exercise and help in cross training the personnel.

e. Contractor Team Size & Roles

Figure 2 depicts the Canon/NebuLogic Team's Organization chart for delivering the new Nebraska DMV SMART solution.
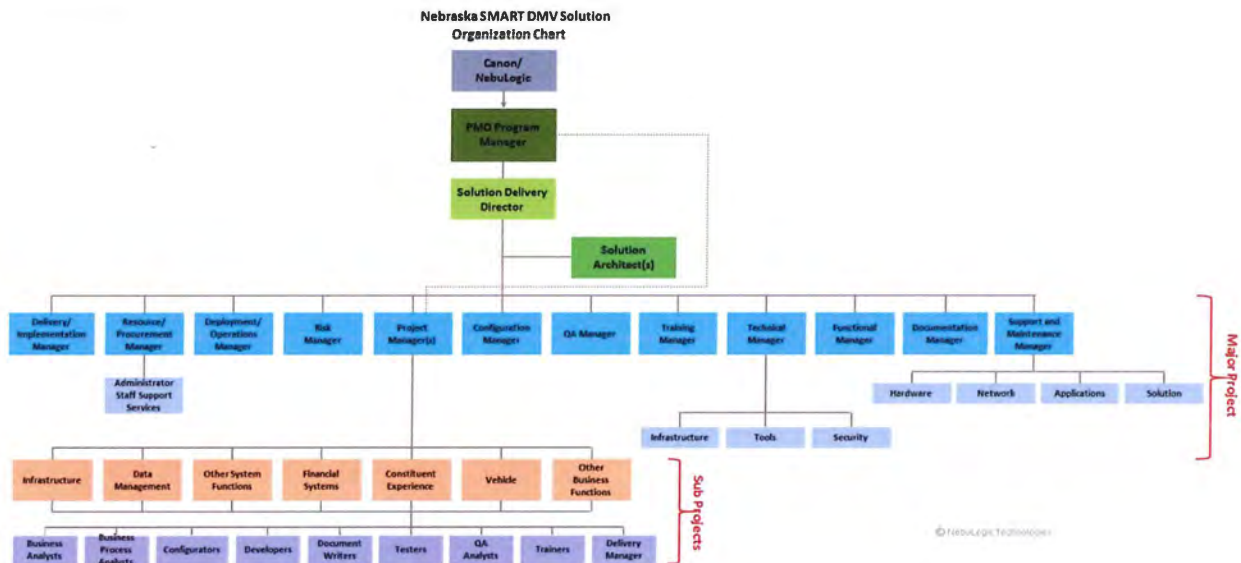
Figure 2 - Canon/NebuLogic Team Organization

The roles and responsibilities of these resources would depend on the overall scope and deliverables. Hence this information can better be provided during the formal RFP response.

f. Staffing Lessons Learned

Canon/NebuLogic can offer several applicable staffing lessons learned from other systems integrations projects.

• Unless key DMV and stakeholder staff are dedicated to the project and their normal day-to-day tasks are distributed to other personnel, these key staff are often pulled away from the project to handle daily issues and crises, and the project schedule suffers.

• Even stakeholders with a huge need for DMV systems and information that will benefit greatly from the new VTR system can tend to focus on their own organization's priorities rather than DMV's modernization project. This tendency often means that external resources for business functional requirements or development of interfaces do not make time or are unavailable for planned meetings and fall behind on their responsibilities. Therefore, the primary DMV team ends up either making decisions on

their behalf, which may or may not be the best decision, in order to maintain the schedule or deciding they can't make a decision on behalf of the other organization and delaying the schedule accordingly. Memorandums of Understanding (MOUs) between the DMV and stakeholders that set the expectations of both organizations can provide value in assuring alignment at the highest levels of the organization. The DMV Project Executive Sponsor should plan to get commitment from the executive leadership of the stakeholder organizations and even engage the Governor's Office and legislative leaders, where appropriate, to drive compliance and participation from the DMV stakeholder organizations necessary for the project success.

- All DMV and stakeholder personnel need to be aware of the contract terms and responsibilities. Often we find that client team members have never read the contract or had it explained to them and do not know the scope of the contract, the contractor's responsibilities, DMV's responsibilities, or the impact associated with delays or failures to make decisions needed to keep the project on track. Canon/NebuLogic provides contract scope and expectations training to all of our project team members and recommends DMV plan to do the same as part of project start-up and before new team members join the project.

- Both parties, contractor, and DMV, need to engage project team members who are willing and empowered to make decisions for their areas of responsibility. Often project team members are willing to provide their expertise and participate in the project, but do not feel they can or should make decisions. Inability or unwillingness to make decisions appropriate to their role on the project can result in delays to the schedule. Clear project governance and responsibility expectations set at the beginning of the project can minimize what is sometimes known as "analysis paralysis" or situations in which the project representative constantly feel the need to check with someone else before a decision can be made.

- Co-locating DMV and contractor team members leads to better communication and "team" culture. Consider temporarily locating DMV project team members, with contractor project team members in a location where they can quickly gain access to the others and overhear what is being said, so that any misunderstandings are corrected immediately and the team members can focus on the project rather than their normal, day-to-day responsibilities.

- Start data cleansing now, if DMV hasn't already.

- Organizational change is difficult, scary, and requires a lot of planning, continual communication, and acceptance of new policies/procedures. Consider establishing "Transition Teams" with a cross-pollination of representatives that will analyze the impact of any proposed changes on the organization as a whole (field office processes and workflow, central office processes and workflow, finances (revenue impact of proposed change, cash-on-hand impact, credit card transaction fees), employee roles/classification/morale, media management and responses, equipment needs (additional workstations, phones, printers, wiring), forms (new, obsolete, revisions, printing), communication needs (what to communicate, when, and through which medium), and training needs (IT, basic computer skills, procedural changes).

- Training for the users of the new VTR system will likely need to cover both the application and procedural or operational changes that are required to address new processes employed in conjunction with the new application. Often DMV personnel are best able to explain new processes to existing users because they understand the old

processes and how the new process may impact the users. If DMV elects to have the contractor perform end-user training rather than use a train-the-trainer approach, consider having an experienced DMV user who understands both the existing operational processes and procedures and the new processes on hand for training so this person can answer questions from the trainees about the differences between the processes or procedures. Training on new policies and procedures may take as much time and effort as training on the new VTR application.

- Quickly identify both the internal advocates and the protagonists of your project. Encourage and harness the power of the positive people, while working to minimize the impact of those who may be negatively impacting the teams.

- Re-tooling your staff for the new application and any new responsibilities they may have, takes time and may pull resources from the project. Employee job classifications may change as a result of the new application, new procedures, or changes to the organizational structure to align the organization with the new operations. Position reclassifications take time, may require agency budget restructuring, and necessitate transfers of employees to other roles, if they do not meet the requirements of the new classification for the role.

- Legacy modernization projects are perfect for pulling together as a team to accomplish something very worthwhile! The project team members will become much better team players, get to know each other better, and foster more interdepartmental communication in the future. Have fun with this project wherever you can—its hard work, but it'll be worth it in the end.

3. Training

3.   Training:

VTR system stakeholders include those who work outside of the DMV offices and, in many cases, those who are a long drive from DMV headquarters in Lincoln. Many cannot easily travel to Lincoln for long periods for training. We are interested in the blend you offer between classroom-based training, hands-on training at a county office or some regional location, and computer-based training. For planning purposes, the DMV asks the following questions:

a.   What approaches to training for internal and external users do you suggest, given the size and complexity of the planned VTR system modernization?

b.   What training do you recommend for DMV, OCIO or other technical staff who will maintain and/or troubleshoot the system?

Canon/NebuLogic finds that the most successful training, for large systems integration legacy replacement projects with a diverse and geographically-dispersed user community such as the Nebraska DMV's, includes a combination of instructor-led classroom training and self-paced online e-learning modules. We've also learned that the best classroom learning occurs when training is performed by knowledgeable trainers who already understand the client's business and can explain the new system in terms and examples that the users can readily understand. Therefore, for DMV's Canon/NebuLogic typically recommend a train-the-trainer approach for end-users, which takes advantage of DMV trainers where possible.

For technical users, Canon/NebuLogic recommends classroom and online training which includes standard commercially-available software product training, followed by instructor-led and online training, on the technical aspects of the new solution. For technical users, we also suggest their formal training be supplemented by over-the-shoulder mentoring support provided by the Canon/NebuLogic technical team.

Please see the following sections for more detailed information about our training recommendations.

a. Training Approaches for Users

Canon/NebuLogic suggests a training approach that combines a variety of training methods including on-line, on demand e-learning and instructor-led classroom training. Each user learns differently, so a combination of approaches can maximize the success of DMV's user training experience.

For clients with a large, diverse and geographically-dispersed user base, such as Nebraska DMVs, Canon/NebuLogic typically recommends a train-the-trainer approach that leverages both classroom instruction and online e-learning techniques. E-learning modules can be effectively delivered to the entire set of users through the State data center and intranet or through a secure internet site operated by Canon/NebuLogic. Canon/NebuLogic trainers, working in conjunction with the DMV's training leads, would design and develop the classroom training curriculum and e-learning modules. Then Canon/NebuLogic trainers would conduct training for the DMV trainers, who in turn train the end-users.

Surveys and other feedback mechanisms are recommended to continually assess and improve the training, over time. A testing and certification process can be developed to assure the DMV that trainees have achieved the level of training required, before certification or as pre-requisites, to subsequent training modules. Training materials would be developed in both paper and electronic format, and are available to the DMV to maintain for future training needs. If the DMV does not have trainers who can perform end-user training, then Canon/NebuLogic can provide end-user training services directly.

Using a train-the-trainer approach for end-user training benefits the state in several ways. First DMV trainers would become very well-versed in the application, as well as any changes in business operational procedures. Second, the state trainers are typically very experienced in existing business processes and are able to easily address questions and concerns trainees may have about how the new system or new process will work, as compared to the state's existing processes. And third, DMV trainers would be trained, experienced and positioned to continue providing on-going training, beyond the end of the project, as employee turnover occurs or significant enhancements are introduced that require training to field staff.

Following this approach, DMV trainers would be trained first, provided the opportunity to recommend adjustments to the training as necessary for better trainee acceptance and clarity, and then given the opportunity to pilot their training before they conduct statewide field user training. Canon/NebuLogic and DMV training team members would develop the training curriculum and materials for instructor-led classroom training. We recommend classroom training be conducted in multiple locations throughout the state following a set training curriculum which includes hands-on system exercise activities. Our experience has shown that classes with a maximum of 20 trainees per instructor and one workstation for each trainee work best.

No matter what approach the DMV chooses for your user training, the following are several key success factors that Canon/NebuLogic recommends be built into DMV's training approach and plan:

- Together with the change management function, communicate early and often on the project, its process improvements, and their expected benefits

- Deliver training as close to the cutover as possible

- Deliver core training in a classroom with real-world exercises, whenever possible, and augment classroom training with additional forms of training (self-study, Web-based, social media videos, and so forth).

- Assess participants' skills to determine whether they have the prerequisite skills (basic PC knowledge). Provide those who do not with basic tools and training prior to application training.

Many options and approaches are available to the DMV, to plan your user training. User training and acceptance of the new applications will be crucial to the success of the VTR Modernization Project; therefore, it must be well planned and executed, like any phase of the project. Following is a list of tasks that provide an outline of the methodology, we recommend for planning, preparing, and delivering your training:

- Analyze training needs

- o Identify training goals and how training can help establish desired capabilities

- o Identify high-level learning points for training

- o Determine limits of training and other requirements to help create a capability

- Create a plan for design, development, and delivery of training
  - o Identify constraints to design, development, and delivery

  - o Confirm the timeframe and dependencies for the delivery of training

  - o Identify milestones and a schedule for design, development, and delivery

  - o Determine development and delivery roles

  - o Develop a curriculum of courses, offerings, sequences, prerequisites, instructors, and locations

- Analyze audience segments and learners
  - o Review current roles, skills, experience, and functions

  - o Confirm required roles, skills, and functions, and identify gaps

  - o Confirm audience segments and the degree of required training, in accordance with stakeholder analysis

- Analyze tasks and content
  - o Identify tasks, subtasks, and steps for functional and analytical capability tasks

  - o Identify topics, subtopics, and teaching points for functional and analytical capability content

  - o Confirm tasks and content to be included in the training

  - o Compile information for tasks and content with subject matter experts

  - o Develop the sequence of tasks and content for courses

- Design each course
  - o Develop training objectives and expectations for participants

  - o Determine application exercises for objectives

  - o Develop an outline of tasks, content, and exercises

  - o Determine methods for presentation, application, and feedback

  - o Develop a course structure—lessons, objectives, tasks, content, and methods

- Develop course material
  - o Develop a learning strategy and apply principles of adult learning

  - o Develop lesson plans

  - o Develop course content, case studies, and other participant material

  - o Develop instructor material

- o Confirm that content and material meet lessons and objectives
- o Create training data
- Conduct a course pilot
  - o Identify a pilot audience (verify a sufficient number of participants and representation of audience segments)
  - o Conduct pilot sessions of the courses
  - o Revise each course, material, or both as necessary
- Plan and deliver training
  - o Training facilities
  - o Training equipment
  - o Training schedule
- Evaluate training
  - o Develop evaluations
  - o Collect the evaluations
  - o Compile and assess the results
  - o Identify opportunities for improvement
  - o Revise the courses and material.

Canon/NebuLogic can also provide a portal specific for training on SMART DMV, where users can register for available related training, view their completed training and the remaining training to be completed on their training path. Canon/NebuLogic is very experienced in providing training and provides training in "Canon Academy" for its employees and customers. For the purposes of the DMV, Canon/NebuLogic suggests a "Nebraska DMV SMART Academy". The educational portal provides a mechanism for configuring threshold requirements, for passing courses and for tracking participation course completion. With the educational portal, the DMV's Training Manager can configure the curriculum and pre-requisite courses or knowledge test requirements for certification in each specific training track, whether an end-user track or a technical track, that requires COTS software certification.

Canon/NebuLogic recommends trainees have basic proficiency in PC operations and browser environments, prior to the SMART DMV application training classes. Commodity self-study or web-based courses are available to address this prerequisite training needs; however, Canon/NebuLogic can also provide this training, if DMV desires.

Canon/NebuLogic also recommends DMV consider training via virtual classrooms, as an alternative to or as a supplement to in-person classes. These virtual training sessions would use PCs in an electronic meeting forum. We also have experience with self-directed training classes, which can provide training for persons unable to attend classroom training, due to personal scheduling requirements, or as an alternative for county treasurer users and DMV business partner users.

Canon/NebuLogic experience indicates that even though the SMART DMV solution is very comprehensive, it is also intuitive and easy to learn and use. We find that 2 to 3 days of classroom-based training on the application, is sufficient for customer service representatives who perform core business functions. An additional 1-2 days of manager-level training can be expected, to address the financial management, inventory management and user permission processes.

In addition, we have found that training on new and revised business processes is often more challenging than training on the application itself. DMV should consider whether it prefers to merge the business procedural training with the user training, for the new application, or keep these training sessions separate. DMV's user training plan also would need to consider training on any new COTS system, peripherals, and devices that would be implemented in your VTR modernization effort. You would need to determine the approach for this training, together with the providers of these components, and factor the training into your overall training plan.

Canon/NebuLogic recommends installing a separate training environment that can be quickly and repeatedly provisioned with the Gold Image of the SMART DMV solution. This Gold Image will correspond to the latest tested version of the system (pre-production) and the production version (post-production). Using this method ensures that there is always a consistent environment for the DMV staff, and other users, to practice and learn the functionalities provided by the SMART DMV solution.

b. Recommended Training for Technical Staff

Technical training will be required for the DMV and OCIO's technical resources, but the level of technical training varies greatly, depending upon how closely their skillsets align with the technologies used in the new VTR system. If IT skills such as Oracle, JAVA, and Webcenter Portal administration and tuning do not exist, the technical team would need to develop a plan for acquiring them. Often courses in the basic Oracle University and other software courses are required as an initial step. These courses are typically provided through local IT training providers, at reasonable rates, and provide good value for the cost.

Once the technical team members have acquired training and initial experience in these required technologies, then Canon/NebuLogic would recommend training on the DMV solution's implementation of these technologies, how the solution is structured, the support requirements, and the other training necessary for the personnel who will maintain and troubleshoot the application.

Canon/NebuLogic recommends a base set of standard technical training modules, designed to help technical staff come up to speed quickly on this framework. These modules would be developed for both instructor-led classroom training and virtual training. Some suggested technical training modules would include:

- Data Model—Relational Database Foundation
- Development Standards
- Development Environment
- System Architecture
- Reporting Standards

- Batch Processing
- Web Services
- Business Rule Management
- Correspondence Template Management
- Third-party Software
- Core Application Functionality
- Hardware Integration
- Business Area Implementation (Multiple Business-specific Sessions)
- Transaction Framework.
- File and Data Administration and Management of the System
- System Management and Administration (and operating system, if applicable)
- System Performance Monitoring
- Screen Generation and Modification
- Program Development: updating tables, screens, and menus; adding fields and tables; defining and executing data extracts and ad hoc reports, and creating special-purpose files, as needed

To establish dialog and rapport among technical staff, Canon/NebuLogic recommends these technical training modules be presented by members of the Canon/NebuLogic development team, instead of a non-technical trainer.

We recommend DMV system administrators receive classroom training on application system operations management, access management, and security management of the core components. They should be trained to troubleshoot the system; update tables, screens, and menus; add new fields and tables; and other similar support tasks. DMV developers would receive classroom training on system modules, data management, coding, edits, query generation, and problem resolution.

Canon/NebuLogic has had success in combining technical training with additional hands-on mentoring. We recommend having a joint Canon/NebuLogic/DMV technical team work together, during pre-implementation and post-implementation activities, so that senior Canon/NebuLogic technical staff can provide mentoring to the DMV technical staff until they are sufficiently experienced with the application.

Canon/NebuLogic recommends that technical staff receive about 2 weeks of formal training, followed by approximately 3 months of adhoc mentoring. This should position the DMV and OCIO technical team with the knowledge to assume the support and maintenance of the new VTR Solution.

As noted in the previous section for end-users, Canon/NebuLogic recommends an educational portal with onboarding and screening features for new users and support personnel. This educational portal would support both technical and functional training tracks. Where applicable, the technical training path will guide the user to take the included technical courses from the foundational software product provider, such as Oracle

University. The system will create a personalized training path for both technical and functional trainees, based on the screening of the individual and the type of job functions performed.

Moreover, Canon/NebuLogic is fully committed in providing the highest level of post-production support and maintenance of the deployed solution using our support services. The level of support can be tailored to meet the expected SLA's. Canon and NebuLogic's post production support and maintenance services can be customized from providing services remotely, placing support staff Onsite and hybrid model which consists of both remote and onsite resources. Based on the scope and deliverables Canon/NebuLogic would provide additional details in this regard during the formal RFP response.

4. Service Level Agreements (SLAs)

4.	Service Level Agreements (SLAs):
a.	The State DMV requests any standard SLA information

a. Standard SLA

Canon/NebuLogic's essential and enhanced on-going support and maintenance services provide 24/7/365 technical assistance and powerful proactive support resources through phone, email and our support portal. We provide the State with world class coverage, accomplished development engineers, and skilled and dedicated customer support specialists. The technical support combines the productivity and power of NebuLogic's support portal, with an intuitive and user friendly experience, that allows NebuLogic to assist in the management of various activities during the implementation of major applications, changes, and general maintenance.

Throughout the Development and Implementation Phase of the project, we follow our proven project management methodology (PMM) to ensure structure, transparency, and timely reporting to the State. Our SharePoint project repository is accessible by all authorized stakeholders so we can share information freely, collaborate on project artifacts, and provide open access to tools that assist our teams in tracking project status. The same tools are carried into the Operations and Maintenance Phase to continue transparent communication throughout the contract term. This transparency holds true in our verbal and written status reporting to the State, fostering a collaborative working relationship for the success of the project.

Our absolute goal during the Deployment Phase is to successfully place your solution into your production environment. We also seek to deploy your solution and its customized components with an effective, integrated approach. Our motive is to stabilize the deployment for you, and ensure that the transition is smooth and easy to handle.

We provide a comprehensive portfolio of support, maintenance, and warranty services for an uninterrupted business process flow. Our post-production support includes technical and consulting support services, to maintain defect-free system functions, and user support services to ensure effective use by the Nebraska staff. Canon/NebuLogic's post-production support and maintenance services help to improve the agency's productivity by maintaining and improving the deployed solution.

We are committed to serving as the technical experts for the State and its users during the Operations and Maintenance Phase. Each component of our support reflects the Canon/NebuLogic Team's commitment to service excellence. We operate under key performance indicators (KPIs) and service level agreements (SLAs) mutually agreed upon with the State to ensure a high level of quality service and customer satisfaction.

Service levels are agreements focused on detecting or pre-empting services affecting issues, providing notification to the State, restoring service to acceptable levels, determining the root cause, and taking corrective action. The SLA formalizes the mutual

agreement between the State and NebuLogic, including expectations and responsibilities for performance, scope and definition of services provided by the SMART DMV Solution.

Service Management Process

We continuously improve procedures as technology advances are implemented, to help ensure cost effective and world-class capacity management solutions. We have regularly scheduled maintenance releases to our solution, which include enhancements and new functionality. We communicate any scheduled downtime well in advance, informing the State and all users via the web portal. We consider system availability a critical issue with response and resolution times paramount to meeting SLAs and KPIs, ensuring user experience satisfaction.

As the proposed SMART DMV solution is an enterprise class solution deployed on-premise within the Nebraska IT infrastructure, and we rely on various factors such as network, bandwidth, security, state resources for the support and maintenance of core infrastructure; it is imperative that Canon/NebuLogic has a clear understanding of the above in order to customize and propose a post-production support and maintenance service team to meet the expected SLA's and escalations. NebuLogic would provide additional details about the SLA during the formal RFP process. NebuLogic delivers comprehensive and dependable post production support and maintenance services.

Our Standard Service Level Agreements

Canon/NebuLogic will adhere to a mutually-agreed-upon SLAs for the solution. Any upgrades to the base product will not impact the configured solution. However, in case of such situations, NebuLogic will extend support as per the governing SLAs. The standard response time taken for issues that are reported to the NebuLogic Support team, are provided in Table 1.

Severity Type	Priority Definition	How to report	Target Response in
Severity 1 (Critical):	Application is unavailable or substantially impaired	Raise a Service Request Ticket or Email to Project Manager	Acknowledged Immediately. A resolution is provided within 4 business hours (*)
Severity 2 (High):	System is partially available	Raise a Service Request Ticket or Email to Project Manager	Acknowledged Immediately. A resolution is provided within 12 business hours (*)
Severity 3 (Medium):	The State requests by agreement	Raise a Service Request Ticket or Email to Project Manager	Acknowledged Immediately. A resolution is provided within 24 business hours (*)
Severity 4 (Low):	The State requests by agreement	Raise a Service Request Ticket or Email to Project Manager	Acknowledged Immediately. A resolution is provided TBD

Table 1 - Typical Severity Classifications & Response Times

5. Network Configuration

5.   Network Configuration:

a.   Is there a minimum network bandwidth or capacity required, and what transaction rate will the minimum support? What networking challenges have you encountered when implementing your solution for clients similar to the Nebraska VTR?

The proposed SMART DMV is an on-premise solution and is expected to be deployed within the NE DMV's internal network. SMART DMV follows a standard on-premise application network configuration that supports a layered system infrastructure where several system components are deployed and configured to deliver a unified solution. Some of the system components include a) database server, b) an app server for deploying the base layer components such as data security, data quality, identity management, single sign on, multi-factor authentication, etc., c) an app server(s) for deploying the middleware, SOA, etc., d) an app server(s) for deploying all core COTS application components, e) an app servers(s) for deploying the NebuLogic Enterprise Application Development Framework (NEADF), Enterprise Imaging Platform (EIP) and other User Interface components, and f) a customized app server(s) for security, performance enhancements, load balancing, redundancy, backup, archiving and others.

Our objective is to suggest an overall system and network configuration that delivers both value and performance. We will also consider any assets that DMV may have for repurposing and reduce the overall infrastructure costs.

As we only have a high-level understanding of the DMV's current network environment and system inventory information, Canon/NebuLogic would work hand-in-hand with the DMV network and infrastructure team in building an optimal application environment that takes into consideration factors such as network bandwidth and capacity and average transaction rate.

The typical network challenges we encounter are mostly related to the bandwidth, reliability and the availably of the network. During master requirements workshop, we would present our recommendations around many business processes both to fine-tune and to gain better performance on a transaction by transaction basis.

6. Hardware and Software Configuration

6.   Hardware and Software Configuration:

The State of Nebraska will host this solution within the State network. The following questions pertain to minimum hardware requirements to operate a system.

a.   If Nebraska hosts your system on Nebraska owned, physical hardware: What is the minimum hardware required to operate your system? Please include any information about central hardware (primary servers, failover servers). For each server required in the solution, please provide the following information:

i.   Server purpose or component description

ii.   Processor requirements

iii.   Storage capacity requirements

iv.   Options for scaling the system component to meet growth needs

v.   Options for achieving high availability for the system component

b.   If Nebraska hosts your system on Nebraska owned virtual infrastructure: What is the minimum system requirements to operate your system? What virtual environment(s) is/are your solution supported on? Please include information about all system components (primary servers, failover servers). For each component required in the solution, please provide the following information:

i.   Server purpose or component description

ii.   Processor requirements

iii.   Storage capacity requirements

iv.   Options for scaling the system component to meet growth needs

v.   Options for achieving high availability for the system component

c.   If your system were to be installed in Nebraska on vendor owned physical hardware:

i.   How many servers would be installed?

ii.   Would you provide the rack(s) required for the installation?

d.   What is the minimum county treasurer office or State DMV end-user hardware needed to conduct the business of registering and titling vehicles:

i.   User hardware: Does your system require specific or proprietary hardware?

ii.   User peripherals: What minimum hardware set up is required per workstation?

a. Nebraska-Owned Physical Hardware

The Canon/NebuLogic SMART DMV solution configuration distributes production and non-production workloads across two separate physical environments. Each environment houses identical physical hardware to handle all production and non-productions environments. There are many physical hardware productions and configurations to choose from such as Oracle Engineered Systems, Fujitsu PRIMERGY server, and others. SMART DMV is designed for recovery in the event of unexpected failure by persisting critical state information at various point of transaction processing. This enables SMART DMV to automatically recover from where it left off. SMART DMV also enables manual recovery of transactions in the event that automatic recovery is not feasible. Please see Table 2 for more information on the Server Configuration and Table 3 for additional server information.

Server name	Server purpose or component description	Processor requirements	Storage capacity requirements
Main Server	This server will host data and application layer for the production instance. In addition, this server includes various controllers and technologies needs to achieve redundancy.	10X Intel Xeon E7-8880v3 18Core/36Thread 2.30GHz for a total of 180 Cores and 360 Threads. RAM requirements: 256 GB per processor for a total of 2.56 TB.	60 TB useable data approximately equal to 120 TB raw.
Backup Server	This server will host the secondary site that will provide the required redundancy. In addition, development, testing, and training instances can be hosted on this server.	Same as above.	Same as above

Table 2 - Server Configuration

Server name	Options for scaling the system component to meet growth needs	Options for achieving high availability for the system component

Server name	Options for scaling the system component to meet growth needs	Options for achieving high availability for the system component
Main Server	SMART uses a layered architecture approach enabling the solution to be highly flexible and extensible. Each layer in the architecture provides a specific functionality and all the components of the solution are integrated using Oracle SOA Suite. Oracle SOA Suite includes a wide variety of technology adapters that enable the solution to virtually integrate with any systems (internal or external). In addition, the flexibility and extensibility of the solution components of SMART can be scaled horizontally or vertically depending on the current transaction volumes and future growth. These components are also deployed on physical systems that are built for extreme performance. Additional storage, Processor (Compute nodes), and RAM can be added as per the requirements.	The proposed SMART solution leverages the symmetric site configuration where the physical systems are identical between the primary site and the stand-by (secondary) site. SMART is designed with high availability in mind. Every layer of the architecture is fully redundant and there is no single point of failure. SMART is built using Oracle's Maximum Availability Architecture (MAA), MAA is Oracle's best practices blueprint for implementing Oracle high availability technologies. For the database tier SMART will leverage Oracle's Golden Gate and Oracle Active Data Guard features to keep the data between the primary and secondary site in-sync. This replication will happen in near real-time enabling quick failover of the solution, if the primary site should experience an unexpected outage. In addition to the database tier, SMART solution will make use of Oracle's ZFS Storage Appliance replication technology to keep the application and middle-tier information that is stored outside of the database in sync.
Backup Server	Please see above	Please see above

Table 3 – Server Information

b. Nebraska-Owned Virtual Infrastructure

Please see Table 4 for more information on the Virtual Machine configuration and the storage capacity.

VM Name	Server purpose or component description	Processor requirements	Storage capacity requirements	Options for scaling the system component to meet growth needs	Options for achieving high availability for the system component
Business Rule Engine	The Business Rule engine is used for the rule authoring and processing the rules	2x4 CPU(s)	8 GB of ram and 100 GB	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability
Financial Component	This feature allows the exchange and calculation of funds, maintenance General ledger etc.	2x8 CPU(s)	24 GB of ram and 1TB HD	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability
Reporting/Analytics Component	This component allows to perform functions such as reporting, Online analytical processing, analytics	2x8 CPU(s)	16 GB of ram and 300GB HD	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability
Identity Management	Identity management is used to purpose identity management solution for custom and	2x16 CPU(s)	64 GB of ram and 500GB HD	VM Management software provides the ability to add additional RAM or	Redundant VM's will be configured to ensure high availability

VM Name	Server purpose or component description	Processor requirements	Storage capacity requirements	Options for scaling the system component to meet growth needs	Options for achieving high availability for the system component
	third-party enterprise applications.			upgrade the virtual processors.	
Core Application Server	This is used to perform the function of all the Core applications such as Siebel, Web Center Portal etc.	2x6 CPU(s)	16 GB of ram and 300GB HD	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability
SOA Layer	This component is required to communicate to and from all the system components	2x6 CPU(s)	12 GB of ram and 100GB HD	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability
Database Layer(Transactional)	This is used to handle all database transactional activities	2x5 CPU(s)	12 GB of ram and 2TB HD	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability

VM Name	Server purpose or component description	Processor requirements	Storage capacity requirements	Options for scaling the system component to meet growth needs	Options for achieving high availability for the system component
Database Layer(Analytics)	This server is used to handle large analytical queries	2x5 CPU(s)	12 GB of ram and 4TB HD	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability
Document Management	Document management helps to manage the files capture, centralize, manage and secure all of paper documents, electronic files	2x5 CPU(s)	12 GB of ram and 4TB HD	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability
Print Management	Print Management provides a central administration point for sharing printers on a network and managing print server and network printer tasks	2x5 CPU(s)	12 GB of ram and 4TB HD	VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability

VM Name	Server purpose or component description	Processor requirements	Storage capacity requirements	Options for scaling the system component to meet growth needs	Options for achieving high availability for the system component
Operating System	An operating system (OS) is system software that manages computer hardware and software resources which Is used for scheduling tasks, executing applications, and controlling peripherals.	Oracle Enterprise Linux 6.x or Windows Server 2008 or 2012		VM Management software provides the ability to add additional RAM or upgrade the virtual processors.	Redundant VM's will be configured to ensure high availability

Table 4 – VM Information

c. Vendor-Owned Physical Hardware

If the SMART DMV system were to be installed in Nebraska on vendor-owner physical hardware, two full racks of servers would be required, and Canon/NebuLogic would provide the racks under the contract.

Canon/NebuLogic's SMART DMV solution does not require any proprietary hardware.

d. End-User Hardware Requirements

The minimum hardware required per user workstation is a computer with a processor comparable to Intel Core I5 processor, 8 GB Ram and 100 GB HD with Windows 7 operating system.

e. Foreseen Hardware Configuration Incompatibilities with State Existing Environment

The SMART DMV system is not compatible the existing AS400 Systems and the IBM mainframe. However, SMART DMV can take advantage of the State Virtual Private Network (VPN) and other communications network used within the state.

7. Database Requirements

7.   Database Requirements:

a.   What database structure does your system utilize? Are there any requirements or prerequisites for your solution's database or database structure?

SMART DMV uses Oracle DB or similar. SMART DMV provides a unified and 360-degree view of the customer records and its related transaction information. Consolidating the required data into a single database platform is a key factor in obtaining the highest performance and management. Canon/NebuLogic would clean and de-dupe the data prior to data migration.

a. Database Structure & Requirements

The proposed solution utilizes Oracle 12c as the integrated database platform. The database server provides the foundation for Siebel CRM applications. Outstanding performance, manageability, flexibility, and ease of growth offer immediate benefits for Siebel applications and business processes. Business users benefit from well-performing, stable, and highly available systems.

Oracle Database 12c Enterprise Edition operates on clustered servers with no socket limitation. It provides efficient, reliable and secure data management for mission-critical transactional applications, query-intensive big data warehouses, and mixed workloads. Oracle Database 12c offers a variety of options for demanding large-scale, mission-critical business applications, such as the VTR system. Several of these options are highlighted in the list below:

- Oracle Active Data Guard - Oracle Active Data Guard enables read-only access to a physical standby database for queries, reporting, web based access, etc., while continuously applying changes received from a production database. Oracle Active Data Guard now includes Global Data Services, Far Sync, Fast Sync, Real-time cascading, and DML on Global Temporary Tables. No changes to the production database are lost during testing. Oracle Active Data Guard also enables the use of fast incremental backups when offloading backups to a standby database.

- Oracle Advanced Analytics - Oracle Advanced Analytics empowers data and business analysts to extract knowledge, discover new insights and make predictions—working directly with large data volumes in the Oracle Database. It provides a comprehensive advanced analytics platform through a combination of powerful in-database algorithms and open source R algorithms. Analytic capabilities are accessible via SQL and R languages, and through the SQL Developer extension or open-source R clients. Together, these features enhance the Oracle Database 12c, with a range of analytical functionality for data mining, text mining and predictive analytics, summary and descriptive statistics, exploratory data analysis and graphics, comparative statistics, correlations and other advanced numerical computations.

- Oracle Advanced Compression - Oracle Advanced Compression helps manage growing amounts of data, in a cost effective manner. Oracle Database 12c introduces a new Heat Map feature, which monitors data access, providing deep insight into how data is accessed by applications and users. In addition, a new Automatic Data Optimization

feature uses simple policies to trigger automatic movement of tables, partitions, and entire tablespaces, across different storage and compression tiers over time. Oracle Advanced Compression compresses any type of data, including structured and unstructured data, as well as network traffic and data backups. As a result, Oracle Advanced Compression and related Information Life Cycle Management capabilities, enable efficient use of storage resources to lower costs.

- Oracle Advanced Security - Oracle Advanced Security helps customers protect sensitive information and comply with various privacy and compliance regulations, including breach notification laws and the Payment Card Industry Data Security Standard (PCI-DSS), by enabling encryption inside the database that is transparent to applications and enabling redaction of sensitive data before it leaves the database. Transparent Data Encryption provides encryption of data stored in the database, exported from the database using DataPump, or disk-based backups using Oracle RMAN. Data Redaction is with the release of Oracle Database 12c and provides the ability to redact sensitive information such as credit card data and social security numbers displayed by queries and applications

- Oracle Database In-Memory - Oracle Database In-Memory transparently extends the power of Oracle Database 12c to enable organizations to discover business insights in real-time, while simultaneously improving transactional performance. Oracle Database In-Memory delivers leading-edge in-memory performance without the need to restrict functionality or accept compromises, complexity and risk. Deploying Oracle Database In-Memory with virtually any existing Oracle Database compatible application is as easy as flipping a switch--no application changes are required. It is fully integrated with Oracle Database's scale-up, scale-out, storage tiering, availability and security technologies, making it the most industrial-strength offering in the industry.

- Oracle Database Vault - Oracle Database Vault helps customers increase the security of existing applications and address regulatory mandates that call for separation-of-duties, least privilege and other preventive controls to ensure data integrity and data privacy. It proactively protects application data stored in Oracle Database from being accessed by privileged database users. Oracle Database Vault controls who, when, and where database and application data can be accessed—helping protect businesses against the most common security threats that target privileged user accounts or attempt to bypass application security. Enforcing separation of duties, even among administrators, Oracle Database Vault additionally serves as a powerful preventive control to help comply with today's stringent compliance and privacy requirements.

- Oracle TimesTen Application-Tier Database Cache - Oracle TimesTen Application-Tier Database Cache (TimesTen Cache) can improve application transaction response times and throughput by caching performance-critical subsets of an Oracle Database in the application tier. The TimesTen Cache option of Oracle Database 12c brings 'hot' data closer to applications by processing SQL transactions at memory speed and off-loading the data processing to middle tier resources. With Oracle Database 12c, the ability to transparently deploy TimesTen Cache with existing Oracle database applications becomes much easier – with common data types, SQL and PL/SQL support, and native support for the Oracle Call Interface (OCI), JDBC, ODP.NET, and ODBC.

- Oracle Label Security - Oracle Label Security adds extensive protection for sensitive information. This option employs labeling concepts used by government, defense, and commercial organizations to protect sensitive information and provide data separation.

It delivers multilevel security capabilities to protect access to data right down to individual rows in tables and addresses the real world data security and privacy problems faced by government and commercial entities worldwide. Oracle Label Security can be combined with Virtual Private Database, Secure Application Roles, and Oracle Database Vault to provide powerful solutions for protecting personally identifiable information.

- Oracle Multitenant - Oracle Multitenant introduces a new architecture in Oracle Database 12c that delivers the highest level of database consolidation, without changes to existing applications. Oracle Multitenant addresses historical DBA pain points: provisioning, patching, and consolidation. This new architecture makes it easy to create a container database and simply plug-in multiple databases, working seamlessly with existing Oracle Database functionality as Real Application Clusters and Active Data Guard. In addition, Oracle Multitenant helps reduce IT costs and provides the ability to manage many databases as one, while retaining the isolation of separate databases, without requiring any changes to applications or access rights.

- Oracle On-line Analytical Processing - Oracle OLAP delivers advanced multidimensional analytic capabilities within Oracle Database 12c. It's designed to provide excellent query performance, fast incremental updates of data sets, efficient management of summary data, and rich analytic content. The Oracle OLAP option is a full-featured on-line analytical processing (OLAP) server embedded within the Oracle Database. It can be used to improve SQL-based business intelligence tools and applications by improving query performance and enriching them with analytic content. As an OLAP solution that is deeply embedded in Oracle Database 12c, Oracle OLAP enables centralized management of data and business rules in a secure, scalable and enterprise-ready platform.

- Oracle Partitioning - Oracle Partitioning enhances the data management environment for OLTP, data marts, and data warehouse applications by adding significant manageability, availability, and performance capabilities to large underlying database tables and indexes. It permits large tables to be broken into individually managed smaller pieces, while retaining a single application-level view of the data. A comprehensive variety of partitioning methods are supported including, the ability to allow very large tables (and their associated indexes) to be partitioned into smaller, more manageable units, providing a "divide and conquer" approach to very large database management. Partitioning also improves performance, as the optimizer will prune queries to only use the relevant partitions of a table or index in a lookup. Oracle Partitioning can also manage the lifecycle of information, eliminating the need to continually buy high-end storage confining data growth to a scalable, low-end storage solution.

- Oracle Real Application Clusters - Oracle Real Application Clusters (Oracle RAC) harnesses the processing power of multiple, interconnected servers on a cluster. It enables access to a single database from multiple servers on a cluster, insulating both applications and database users from server failures, while providing performance that scales out on-demand at low cost. Oracle RAC is a vital component for delivering agile database services on the Cloud. Oracle Database 12c along with Automated Storage Management (ASM) and Oracle Clusterware, further helps virtualize storage, database servers, and all the other aspects related to deploying and managing database services in a Cloud environment.

- Oracle RAC One Node - Oracle RAC One Node is the one-node version of Oracle Real Application Clusters. It enables customers to take advantage of clustering in an active-

passive configuration. Oracle RAC One Node makes the database highly available in the presence of computer hardware failures, software failures, or planned software maintenance events. In the event of failures, the database instance is restarted on another server in the cluster and the client connections are moved to the new instance. Oracle RAC One Node can also be online upgraded to full active-active Oracle RAC configuration in order to scale to multiple servers.

- Oracle Real Application Testing - Agile businesses want to be able to quickly adopt new technologies, whether it's operating systems, servers, or software, to help them stay ahead of the competition. However, change often introduces a period of instability into mission-critical IT systems. Oracle Real Application Testing enables organizations to quickly adopt new technologies, while eliminating the risks associated with change. It combines a workload capture and replay feature with an SQL performance analyzer to help test changes against real-life workloads, for fine-tuning before moving into production.

- Oracle Spatial and Graph - Oracle Spatial and Graph provides advanced features for spatial data management and analysis as well as graphs for physical, network, and social and linked data applications. Its geospatial data features are designed to support the most complex requirements found in Geographic Information Systems (GIS), enterprise applications and location services applications. Oracle Spatial and Graph extends the Locator spatial query and analysis features in Oracle Database 12c with more advanced spatial analysis and processing capabilities. It provides support for two graph data models: Network Data Model graph (NDM), and RDF Semantic Graph. NDM is used to model and analyze physical and logical networks, used in industries such as transportation, logistics, and utilities. RDF Semantic Graph supports the World Wide Web Consortium (W3C) Resource Description Framework (RDF) standards. It provides RDF data management querying and inference that are commonly used in a variety of applications ranging from semantic data integration, to social network analysis and linked open data applications.

Oracle also provides a range of standards-based, pre-built data warehouse database schemas, with associated analytic models and dashboards for specific industries. Oracle Data Models help customers jump-start the design and implementation of enterprise information management strategies and quickly to achieve a positive return on investment in data warehousing and business intelligence projects. The Oracle Public Sector data model is used for SMART DMV.

The underlying database is highly normalized and will be NIEM and CJIS compliant. The contact table holds information regarding contacts. For purposes of the DMV, a "contact" is an individual customer. So, the Siebel database table for high-level customer data is the contact table. An intersection table is already defined between the contact table and other tables. This ensures that a customer-centric model is followed. Canon/NebuLogic expert DBA's will ensure that all the required standards and normalizations are met and will work with DMV's DBA, to ensure the integrity of the data is preserved during data migration. The proposed solution by default requires restriction of data access based on user privileges.

There are no specific requirements or prerequisites for the database other than licenses for the database product.

8. Data Cleansing and Conversion

*8.		Data Cleansing and Conversion:*

*a.		What experience do you have consolidating separate county and state databases into a single statewide title and registration database?*

*b.		Are there specific tools or techniques you use for consolidating registration and title data?*

*c.		Are there specific tools or techniques you use for cleansing registration and title data? For example, in Nebraska's current environment, data for the same vehicle may be contained in separate county databases, such as when a customer moves from one county to another. The expectation is having multiple records opens the possibility customer and/or vehicle information in those records may contain discrepancies. How would you recommend the State DMV approach resolving this issue?*

*d.		In your experience what specific data elements have caused the biggest issue(s) with conversion?*

*e.		What timeline should the State DMV plan for with respect to data cleansing?*

Cleansing and conversion of data from legacy systems to new platforms represent some of the most crucial tasks associated with a traditional development and implementation effort. Experience with other jurisdictions' modernization programs has shown that the accurate and successful conversion of information, in a state-wide motor vehicle environment, tends to be even more magnified in importance than that of standard conversion projects. This increased importance stems from the reality that statewide motor vehicle data directly affects the public, state agencies, business partners, law enforcement, and the commercial sector. To that end, the accurate and timely data made available for use by DMV officials ultimately supports the daily lives of the citizen, as well as the economic health of the state.

Canon/NebuLogic uses proven data conversion processes and technical objects that successfully convert critical legacy customer and product data to the new relational database system. We understand that unique client requirements exist that require proper planning and scheduling to support a successful transition from expiring legacy systems, while maintaining ongoing synchronization with remaining dependent legacy applications. Our data conversion process is deliverable focused and is fully integrated with the overall project schedule.

- We know DMV expects its current data to be migrated to the VTR Solution without compromising the quality, continuity, consistency and the relevancy of the data. Canon/NebuLogic has a proven strategy to cleanse, migrate and exchange data between the legacy system and the new VTR Solution. We have explained how we are using Oracle Data Integrator and Oracle Enterprise Data Quality and other tools to migrate the master data, while using the Oracle Golden Gate component, to synchronize the data bi-directionally, between legacy and the new systems. However, we strongly believe that enabling a second level data cleansing, mapping, de-duping, validation, and verification process should be taken into consideration to ensure the quality of the overall data migration process.

We will briefly describe the advantages of using the Canon/NebuLogic's approach to Data Migration and Data Validation.

- SMART 2-Factor Data Migration is an essential redundant tool which ensures the quality and viability of the data. SMART 2-Factor Data Migration tool compares the data that is migrated from the legacy system to the new VTR system using various reports and dashboards. This validation is performed for both master and delta data exchanges between the legacy system and the new VTR Solution.

- Due to the magnitude of this modernization project, which includes several large subprojects expected to go-live in a phased manner, undertaking the data migration and management among several new and legacy components is an important task. Hence, maintaining the data integrity of the current system while moving the subprojects with their data environments to production is a very crucial and critical aspect of support and maintenance of the two systems simultaneously. Therefore, the SMART 2-Factor Data Migration and Management is essential to maintain data integrity.

- We have chosen Experian Pandora to achieve SMART 2-Factor Data Migration, in addition to Oracle Data Integrator and Oracle Enterprise Data Quality. Experian Pandora provides a comprehensive data migration functionality which minimizes the data migration risks, shortens project timelines and ensures costs remain under control. Experian Pandora can be installed to provide valuable data insight within minutes. It is used by both technical and non-technical staff, facilitating adoption across the organization. Data migration reports from Oracle tools can be compared with reports from Pandora to ensure that all duplicates are merged and no records are missed. Figure 3 below depicts the Experian Pandora Architecture.
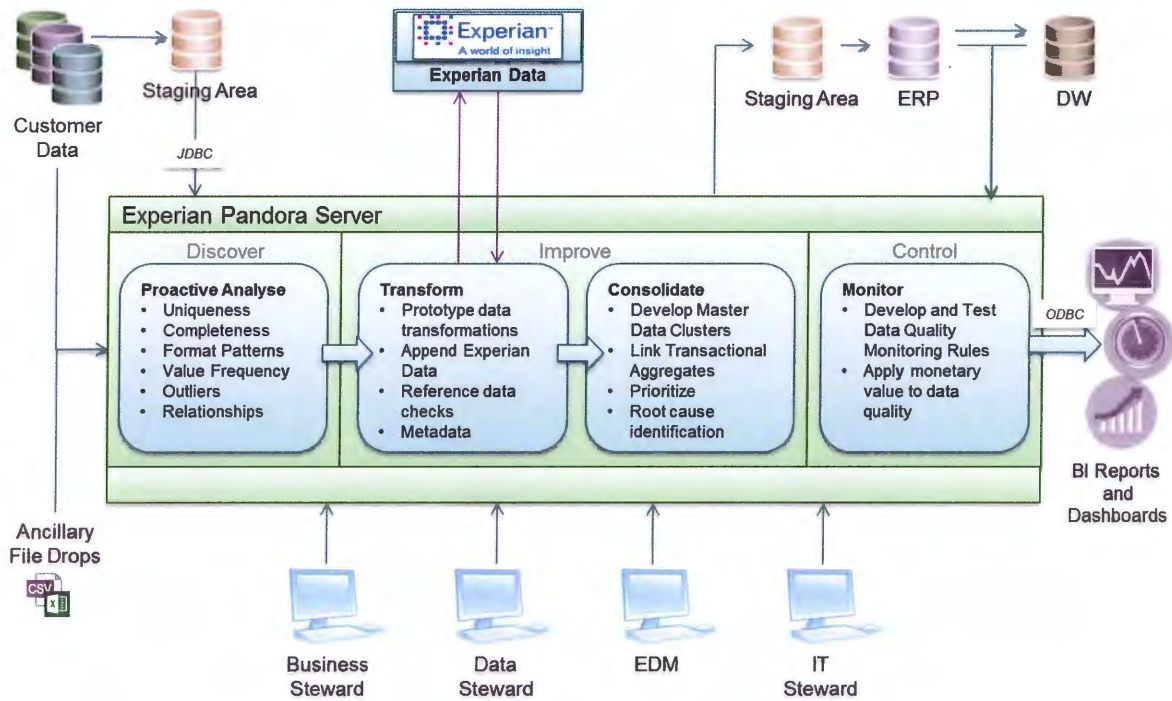
Pandora Architecture

Figure 3 - Pandora Architecture

Figure 4 below outlines some of Pandora's data migration strengths.

Experian Pandora strengths

A Single Tool

A single tool is used for all tasks, with investigations carried out and migration rules built interactively, allowing teams to focus on results rather than technical complexities. No other software is required, so there are no compatibility or integration issues.

Unrivalled Analysis

Proactive, high performance analysis of full data volumes across multiple systems allows Experian Pandora to provide a unique global view of enterprise data. Implicit rules and data relationships are discovered and analysis of values is carried out automatically with Experian Pandora proactively highlighting potential issues.

Collaborative

Being simple to use, Experian Pandora allows both technical and non-technical team members to work together, sharing screens, holding interactive online meetings, documenting findings and creating re-usable rules and reference data.

Managed & Audited

Issues are managed directly within Experian Pandora. Migration readiness is measured regularly and consistently using user-specified rules. Migrated data is reconciled to legacy source data, and the entire process is subjected to Experian Data Quality Audit & Security.

Figure 4 - Pandora Data Migration Strengths

Figure 5 below is a sample report from Pandora that can assist the data migration team with understanding the data.
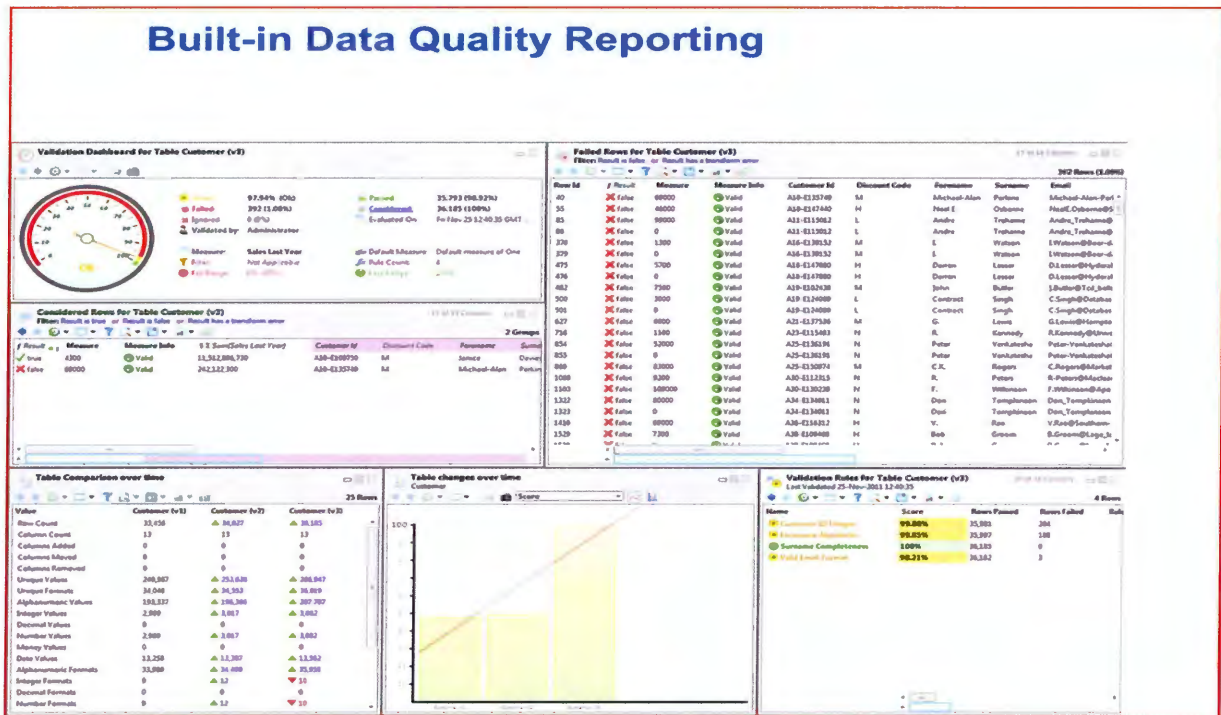
Figure 5 - Sample Pandora Report

Table 5 below contains a list and description of major data conversion activities along with recommended contractor and DMV responsibilities for each activity.

Activity	Description	Contractor Role	DMV Role
Strategy and Plan	Document the overall strategy and approach for data cleansing and conversion. Document roles and responsibilities as well as standards and templates that will be used.	Lead	Support
Design	Identify all data elements. Document mapping to target databases, edit rules, dependencies and volumes. Design error reporting. Determine data to be cleansed and purged.	Lead	Support
Data Cleansing	Correct or delete data using a third party software package or custom software and manual review/correction, as required.	Support	Lead
Development & Test	Develop software per the design to unload from source database into flat files, perform data mapping and translation. Develop load programs to load the data into the target database.	Lead	Support

Activity	Description	Contractor Role	DMV Role
	DMV to extract cleansed data from legacy system per data mapping. Contractor to translate data and load into target database.		
Acceptance Test	Validate that the data conversion software performs per the design and that the system works with the converted data.	Support	Lead

Table 5 - Major Data Cleansing & Conversion Activities

Canon/NebuLogic recommends DMV start its data cleansing efforts even prior to the start of the VTR Modernization project, because this effort can take a very long time, with multiple iterations as data issues and challenges are identified each time a new review of the data is found. Data conversion runs in parallel with the configuration and development phases of the project. Beginning the data cleansing and data conversion processes early in the project assures that issues derived from the data that require data model changes (database table structure modifications) to the system are caught early in the configuration and development cycle. Early identification of data model changes enables those changes to be addressed at a point when they are least disruptive to the cost and schedule of the project. Also, as data is successfully converted, it provides meaningful test data for the system.

A key objective for data conversion is to utilize standards, templates and common approaches wherever possible. The use of common, repeatable standards, templates, and approaches simplifies the process, reduces the effort, and reduce the risk associated with the data conversion. Canon/NebuLogic recommends global database design session(s) are held early in the project lifecycle to address the use of standards, templates and common approaches for data cleansing and data conversion. Some of the areas that will be addressed during the global design include:

- Standard definition of source data and associated edit rules
- Definition of standard data formats (dates, numeric fields etc.)
- Error reporting process/format
- Detail Design Document standards
- Standard Import process
- Guidelines for data cleansing
- Prioritization of non-conforming or problem data

Non-conforming or problem data is data that has existed in the legacy system and does not fit within the normal business rules of the new system, or has component data elements missing. Any longstanding data problems and system processing errors need to be identified, prioritized, and categorized as to whether they will be converted into the new system. We recommend creating a 'bucket' or repository to collect this data, since the conversion needs to be somewhat more creative.

Canon/NebuLogic recommends that conversion design sessions be conducted for each deployment phase. The Table 6 provides a list of the expected participants in the conversion design process and a definition of their role.

Participant	Role
Contractor Data Conversion Manager	Leads the design sessions. Provides overall direction and management of the data conversion effort.
DMV Data Conversion Manager	Will act as the focal point for all DMV data conversion activities. Work with the Contractor Project Manager to oversee the project. Coordinate DMV Subject Matter Experts (SMEs) and other resources as necessary.
Contractor Technical Consultant	Documents the technical aspects of the design. Provides technical guidance to the design process.
Contractor Database Administrator	Documents the mapping of the source data to the target Database. Analyzes the impact of the data on the system and determines the precedence of the data.
DMV SME	Provides information regarding the format, content and edit rules for the source data in the application area being designed. Provide technical assistance/information regarding the existing environment. Reviews design.
DMV Project Manager	Reviews & approves design.

Table 6 - Data Conversion Participants and Roles

The output of the design process is a Data Conversion Detail Design Document. This document must be detailed enough to provide the development team with the information required to develop the data conversion programs. Minimally, the document:

- Contains an overview/summary of the nature and volume of data to be converted.

- Identifies unique issues and special considerations.

- Provides a description of any high level data dependencies and conversion sequence considerations.

- Includes a definition of each field in the source data files (name, description, and size, data type, valid values, special edits, convert (Y or N)).

- Includes a mapping of each source field into the appropriate target database table(s)/columns.

- Includes the layout of the extract file.

The detailed design document provides the DMV with the input necessary to produce the extract files and determine cleansing needs. Additionally, the documents provide the contractor development team with the input necessary to produce the translation and load programs along with the required error reports. After these software packages have been developed, the loads are tested with sample extracts. Once the sample extracts have passed unit testing, a full load is performed. Metrics on record counts and run times are

captured for each sample and full load execution. The data can be loaded into the User Acceptance Testing environment to facilitate the testing of the data with the application.

Canon/NebuLogic recommends the following high level, iterative approach to data cleansing and conversion be employed:

- DMV cleanses data.
- DMV creates extract file (comma delimited or fixed length depending upon design document.
- Contractor loads extract files into staging database.
- Errors are logged (required fields missing, invalid characters, basic domain check errors, etc.).
- Contractor translates extracted data prior to load.
- Errors are logged (translation errors, basic domain check errors, etc.).
- Contractor loads the translated data into the target database.
- Contractor performs initial testing of the data.
- Errors are logged (failed loads, missing relationships, etc.).
- DMV tests the data conversion for accuracy.

During the global design session, a standard error reporting approach is designed. Unique error reporting needs and scenarios are documented during the conversion design sessions. Issues such as handling of fatal versus non-fatal errors are also be addressed.

In addition, the method for validating the conversion of the data is defined, including any cleaning processes performed by the DMV. Any reports or tools available in the legacy system to establish record counts, hash totals or record contents are also identified. Corresponding reports or methods are designed into the data conversion software so that comparisons can be made. In addition, tools and/or methods in the target environment are utilized to validate that the data was converted properly.

Testing of the conversion software occurs at multiple points in the project. The purpose of all testing is to validate that the conversion software performs per the approved detailed design. Unit testing is performed by the contractor's development group and is performed on each component of the data conversion solution. The developers utilize the validation approaches and methods identified during the design process to conduct the unit tests.

Once all data conversion programs and processes for a given legacy data store are developed and unit tested, the DMV is responsible for conducting acceptance testing. The contractor and DMV jointly prepare a Conversion Acceptance Test Plan to guide the acceptance testing for each legacy system converted.

In order to ensure that the conversion runs in a timely fashion, it is necessary to test for performance regularly. Sample extracts can be provided on an on-going basis and passed through the complete conversion process. With each trial conversion, metrics should be captured and maintained. Since running a sample set of data (10% of the data volume) won't catch all performance issues, the complete conversion of all the data, from source

extraction to final target load, is executed and each step measured to ensure performance requirements are met. Once the conversion runs within expected timelines a few times, it is usually considered ready for production execution. Metrics should be maintained after each conversion run to identify any trends in runtime. Orphaned records (where no relationship can be determined) are identified and separated. These data records are tracked separately and excluded from performance metrics.

During the data conversion design sessions, the strategy to integrate the data from the various systems is defined. Canon/NebuLogic anticipates that the legacy systems have some uniquely identifying data that may be used to tie records together between systems; though it has been Canon/NebuLogic's experience that there are often no direct links. In past conversions, clients have identified that the only way to tie a customer's records together from their legacy systems is via "fuzzy" matches (e.g. last name and first name match, address is the same, combination of VIN/Make/Year is the same, etc.) rather than more "concrete" matches (e.g. Customer Number, SSN/FEIN, or Title Number matches). Each converted system needs to be analyzed to determine the most reasonable integration algorithms to apply.

Please refer to the sections below for answers to the RFI's specific questions regarding data cleansing and data conversion.

a. Experience Consolidating Disparate Databases

Once we understand the complexity of DMV's current data model, we would propose several options using various best in class data quality and data cleansing applications to consolidate disparate databases, cleanse, and import the data into the new Nebraska VTR SMART Solution.

We have hands-on experience in consolidating, de-duping, and importing cleansed data to the production system. We use applications such as Oracle EDQ (Enterprise Data Quality), Oracle MDM (Master Data Management), Experian Pandora and NEADF® (NebuLogic Enterprise Application Development Framework).

As Data Cleansing and importing is essential in this project, configuring the new system to avoid any data leaks and duplications is as essential.

b. Data Consolidation Tools & Techniques

Nebraska DMV's VTR system, like many older DMV vehicle systems, has not had a primary customer key to link vehicle title and registration data to a specific customer's record. This transaction-centric design hinders the transition to the DMV's strategy for a customer-centric design. But Nebraska is not alone in this situation, several other US DMV jurisdictions have faced similar modernization challenges, so Nebraska can learn from their experiences.

Canon/NebuLogic is unaware of any specific commercially-available tools or techniques available for consolidating registration and title data; however, there are commercially-

available tools for identifying customers and matching old and new records to de-duplicate customer records, as the starting point for consolidation of the vehicle records associated now or previously to those customers.

Canon/NebuLogic's approach to consolidating this data for DMV customers would of course, be dependent upon your specific database situation, which would be assessed during the project, but would basically include some of the following steps. Nebraska-specific business rules for determining current versus historical records and purge criteria would be determined during the conversion design sessions.

- Create a unique customer identification number that will be assigned to each customer record.

- Read through legacy VTR database and using "customer" attributes on the vehicle title and registration records such as name, address, and other attributes that may be appropriate to create "potential" customer records for each unique instance of a name and address.

- Using commercially-available software, assess the potential customer records, de-duplicating records, creating actual customer records with unique customer identification numbers, and associating previous names and addresses to those new customer records.

- Once the customer records have been created, modules would be developed to read through the legacy vehicle title and registration records and match these records to current and previous customers, creating a conversion record for each VTR record. The assumption here is that registration records can be associated to titles and vehicles; title records can be associated to owner customer records.

- Sort the vehicle records by VIN, title, and transaction date to determine current records versus historical records.

- Associate the vehicle records to a new customer record where possible and create "orphaned" records when a customer record cannot be found. Use transaction date, NMVTIS, and other available data and systems to determine if a title is the current active title or not.

c. Data Cleansing Tools & Techniques

We use applications such as Oracle EDQ (Enterprise Data Quality), Oracle MDM (Master Data Management), Experian Pandora and NEADF® (NebuLogic Enterprise Application Development Framework).

d. Issues with Specific Data Attributes

In the vehicle titling and registration domain, the data elements that have typically caused the most challenges during data conversion are the following:

- Vehicle Make – many legacy DMV systems do not use NCIC standard make codes and either currently use or have previously used free-form text fields for capturing vehicle makes. As a result a Chevrolet vehicle may be recorded using multiple variations of

abbreviations ("Chevy", "Chev", "Che", "Chv", etc.) and all of the possible variations need to be mapped to the standard "CHE". In some DMV modernization projects, the number of different makes discovered on the legacy database has been greater than 50,000, all of which need to be reviewed and mapped to a standard vehicle make in the future system, if DMV intends to use standard values.

- Model – Similar to the Vehicle Make data element, Vehicle Model was not standardized in many legacy applications and free-form text fields over time have allowed many thousands of variations that need to be mapped

- Vehicle Type & Use Class – The state's definitions for vehicle type may differ from the NCIC or manufacturer's definite of vehicle type, plus several states have non-standard use class codes that further classify vehicles for the type of registration, types of plates that can be assigned to the vehicle, and the cost of the registration. These non-standard codes will also need to be mapped to the standards.

- Legitimate duplicate VINS.

- Non-standard VINs (either prior to the 1982 standard of 17 characters, vehicles with multiple VINs such as mobile/modular vehicles, kit cars, etc.).

- Lack of requirement for full legal name on vehicle records hinders matching of vehicles to owners/customers.

- Lack of primary key for customers that can be used to link vehicle to a specific customer record for a customer-centric view of the data.

e. Data Cleansing Timeline

Data cleansing activities include but are not limited to:

- Consolidating and cleansing the legacy data into a single source (Master Data/Golden Records),

- Importing the sample data into the staging instance of the new Nebraska SMART DMV Solution,

- Purging the test records from the staging and production instances of the new Nebraska SMART DMV Solution,

- Importing the master data into the new production Nebraska SMART DMV Solution,

- Synchronizing the production and staging instances,

- Importing the sample data into testing and training instances,

- Importing the delta data into the production instances

- Synchronize the production data across various systems during the initial phase of the post production deployment.

We expect the bulk of the master data import and cleansing activities to take place during the first six months of the project, while the fine tuning of the data would continue for the duration of the project until Go-Live date. However, the above tasks would require our attention for the duration of the project implementation.

9. Fees and Taxes

9.   Fees and Taxes

a.   Are you aware of modernized solutions to ensure tax situs location is accurately determined and/or improve collection and distribution of local revenue?

b.   Does your solution include a point-of-sale (POS) or cash drawer component to manage collections?

i.   How are electronic and credit card payments handled in the system?

ii.   How are refunds and credits handled in the system?

iii.   If you are providing a POS, what are its inventory tracking and management capabilities?

a. Determining Tax Situs Location

Canon/NebuLogic recommends the use of geographic information system mapping to accurately determine a customer's tax situs location for the collection and distribution of fees. From internet research, Canon/NebuLogic believes the State of Nebraska already has a master purchase agreement contract (contract number 13598 OC) with ESRI, Inc. to provide ESRI location services, so, provided there has already been a mapping performed for addresses to tax situs, this information may be available for DMV use.

Using Policy Automation components within the SMART solution we can configure variable fee structure and taxes based on the geo code information of the address provided by the GIS layers data.

b. Point-of-Sale (POS) Components

b.   Does your solution include a point-of-sale (POS) or cash drawer component to manage collections?

i.   How are electronic and credit card payments handled in the system?

ii.   How are refunds and credits handled in the system?

iii.   If you are providing a POS, what are its inventory tracking and management capabilities?

The SMART DMV solution includes a point-of-sale/cash drawer component as part of the core functionality. Canon/NebuLogic has designed and configured the point-of-sale component to be very similar to today's retail web applications. SMART DMV is configured with a transaction cart similar to that used by online shopping sites. The user is able to see all of the transactions in the cart, delete or edit transactions as needed from the cart, and then pay for all transactions with one payment or multiple payment types.

In addition, the SMART DMV cash drawer component is designed to enable ease of drawer management and reconciliation at the end of the workday or end of shift. The drawer count process is very similar to that of a bank teller's drawer count. All the user has to do is enter the number of bills and coins in each denomination, and the application tallies up the total amount in the drawer, netting out any starting balance from the beginning of the day. For example, a user just enters 2 fifty-dollar bills, 3 ten-dollar bills, 12 five-dollar bills, 30 one-dollar bills, six quarters, and the system would determine the cash drawer contains $221.50. As a result, the drawer counting process is very efficient. The system can be configured to have a dual user count and approval step if DMV elects to have the user count the drawer and an account clerk or branch manager to approve the count. Similarly, the user can enter the number of checks, number of credit card slips, etc. and the system will verify whether those counts match the system-expected counts. Cash overages or underage can then be easily determined and managed according to configured business rules. A detailed check or credit card transactions list can be presented for ease in determining whether a check or credit card slip is missing and if so, which one(s).

The SMART DMV solution allows for multiple payment types by a single payer, or for multiple payers, for a transaction. Through the use of the "shopping cart" type functionality commonly used for online retail purchases, the solution also allows the merging of various business transactions (e.g., registration renewal, vehicle titling, etc.), into a single payment transaction for the customer. Payments for a single transaction may be split among different payment types (e.g., cash and credit card). The solution sends the payment information through either the Canon/NebuLogic payment processor or the State's preferred payment processor to accredit and capture the payment information. The payment processor returns authorization or declination information, which is captured and stored with the transaction information. In instances where payment information is declined, the customer may retry or submit other payment information. When a payment is accepted, our solution provides payment confirmation to the customer and stores this confirmation, then associates it with the business transaction(s). Canon/NebuLogic's solution is PCI-compliant.

If necessary, a DMV or other approved user can override the fees, and a supervisor can note and approve the override. The override is recorded when the final update occurs. Only authorized users, as determined by the solution based on their roles, can use the override functionality.

Additionally, our solution provides the flexibility to allow authorized users to configure and set up fees as required by the DMV. Authorized users update the business rules repository when the DMV requires rule changes. The solution then uses the new business rules for determination of fees. In addition, the solution stores the effective date and expiration date and automatically calculates the appropriate fees to the customer based on business rules and dates. This capability not only provides a seamless experience to the clerk, but also minimizes abuse that comes with allowing users to regularly change fees on their own. As an example, the solution allows authorized users to configure fees for a variety of specialized plates. However, the business rules determine the specific fees in real time for individual transactions, and our solution presents the appropriate fees to the user. Once a customer makes a payment, our solution generates confirmation numbers and receipts that tie the financial transaction to the business transaction.

Payment transactions are processed by the cash drawer close out processes in the same manner as other transactions. The solution provides the ability to calculate the correct

distribution of funds collected to the appropriate entity and maintains a history of same. Our solution scans and uploads checks and other documents to the document repository.

The SMART solution's Oracle Payments provides a central place to disburse and capture funds, with automated and streamlined integration with external financial institutions.

To assure the solution can support DMV long into the future, the SMART DMV solution rests on an SOA foundation, so it can interface with any current (ePay, Apple Pay) or future forms of payments.

Our solution also processes refunds and credits as indicated by business rules. The solution stores data to reference the refund to the original transaction, amount of refund, and product/service (e.g., registration, title, dealer application, etc.). Refunds can be configured to be either instantly approved or payable to the customer real-time or to require approval and payment by another entity, such as the state treasurer's office, if required. These business rules may be general for all types of refunds or configured by transaction type or amount.

Similarly, credits are configured by rule so that credit for a previous transaction may be applied, based upon Nebraska specific rules or laws. For example, if Nebraska has a rule that credit for a title transaction may only be applied to a future title transaction, for the same customer and same vehicle, we can configured the SMART DMV system as such. If a customer's credit can be applied to any future transaction for the same customer, we can configure the business rules accordingly. Credits may also be configured to allow one customer to give his credit to another customer.

The SMART DMV solution includes an inventory management component that has been configured specifically for DMVs. The SMART DMV inventory management system is designed as a typical product management system that tracks product types, products (items) within a product type, orders for products, and sale of products. The SMART DMV system has extended the typical inventory management attributes to incorporate plate types, plate sheeting types, and plate format masks that enable the DMV to order specific items based upon DMV vehicle license plating requirements.

10. Electronic Transactions Interfaces

10. Electronic Transactions/Interfaces

a. How does your system incorporate?

i. Electronic Lien and Title (ELT),

ii. National Motor Vehicle Title Information System (NMVTIS)

iii. Dealer and fleet processing,

iv. VIN/HIN validation,

v. MSRP values,

vi. Address validation, and

vii. Other third-party data providers and stakeholders?

b. Does your system include a document management and imaging solution? If so, please provide a brief explanation?

c. Are there best practices or interface standards the State DMV should be considering?

d. Are there other interfaces your solution requires/provides which are not identified in the CER?

The response to this section contains confidential and proprietary solution information and hence has been made available in a separate document marked "Proprietary Information" as required per the RFI instructions.

11. Customer Relationship Management (CRM)

11.   *Customer Relationship Management (CRM)*

a.   Does your solution include a CRM function for tracking correspondence and customer touch points?

a. CRM Functionality

SMART DMV utilizes state of the art technology to deliver directed, intuitive navigation with robust capabilities in a true web-based environment. The SMART DMV solution benefits from the extensive development and evolution of the Oracle COTS products, including Siebel CRM. The Siebel CRM application represents sixteen years of best practice experiences from more than 5,000 customers (including 1,400 Public Sector customers) and more than five million users worldwide.   Siebel has received many awards, is widely recognized by top analysts as the global leader in enterprise CRM and is well recognized for having more customer seats deployed than any other COTS CRM provider.

SMART DMV includes and relies on Siebel CRM as the system of record. Siebel CRM offers a COTS-based solution that can be easily configured to meet DMV operational requirements. The Siebel product integrates functions and technologies across the entire case enterprise, including customer contacts; hearings; violations; investigations, and other case management processes while providing comprehensive analytical capabilities. Siebel CRM is scalable to accommodate large, mission-critical implementations such as a DMV-wide application.

Oracle provides a suite of graphical tools called Siebel Tools, to rapidly configure all aspects of Oracle's Siebel CRM solution—behavior, and workflow—without modifying application source code or Structured Query Language (SQL). The sophisticated repository management capabilities of Siebel Tools, allows teams of developers to work efficiently on configuring Siebel eBusiness Applications. Siebel Application Upgrader provides an automated process for upgrading configurations to future product releases, thereby protecting investments. The ease, comprehensiveness, scalability, and upgradeability of the customization process helps reduce the total life cycle cost of configuring the Siebel CRM solution.

SMART DMV also incorporates the Siebel Universal Customer Master (UCM) hub to provide master data management (MDM) capabilities. Siebel UCM provides a standard out of the box data model that represents various entities such as Vehicles, Customer, Driver Credentials, etc., and is configured to store a clean, unified profile for enterprise customer data. These pre-designated data models are leveraged across various components of the solution including:

- Enterprise Resource Planning (ERP),
- Customer Relationship Management (CRM),
- Operational Data Store (ODS),
- Enterprise Data Warehouse (EDW), and
- Business Intelligence (BI).

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The Siebel CRM Data Model is a highly flexible schema that has been designed to flexibly support customer requirements that are not directly addressed by the standard configurations. One way that this flexibility is supported is via the sheer depth and richness of the existing data model, which includes over 30,000 columns in base tables. Many of the existing columns and relationships between tables are not exposed in the standard configuration, but they are nevertheless available for customers to use as needed. Siebel UCM data governance provides tools for data stewardship to handle any kind of data related issues, during automated matching and merging of data.

SMART uses a SOA infrastructure to expose Siebel UCM as a shared service across various components of the SMART DMV solution. The interaction between components of SMART DMV and Siebel UCM uses both, a real time interface, as well as event-based. For example, The SMART DMV portal enables agents to search for customers, interfacing with Siebel UCM in real-time, thereby avoiding creating duplicated customer records.

Central to the SMART DMV architecture is a unified, integrated enterprise-class portal application powered by Oracle's Web Center Portal, that is integrated with Oracle Siebel CRM, Oracle Enterprise Business Suite (EBS) for financial management, Oracle OBIEE for reporting and analytics, and Oracle Policy Automation (OPA) for business rule management.

The Siebel CRM component works with other Oracle products to provide a multi-channel approach to the business challenge of managing a full 360-degree view of the customer, across channels, regardless whether a transaction is performed by a DMV user or county treasurer representative, through a self-service portal via the internet or IVR application, or is a record of a call-center contact.

As described in Section 10 of this response, SMART DMV includes an integrated enterprise content management component so that all correspondence with a customer, incoming and outgoing, can be associated to the master customer record and retrieved as part of the customer 360-degree view.

12. General

12. General

a. What timeline would you suggest the State DMV and its stakeholders plan for each of the following:

i. Planning

ii. Development

iii. Implementation

iv. Integration

b. What three things about your solution make it different/unique from other solutions/your competition?

c. What do you often hear are the three most common complaints/weaknesses of the system you propose?

a. Suggested Timeline

From our experience in working with other large public sector clients on projects of this size, scope and complexity, Canon/NebuLogic believes that the SMART DMV solution can be configured for the Nebraska DMV VTR system within 24 months, depending upon the availability of staffing and the extent of configuration and customization required for the SMART DMV solution. In the recommended phased implementation, some solution components could be implemented as early as 12-18 months.

To determine a reasonably accurate project timeline, a significant amount of initial analysis and planning needs to be performed. Realistic assessments need to be conducted in the following key areas:

- Project scope—Degree of fit for SMART DMV in relation to DMV's requirements
- DMV's project phasing strategy
- Legacy synchronization strategy
- Deployment strategy
- DMV key resource commitment and availability to support the project
- Required level of integration with other systems
- Data cleansing and data conversion strategies

As DMV proceeds with the VTR Modernization project, each of these variables would become more defined, and the project timeline would become more certain.

The following timeline (see Figure 6) provides a high-level summary of the overall schedule using the SMART DMV solution. We assume that there would be a good fit with DMV's

requirements, that key resources would be available, and that a moderate phasing and overlapping of phases would occur.

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Figure 6: Proposed Project Implementation Timeline

As shown in the diagram above, Canon/NebuLogic has estimated the following timeline for the four project phases requested:

- Planning and setup – 6 months
- Development – 12 months
- Implementation (Deployment) – 3 months
- Integration – 3 months

Canon/NebuLogic's experience in implementing systems integration projects, using similar technologies in public sector engagements, has shown that the following factors are critical to keeping on track with the project timeline:

- Active senior sponsorship and involvement is critical to keeping projects on course. A senior sponsor driving and communicating decisions across multiple agencies can assist with confirming that development, testing, and training is on track. With active senior leadership on board with a project, involved staff is more confident about the project and want to participate.

- Continual risk management, throughout the project, is crucial for identifying and mitigating potential risks to the project. By planning for risks and keeping a focus on new potential risks throughout the project lifecycle, surprises are kept to a minimum and many risks could be avoided.

- Canon/NebuLogic believes that a vital component to keeping a motor vehicle system project on schedule is having adequate DMV resources assigned to the project. Many projects of similar size and scope are delayed because the client does not have ample resources available. Equally important to having enough resources assigned is having resources with the proper skill, experience and decision-makers empowered to make decisions, so the project can proceed smoothly and without delays caused by waiting on decisions.

b. Canon/NebuLogic SMART DMV Unique Characteristics

The SMART DMV solution is unique when compared with the DMV solutions in the market in the US today. SMART DMV is not a solution originally developed for another market and then tailored to DMVs. SMART DMV is not a transfer solution originally built for one jurisdiction and then transferred to others. The solution was developed and configured specifically for the DMV market using the newest products, features, and concepts available today. The following list outlines some of the most unique characteristics of the SMART DMV solution.

- SMART DMV was developed and configured using true enterprise-level COTS applications and open architecture so that DMV's are tied down to a proprietary technology.

- SMART DMV leverages SMART MAP for the presentation of initial high-level customer information. SMART MAP is Canon/NebuLogic's mind map concept to boost productivity by providing the information needed to initiate transactions as quickly as possible. A mind map is a diagram used to visually organize information around a single concept. Major ideas are connected directly to the central concept, and other ideas branch out from those. The SMART Map is based on the customer as the central concept upon which all other objects are related. For example, driver credentials and identification cards are related to the customer and vehicles owned by the customer are related to the customer. Additional objects such as convictions, suspensions, business licenses, insurance, etc. could also be reflected in the SMART MAP for easy access to these records.

- SMART DMV leverages Oracle's best-of-breed Oracle Policy Automation (OPA) to manage business rules and performance processes. OPA empowers organizations to achieve enterprise policy agility to disseminate policies across the organization and beyond. Dedicated to collecting, modeling, deploying, analyzing, and updating policies, Oracle Policy Automation helps organizations in all industries to effectively deliver services and consistently determine policy obligations while maintaining full compliance with laws and regulations. With SMART DMV and OPA, DMV will be able to easily manage and meet your business obligations even in the face of continually-changing state, federal, and local laws.

- SMART DMV incorporates a dynamic user interface that uses modern concepts, icons, and features.

- SMART DMV is the most secure DMV solution available in the market today. With Oracle's enterprise-class identity management products at its core, SMART DMV protects the DMV and your customers' sensitive, personal, and confidential data.

- SMART DMV leverages Oracle Business Intelligence Enterprise Edition (OBIEE) to deliver the most robust set of reporting, query, analysis, dashboard, and scorecard functionality available and a rich end-user experience.

c. Areas for Improvement with Canon/NebuLogic SMART DMV

Continuous improvements to the SMART DMV solution are essential to maintain the usability and viability of the deployed solution. Hence we at Canon/NebuLogic, have enabled a technique called **ARM®** (Active Record Management) which takes into consideration the need for continuous improvements and have enabled proper hooks both in the data model as well as in the user interface. Moreover, Canon/NebuLogic would work hand in hand with the Nebraska DMV to understand and enable the required enhancements to the application and bring these enhancements to production, without interrupting the business continuity.

13. Budget

13.   Budget:

a.   The State DMV requests the following information for budgeting purposes:

i.   One-Time:

a)   Solution Design

b)   Implementation

ii.   Annual, Recurring:

a)   Ongoing Maintenance

b)   Ongoing Support?

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