augmented identity

State of Nebraska
State Purchasing Bureau

ORIGINAL

TECHNICAL PROPOSAL

In Response to:

RFP Number 5914 Z1
Credential and Testing Solution (CATS)

Submission Date:
October 25, 2018 at 2:00 PM Central Time

Submitted to:
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IDEMIA

Confidential Notice

Certain information in this proposal is protected from disclosure to the public because it is a proprietary trade secret or confidential commercial or financial information of Idemia Identity & Security USA LLC or its affiliates (individually and collectively, "IDEMIA USA").

IDEMIA has endeavored to identify any such proprietary or confidential information with "START CONFIDENTIAL INFORMATION" and "END CONFIDENTIAL INFORMATION" before and after the respective relevant information on a page or pages of this proposal. IDEMIA USA's proposal includes all exhibits and appendices thereto, as well as all extrinsic documents and materials that may be identified and incorporated therein by specific reference. IDEMIA USA's proprietary information typically includes information related to proprietary security features and related designs, techniques and materials, formulas, manufacturing methods, business plans, pricing and other financial information, technology and product roadmaps, and customer lists and references. Subject to applicable law, such proprietary or confidential information may not be disclosed (pursuant to freedom of information legislation or otherwise), reproduced in whole or in part, or used for any purpose other than the recipient's evaluation of this proposal, without the prior written consent of an executive officer or the General Counsel of Idemia Identity & Security USA LLC.

Our Mission

To simplify, protect and secure people's lives.

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About This Document

About This Document

Compliant Proposal Submission

Our compliant proposal response to the State of Nebraska's Request for Proposal (RFP) Solicitation Number 5914 Z1 follows the RFP instructions in section I. Procurement Procedure, section VI. Proposal Instructions; and section VII. Cost Proposal Requirements. Our response focuses on completeness and clarity. All the mandatory forms are included in the response package and are signed as required. This submission is presented to be easy to follow, concise and thorough to ease the evaluation process.

Our proposal response is organized by the following volumes:

VOLUME ONE – TECHNICAL VOLUME

This Volume contains our executive summary, the required RFP forms, our responses to RFP Sections II-VIII (which includes Terms and Conditions, Contractor Duties, and Payment), and our completed Appendix A. Bidder Response document.

VOLUME TWO – SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL

This volume contains the SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL information as designated in Appendix A. Bidder Response. This volume also includes our Card Feature Sheets, a card test report for our proposed card offering, and our response to AA. Extensibility for Future Growth and Development.

VOLUME THREE – COST PROPOSAL

This volume contains our completed Cost Proposal RFP 5914 Z1 in the format in which it was provided.

VOLUME FOUR – CREDENTIAL SAMPLES

This package contains the required 48 credential samples as listed in RFP 5914 Z1, Section L. CREDENTIAL SAMPLES and Section Q. REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS.

EVALUATION CRITERIA

The RFP Evaluation Criteria for the Technical Proposal indicates the importance of the Corporate Overview, our technical approach, and the quality of our credential samples.

Where we comply, we indicate:	Where we exceed the requirement, we indicate:
✓ **IDEMIA USA complies.**	✓+ **IDEMIA USA complies and exceeds.**

We have tried to exceed RFP requirements wherever possible and provide evidence that we are committed to the US Driver License Industry. Our experienced team is prepared to deliver your CATS solution on time using.

Addenda Acknowledgement

We acknowledge the receipt of the following addenda released by the Nebraska State Purchasing Bureau:

- Addendum One, QUESTIONS and ANSWERS ROUND ONE, released September 14, 2018
- Addendum Two, QUESTIONS and ANSWERS FOLLOW-UP, released September 21, 2018
- Addendum Three, QUESTIONS and ANSWERS ROUND TWO, released September 28, 2018

Executive Summary

The State of Nebraska Department of Motor Vehicles (DMV) seeks to implement a new, modernized, and efficient Credential and Testing System (CATS). The new system must support delivery of quality service to DMV customers in an integrated, secure manner as described within RFP 5914 Z1.

This project will integrate and replace three distinct operational functions:

- Driver's License Credentialing
- Knowledge Testing
- Skills Testing

In our proposal, Idemia Identity & Security USA LLC (IDEMIA USA) will explain how our solution will meet the DMV's needs in this highly visible, complex program. Four factors distinguish us as the right partner for this project:

1. Our unmatched experience across all aspects of the program, from enrollment to credential issuance
2. Our innovative solutions
3. Our program delivery
4. Our commitment to outstanding customer service and support

Nebraska DMV and IDEMIA USA: A History of Innovation

IDEMIA USA has been the DMV's strategic business partner for nearly forty (40) years, providing our solution and services since 1979 when Nebraska decided to issue its first photo driver's license. Over the years, we have collaborated with the DMV to implement your vision and forward thinking in making the upgrade to digital imaging capture, converting from over-the-counter (OTC) issuance to central issuance (CI), creating a method for covert credential authentication, and establishing credential and identity security to fight fraud and protect the identities of Nebraska residents.

Our goal is to assist the DMV in maintaining their status as a leadership agency with the Governor's Office, legislature, State agencies, citizens, and American Association of Motor Vehicle Administrators (AAMVA) community by providing an innovative solution that is integrated, secure, compliant, easy to use, easy to access, easy to expand, and maintain.

In 2005, we delivered our AutoTest knowledge testing solution and worked to integrate this solution with your Mainframe system of record. Nebraska also became the first state to deliver testing using portable laptops and tablets to accommodate travel teams. Then in 2016, we delivered our RoadTest electronic skills testing solution. As an integrated part of the testing/credentialing lifecycle. IDEMIA USA owns, supports, and stands behind the performance of these systems, unlike other companies who may propose testing products from third parties, over which they have little control. The

DMV can be assured that with IDEMIA USA, you have a partner who understands the importance of these systems to the DMV and the daily lives of Nebraska's residents. We know how to deploy them as part of a single umbrella program, ensuring seamless integration and low-risk to the DMV.

We value our long partnership with the DMV and look to continue it by offering you an end-to-end solution that will exceed your expectations in all respects—enrollment, capture, issuance, biometric screening, authentication, testing, administration, and the most secure Driver's License/Identification (DL/ID) credential in the country. Our solution incorporates our 60+ years of experience in the industry with focused input from customers to provide the highest security and value to state agencies, residents, and other stakeholders.

The primary goal of our response is to show the DMV and its stakeholders that we understand your mission and vision, we have listened to your input, we understand your requirements, and we have the solution that best fits these needs.

Table 1 lists the key elements for our successful partnership.

Table 1: Key Elements for Mutual Success

Integrated	Our solution offers tightly integrated front and back office functionality designed to work together in a single solution with streamlined architecture—not disparate products patched together. This ensures seamless integration within the DMV and across your stakeholder systems—including major modernization providers—and the flexibility to support your needs far into the future
Secure	Our centralized solution architecture allows for enhanced security for critical data while protecting the personal information/identity of your State residents. We will produce the new Nebraska credentials in our modern production facility in Springfield, IL. This is the newest and only NASPO Class I certified facility in the U.S. and available only from IDEMIA USA.
Well-planned	Our Project Plan offers advantages in flexibility that virtually eliminates risk. Our Plan includes: • Installing the front office solution early and helping DMV stay in compliance with Windows operating system upgrades • Delivering the new card early, if desired • Providing flexibility to meet any DMV fluctuation in priority, resource, and/or schedule demands
Easy to use	Our CATS solution will improve transaction times and support a quality customer experience for the DMV. Our use of human-factor engineering in product design promotes the same experience across all products that we offer to the DMV. This is a concept unique to IDEMIA USA products.
Easy to access	Examiners, managers, administrators, and investigators will benefit from the Web-based front office and back office credential solution that can be accessed from anywhere, which is especially valuable to those who travel across the State of Nebraska.
Easy to expand and maintain	The best solution is one that is easily managed and maintained across all locations that perform driver's license and testing transactions. We offer a browser-based credentialing solution that eliminates the need to distribute software updates across the many workstations deployed in the field. Additionally, with enhanced configurability, the solution easily adapts to changes in workflows as your requirements evolve over time.

Our Solution: Meeting Your Needs

IDEMIA USA partners with states that serve approximately 80% of the U.S. driving public. We provide mission-critical issuance and testing solutions in the majority of U.S. states—37 credentialing, 22 knowledge testing, and 10 skills testing (see Figure 1).

Figure 1: IDEMIA USA's Geographical Breadth in the U.S. Today

Nationwide operational technicians are readily available to the State should business situations require more support.

In delivering these solutions, we have learned a vital lesson....not everybody does things the same way! That's why **we have built a technology platform for CATS that is standardized for easy implementation and support and is configurable to meet a variety of needs.**

Web Enrollment

Driver's License Examiners, Country Treasurers, and customers will all benefit from our innovative capture product IDEMIA USA Web Enrollment. Fully integrated with our Issuance 360 Back Office, Web Enrollment delivers efficiency across the organization and moves citizens through the enrollment process with ease. Table 2 lists the features and benefits of the Web Enrollment design.

Table 2: IDEMIA USA Web Enrollment Design and Customer Experience

Technology Design Component	Enhanced Customer Experience
Fewer clicks to completion	Streamlined processing
Exceptions-based workflow	Reduced transaction time
Display what is needed only when it is needed	Visually uncluttered for an improved user experience
User-centered design	Easy to learn with reduced training time
More flexible, modular, and nimble	Readily take advantage of new technologies such as mDL and eID for future expansion
Responsive Design	Effortlessly adapt to different platforms like tablets and mobile devices
Better user experience = Satisfied examiners and citizens	

Issuance 360 Back Office

Issuance 360 Back Office is the by-product of our many decades of experience in working with our customers to improve all processes that follow front office enrollment. Our back office tools are easy to use, yet powerful, allowing you to track issuance progress down to the individual card level as credentials pass through a series of security gates.

Issuance 360 Back Office also provides secure interfaces with all of the DMV's systems – transaction data storage and dashboard-based reporting. These elements are required to secure and manage identity data and associated operations such as facial recognition, fraud investigations, and card issuance. The solution natively supports all current use cases and interface, and provides the platform for future interface support without impact to the core solution.

At the highest level, this browser-based, dashboard-driven component of the solution gives each user a role-based view of features directly related to his/her area of responsibility. Issuance 360 Back Office enables secure and efficient storage and management of identity records and supports the process of gated issuance, biometric investigation, and case management. Card status, card inquiries, record retrieval, review, and reporting are all at the fingertips of the administrator, making their job easier and giving them insight into every step of the issuance lifecycle.

The DMV Fraud Department will have a similar user experience in the biometric screening component of Issuance 360 Back Office with their own dashboard that provides the ability to process daily biometric matches found in the automatic screening process. Users will be able to identify items in the queue as cases and pass them on for investigation quickly and easily, without leaving the application.

Our biometric solution is built around our powerful MBSS search engine, which is used in large, mission critical facial recognition implementations for agencies such as the FBI and U.S. Dept. of State. IDEMIA USA has delivered facial recognition solutions to more U.S. DMV customers than any other company. Thirty-four states have incorporated our biometric technology into their DL/ID process

Issuance 360 Back Office includes an interface for the FMCSA CDL Multi-State Screening System, a program pioneered by FMCSA, IDEMIA USA, and a group of forward-thinking states such as Nebraska. This system is designed to protect Nebraska highways from fraudulent attempts to acquire a CDL license. Currently, there are three other states near Nebraska that can share CDL photos/records to find criminals trying to shop from state to state when their CDL credential has been suspended. As new states come on board or other Pilot regions are ready to connect, the DMV's back office biometric screening capabilities can expand easily by adding these states to the CDL Multi-State Screening System.

Automated Knowledge Testing and Skills Testing

Our AutoTest and RoadTest automated knowledge and skills testing solutions have been selected by more than 20 North American and international jurisdictions to modernize their driver testing programs. DEMIA USA has the commercial off-the-shelf (COTS) solution, experience, and specific knowledge of your environment to ensure a successful project.

We pioneered many firsts with our testing solutions, including:

- First Web-based knowledge testing system for a driver service agency (2003)
- First automated testing system to offer testing in American Sign Language (2005)
- First statewide program offering secure, randomized knowledge testing via the Internet to high school students in school computer labs (2006)
- First portable testing solution option (2006)
- First automated testing system to offer tablet PC-based automated skills testing (RoadTest) with full GPS tracking and handwriting recognition (2008)
- First at-home Internet testing option offered from a DMV website (2018)

The DMV can feel secure that, with IDEMIA USA, you will not be left with outdated and unsupported testing software. Our investment in continued research and development in our field allows our customers to take advantage of new and enhanced capabilities on an ongoing basis.

To further this claim, we've included as an option with this proposal our Web Test component used by Driving Schools or Driver Education Courses/Schools. In Arizona, the Department of Transportation just implemented our WebTest product allowing first time drivers to actually take their permit test at home with a system called Permit Test @ Home (Arizona's name for WebTest).

The AutoTest/RoadTest team takes personal pride in creating and maintaining happy customers. In fact, our AutoTest/RoadTest deployment for Virginia DMV (called SecuriTest) was honored with two major awards at the 2015 American AAMVA International Conference:

"I have no reservations about recommending to other jurisdictions IDEMIA USA and its AutoTest, Web Test and Road-test products. We view IDEMIA as a true partner in providing these solutions to the Commonwealth of Virginia."

—Tully Wellborn, Project Manager, Virginia Department of Motor Vehicles

- **The Innovative Use of Technology Award** recognized the solution's deployment for learner's permit testing in high schools, its use at power companies for remote testing of employees to obtain escort certificates, and its incorporation of American Sign Language (ASL).
- **The Fraud Prevention and Detection – Motor Vehicle Agency Award** recognized the solution's ability to store the most recent image of all customers taking the test, which helps detect instances where a person sends someone else to take the test in his or her place.

Secure and Durable Credential

The DMV is clear on their requirement for a credential with highly sophisticated security features, and we are committed to exceeding your expectations to ensure that you have the most advanced and secure card possible. Our security design team, the most experienced in the industry, will work with you to design a card that is functional, durable, and highly resistant to both alteration and simulation counterfeit threats.

"We are proud to issue a highly advanced card in both design and security features. The new California DL/ID card provides a superior level of security with easy authentication by combining reliable construction with high-resolution security preprint and multiple personalization print technologies."

—Director Jean Shiomoto, California Department of Motor Vehicles

Our ExianEvident card is the most recognized and successful CI credential in the market. Over 43,000,000 ExianEvident credentials are issued annually. This strong card structure with a **10-year life** won the 2018 ELAN award from the International Card Manufacturer's Association as Best in Class for government identity and access control. It has been selected by more U.S. DMVs than all other card substrates combined and is being implemented this year under new contracts in Minnesota, Iowa, Missouri and Kansas. Our ExianEvident credential strategy will use the applicant's **color photo** as the foundation to DMV's **linked and layered design**. The card's ability to accept multiple modes of personalization means that counterfeiters have to perfect many different production technologies. The challenges and costs of trying to simulate the Nebraska credential will convince them to look for other targets. In addition, our proposed card technology will incorporate covert, machine-readable technology which has never been successfully duplicated. Relying parties who depend on credential authenticity such as law enforcement, retail, and TSA can use a simple smart phone app to be assured that a Nebraska credential is authentic.

IDEMIA USA's approach to designing a high-security identity document is both art and science. Our approach includes a "Card Design Summit," in which our experienced Card Design Team works directly with you to determine the right combination of linked and layered security features and graphic design elements. This process brings a team of DMV personnel to our laboratory for a side-by-side, collaborative series of sessions using the latest tools and techniques. This not only accelerates the initial card design process but also allows the DMV team to gain valuable insight into the latest counterfeit simulation threats and how to protect against them.

Delivery and Operational Support

We have enjoyed a long and positive partnership with the DMV in the operation of your current and past programs. However, we appreciate and accept that the DMV demonstrated extreme patience with us during our last delivery. Since that time, we have performed a clear-eyed assessment of that delivery and all of the circumstances that contributed to its long duration. Recently, the DMV has witnessed this improvement with the delivery and implementation of the new DMV workflow at the Omaha Metro Office, which was delivered on time and within budget.

U.S. DL Experience Matters

Similar experience does not represent "like" experience. Suppliers using experience with credit cards, banking cards, and other credentials in place of state DL programs present a learning curve risk with potential impact to your program's success. Due to the complexity and security concerns associated with U.S. DLs, actual U.S. DL experience is what matters.

On-time delivery for this project will be as important to IDEMIA USA as it is to the DMV, and we are committed to show this with our performance. Our new Web enrollment and Back Office products have proven themselves to be much easier to configure and deploy. And, to make sure the project stays on track, executive governance will include the Senior Vice President of our Civil Identity business who will be actively engaged in oversight.

The DMV will experience exceptional delivery and operational support. We have carefully designed the in-state field service program we have outlined in the proposal, including the tools we use to measure and monitor Help Desk calls and the ability to use our "Service Without Borders" structure if necessary, resulting in less downtime and more service to DMV offices and your customers. **Our in-state team is led by Jeff Atwell, who has been instrumental in the success of the current support program.** With 15 years of experience working with the State, Mr. Atwell's understanding of your DMV examining staff, county treasurers, and third-party testing agents make him the perfect resource for your team and stakeholders. We are positioned to deliver quality service with a team of support professionals to make sure that systems are available, operating, and efficiently delivering credentials to your citizens.

Conclusion

Continuing your partnership with IDEMIA USA will allow the DMV to benefit from the experience of a company that has specialized knowledge and expertise as a U.S. driver's license, knowledge testing, and skills testing expert versus a supplier that manufactures DL/ID cards as a supplemental business and requires subcontractors to fulfill its other obligations. **CATS programs such as Nebraska's are best served by a company who knows your technical environment and your team.** We respect and care for this partnership and want to help ensure your continued success.

Our proposed hardware, software, implementation work plan, credentials and manufacturing facility, operational support, and security plans for CATS are based on *proven* approaches we have used successfully in other state programs of similar size and complexity. We would be honored to continue as your partner in building a new, high-performance system incorporating our years of driver's license and testing experience in Nebraska, in the Midwest, and nationwide.

Section II: Terms and Conditions

Please see the following pages for IDEMIA USA's responses to RFP Section II: Terms and Conditions.

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II. TERMS AND CONDITIONS

Bidders should complete Sections II through IV as part of their proposal. Bidder is expected to read the Terms and Conditions and should initial either accept, reject, or reject and provide alternative language for each clause. The bidder should also provide an explanation of why the bidder rejected the clause or rejected the clause and provided alternate language. By signing the RFP, bidder is agreeing to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the proposal. The State reserves the right to negotiate rejected or proposed alternative language. If the State and bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the proposal. The State of Nebraska is soliciting bids in response to the RFP. The State of Nebraska reserves the right to reject proposals that attempt to substitute the bidder's commercial contracts and/or documents for this RFP.

The bidder should submit with their proposal any license, user agreement, service level agreement, or similar documents that the bidder wants incorporated in the Contract. The State will not consider incorporation of any document not submitted with the bidder's proposal as the document will not have been included in the evaluation process. These documents shall be subject to negotiation and will be incorporated as addendums if agreed to by the Parties.

1. If a conflict or ambiguity arises after the Addendum to Contract Award have been negotiated and agreed to, the Addendum to Contract Award shall be interpreted as follows:
2. If only one Party has a particular clause then that clause shall control;
3. If both Parties have a similar clause, but the clauses do not conflict, the clauses shall be read together;
4. If both Parties have a similar clause, but the clauses conflict, the State's clause shall control.

A. GENERAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The contract resulting from this RFP shall incorporate the following documents:

1. Request for Proposal and Addenda;
2. Amendments to the RFP;
3. Questions and Answers;
4. Contractor's proposal (RFP and properly submitted documents);
5. The executed Contract and Addendum One to Contract, if applicable ; and,
6. Amendments/Addendums to the Contract.

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a future contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to the executed Contract with the most recent dated amendment having the highest priority, 2) executed Contract and any attached Addenda, 3) Amendments to RFP and any Questions and Answers, 4) the original RFP document and any Addenda, and 5) the Contractor's submitted Proposal.

Any ambiguity or conflict in the contract discovered after its execution, not otherwise addressed herein, shall be resolved in accordance with the rules of contract interpretation as established in the State of Nebraska.

B. NOTIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Contractor and State shall identify the contract manager who shall serve as the point of contact for the executed contract.

C. GOVERNING LAW (Statutory)

Notwithstanding any other provision of this contract, or any amendment or addendum(s) entered into contemporaneously or at a later time, the parties understand and agree that, (1) the State of Nebraska is a sovereign state and its authority to contract is therefore subject to limitation by the State's Constitution, statutes, common law, and regulation; (2) this contract will be interpreted and enforced under the laws of the State of Nebraska; (3) any action to enforce the provisions of this agreement must be brought in the State of Nebraska per state law; (4) the person signing this contract on behalf of the State of Nebraska does not have the authority to waive the State's sovereign immunity, statutes, common law, or regulations; (5) the indemnity, limitation of liability, remedy, and other similar provisions of the final contract, if any, are entered into subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity; and, (6) all terms and conditions of the final contract, including but not limited to the clauses concerning third-party use, licenses, warranties, limitations of liability, governing law and venue, usage verification, indemnity, liability, remedy or other similar provisions of the final contract are entered into specifically subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity.

The Nebraska Department of Motor Vehicles, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into, all Contractors and subcontractors will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of the owner's race, color, national origin, sex, age, disability, income-level, or LEP in consideration for an award.

The Parties must comply with all applicable local, state and federal laws, ordinances, rules, orders, and regulations.

D. BEGINNING OF WORK

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The bidder shall not commence any billable work until a valid contract has been fully executed by the State and the successful Contractor. The Contractor will be notified in writing when work may begin.

E. CHANGE ORDERS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The State and the Contractor, upon the written agreement, may make changes to the contract within the general scope of the RFP. Changes may involve specifications, the quantity of work, or such other items as the State may find necessary or desirable. Corrections of any deliverable, service, or work required pursuant to the contract shall not be deemed a change. The Contractor may not claim forfeiture of the contract by reasons of such changes.

The Contractor shall prepare a written description of the work required due to the change and an itemized cost proposal for the change. Changes in work and the amount of compensation to be paid to the Contractor shall be determined in accordance with applicable unit prices if any, a pro-rated value, or through negotiations. The State shall not incur a price increase for changes that should have been included in the Contractor's proposal, were foreseeable, or result from difficulties with or failure of the Contractor's proposal or performance.

No change shall be implemented by the Contractor until approved by the State, and the Contract is amended to reflect the change and associated costs, if any. If there is a dispute regarding the cost, but both parties agree that immediate implementation is necessary, the change may be implemented, and cost negotiations may continue with both Parties retaining all remedies under the contract and law.

F. NOTICE OF POTENTIAL CONTRACTOR BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

If Contractor breaches the contract or anticipates breaching the contract the Contractor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, a proposed cure, and may include a request for a waiver of the breach if so desired. The State may, in its discretion, temporarily or permanently waive the breach. By granting a waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

G. BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Either Party may terminate the contract, in whole or in part, if the other Party breaches its duty to perform its obligations under the contract in a timely and proper manner. Termination requires written notice of default and a thirty (30) calendar day (or longer at the non-breaching Party's discretion considering the gravity and nature of the default) cure period. Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with

proof of delivery. Allowing time to cure a failure or breach of contract does not waive the right to immediately terminate the contract for the same or different contract breach which may occur at a different time. In case of default of the Contractor, the State may contract the service from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

The State's failure to make payment shall not be a breach, and the Contractor shall retain all available statutory remedies and protections.

H. NON-WAIVER OF BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The acceptance of late performance with or without objection or reservation by a Party shall not waive any rights of the Party nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

I. SEVERABILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the provision held to be invalid or illegal.

J. INDEMNIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

1. GENERAL

The Contractor agrees to defend, indemnify, and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all third party claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State for personal injury, death, or property loss or damage, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, resulting from this contract, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

2. **INTELLECTUAL PROPERTY**

The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this RFP.

3. **PERSONNEL**

The Contractor shall, at its expense, indemnify and hold harmless the indemnified parties from and against any claim with respect to withholding taxes, worker's compensation, employee benefits, or any other claim, demand, liability, damage, or loss of any nature relating to any of the personnel, including subcontractor's and their employees, provided by the Contractor.

4. **SELF-INSURANCE**

The State of Nebraska is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §§ 81-8,829 – 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 et seq. and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

5. The Parties acknowledge that Attorney General for the State of Nebraska is required by statute to represent the legal interests of the State, and that any provision of this indemnity clause is subject to the statutory authority of the Attorney General.

K. ATTORNEY'S FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Parties agree to pay all expenses of such action, as permitted by law and if order by the court, including attorney's fees and costs, if the other party prevails.

L. **ASSIGNMENT, SALE, OR MERGER**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Either party may assign the contract upon mutual written agreement of the other party. Such agreement shall not be unreasonably withheld.

The Contractor retains the right to enter into a sale, merger, acquisition, internal reorganization, or similar transaction involving Contractor's business. Contractor agrees to cooperate with the State in executing amendments to the contract to allow for the transaction. If a third party or entity is involved in the transaction, the Contractor will remain responsible for performance of the contract until such time as the person or entity involved in the transaction agrees in writing to be contractually bound by this contract and perform all obligations of the contract.

M. **CONTRACTING WITH OTHER NEBRASKA POLITICAL SUB-DIVISIONS**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The Contractor may, but shall not be required to, allow agencies, as defined in Neb. Rev. Stat. §81-145, to use this contract. The terms and conditions, including price, of the contract may not be amended. The State shall not be contractually obligated or liable for any contract entered into pursuant to this clause. A listing of Nebraska political subdivisions may be found at the website of the Nebraska Auditor of Public Accounts.

N. **FORCE MAJEURE**

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Neither party shall be liable for any costs or damages, or for default resulting from its inability to perform any of its obligations under the contract due to a natural or manmade event outside the control and not the fault of the affected party ("Force Majeure Event"). The Party so affected shall immediately make a written request for relief to the other party, and shall have the burden of proof to justify the request. The other Party may be granted the relief requested; relief may not be unreasonably withheld. Labor disputes with the impacted party's own employees will not be considered a Force Majeure Event.

O. CONFIDENTIALITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

All materials and information provided by the Parties or acquired by a Party on behalf of the other Party shall be regarded as confidential information. All materials and information provided or acquired shall be handled in accordance with federal and state law, and ethical standards. Should said confidentiality be breached by a Party, the Party shall notify the other Party immediately of said breach and take immediate corrective action.

It is incumbent upon the Parties to inform their officers and employees of the penalties for improper disclosure imposed by the Privacy Act of 1974, 5 U.S.C. 552a specifically, 5 U.S.C. 552a (i)(1), which is made applicable by 5 U.S.C. 552a (m)(1), provides that any officer or employee, who by virtue of his/her employment or official position has possession of or access to agency records which contain individually identifiable information, the disclosure of which is prohibited by the Privacy Act or regulations established thereunder, and who knowing that disclosure of the specific material is prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than $5,000.

The Contractor will be provided with driver's license and identification card data including personally identifiable data. The Contractor must comply with Nebraska Revised Statute §§ 87-801 through 87-807 the Financial Data Protection and Consumer Notification of Data Security Breach Act of 2006.

Additionally, the Contractor will be required to comply with State DMV specific regulations including:
Driver's Privacy Protection Act (DPPA) of 1994 (18 USC §§2721-2725); and, Uniform Motor Vehicle Records Disclosure Act (Neb. Rev. Stat. § 60-2901 through 60-2912) and Neb. Rev. Stat. § 60-484.02.

P. EARLY TERMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The contract may be terminated as follows:

1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, in its sole discretion, may terminate the contract for any reason upon thirty (30) calendar day's written notice to the Contractor. Such termination shall not relieve the Contractor of warranty or other service obligations incurred under the terms of the contract. In the event of termination the Contractor shall be entitled to payment, determined on a pro rata basis, for products or services satisfactorily performed or provided.
3. The State may terminate the contract immediately for the following reasons:
    a. if directed to do so by statute;
    b. Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;
    c. a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;
    d. fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;
    e. an involuntary proceeding has been commenced by any party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;

f. a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;
g. Contractor intentionally discloses confidential information;
h. Contractor has or announces it will discontinue support of the deliverable; and,
i. In the event funding is no longer available.

Q. CONTRACT CLOSEOUT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Upon contract closeout for any reason the Contractor shall within 30 days, unless stated otherwise herein:

1. Transfer all completed or partially completed deliverables to the State;
2. Transfer ownership and title to all completed or partially completed deliverables to the State;
3. Return to the State all information and data, unless the Contractor is permitted to keep the information or data by contract or rule of law. Contractor may retain one copy of any information or data as required to comply with applicable work product documentation standards or as are automatically retained in the course of Contractor's routine back up procedures;
4. Cooperate with any successor contactor, person or entity in the assumption of any or all of the obligations of this contract;
5. Cooperate with any successor Contactor, person or entity with the transfer of information or data related to this contract;
6. Return or vacate any state owned real or personal property; and,
7. Return all data in a mutually acceptable format and manner.

Nothing in this Section should be construed to require the Contractor to surrender intellectual property, real or person property, or information or data owned by the Contractor for which the State has no legal claim

Section III: Contractor Duties

Please see the following pages for IDEMIA USA's responses to RFP Section III: Contractor Duties.

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III. CONTRACTOR DUTIES

A. INDEPENDENT CONTRACTOR / OBLIGATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

It is agreed that the Contractor is an independent contractor and that nothing contained herein is intended or should be construed as creating or establishing a relationship of employment, agency, or a partnership.

The Contractor is solely responsible for fulfilling the contract. The Contractor or the Contractor's representative shall be the sole point of contact regarding all contractual matters.

The Contractor shall secure, at its own expense, all personnel required to perform the services under the contract. The personnel the Contractor uses to fulfill the contract shall have no contractual or other legal relationship with the State; they shall not be considered employees of the State and shall not be entitled to any compensation, rights or benefits from the State, including but not limited to, tenure rights, medical and hospital care, sick and vacation leave, severance pay, or retirement benefits.

By-name personnel commitments made in the Contractor's proposal shall not be changed without the prior written approval of the State. Replacement of these personnel, if approved by the State, shall be with personnel of equal or greater ability and qualifications.

All personnel assigned by the Contractor to the contract shall be employees of the Contractor or a subcontractor, and shall be fully qualified to perform the work required herein. Personnel employed by the Contractor or a subcontractor to fulfill the terms of the contract shall remain under the sole direction and control of the Contractor or the subcontractor respectively.

With respect to its employees, the Contractor agrees to be solely responsible for the following:

1. Any and all pay, benefits, and employment taxes and/or other payroll withholding;
2. Any and all vehicles used by the Contractor's employees, including all insurance required by state law;
3. Damages incurred by Contractor's employees within the scope of their duties under the contract;
4. Maintaining Workers' Compensation and health insurance that complies with state and federal law and submitting any reports on such insurance to the extent required by governing law; and
5. Determining the hours to be worked and the duties to be performed by the Contractor's employees.
6. All claims on behalf of any person arising out of employment or alleged employment (including without limit claims of discrimination alleged against the Contractor, its officers, agents, or subcontractors or subcontractor's employees)

If the Contractor intends to utilize any subcontractor, the Subcontractor's level of effort, tasks, and time allocation should be clearly defined in the bidder's proposal. The Contractor shall agree that it will not utilize any Subcontractors not specifically included in its proposal in the performance of the contract without the prior written authorization of the State.

The State reserves the right to require the Contractor to reassign or remove from the project any Contractor or Subcontractor employee.

Contractor shall insure that the terms and conditions contained in any contract with a sub-contractor does not conflict with the terms and conditions of this contract.

The Contractor shall include a similar provision, for the protection of the State, in the contract with any Subcontractor engaged to perform work on this contract.

B. EMPLOYEE WORK ELIGIBILITY STATUS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html

   The completed United States Attestation Form should be submitted with the RFP response.

2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.

3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

C. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION (Statutory)

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State of Nebraska, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §48-1101 to 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all Subcontracts for services to be covered by any contract resulting from this RFP.

D. COOPERATION WITH OTHER CONTRACTORS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Contractor may be required to work with or in close proximity to other contractors or individuals that may be working on same or different projects. The Contractor shall agree to cooperate with such other contractors or individuals, and shall not commit or permit any act which may interfere with the performance of work by any other contractor or individual. Contractor is not required to compromise Contractor's intellectual property or proprietary information unless expressly required to do so by this contract.

E. PERMITS, REGULATIONS, LAWS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The contract price shall include the cost of all royalties, licenses, permits, and approvals, whether arising from patents, trademarks, copyrights or otherwise, that are in any way involved in the contract. The Contractor shall obtain and pay for all royalties, licenses, and permits, and approvals necessary for the execution of the contract. The Contractor must guarantee that it has the full legal right to the materials, supplies, equipment, software, and other items used to execute this contract.

F. OWNERSHIP OF INFORMATION AND DATA / DELIVERABLES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
			This exception is requested pursuant to the State's response to Question # 10 in Addendum 3. IDEMIA USA must retain ownership of the intellectual property it uses to service other customers.

The State shall have the unlimited right to publish, duplicate, use, and disclose all information and data developed or obtained by the Contractor on behalf of the State pursuant to this contract.

The State shall own and hold exclusive title to any deliverable developed as a result of this contract. Contractor shall have no ownership interest or title, and shall not patent, license, or copyright, duplicate, transfer, sell, or exchange, the design, specifications, concept, or deliverable.
Nothing herein shall constitute a transfer, sale, or conveyance by Contractor of any right (including a right to publish, use, or disclose), title, or interest in and to any documents, data, know-how, methodologies, software and other materials, including computer programs, reports and specifications, developed or acquired by Contractor prior to the commencement, or independently, of this contract (collectively, "Pre-existing Material") or shall otherwise restrict Contractor's rights in Pre-existing Material. Contractor hereby grants the State a non-exclusive license to use, for the State's own operations during the term of this contract, such Pre-existing Material as is included in any deliverable provided by Contractor to the State under this contract.

G. INSURANCE REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
			This exception is requested pursuant to the State's response to Question # 11 in Addendum 3. IDEMIA USA requests a limitation on liability as provided below.

The Contractor shall throughout the term of the contract maintain insurance as specified herein and provide the State a current Certificate of Insurance/Acord Form (COI) verifying the coverage. The Contractor shall not commence work on the contract until the insurance is in place. If Contractor subcontracts any portion of the Contract the Contractor must, throughout the term of the contract, either:

1. Provide equivalent insurance for each subcontractor and provide a COI verifying the coverage for the subcontractor;
2. Require each subcontractor to have equivalent insurance and provide written notice to the State that the Contractor has verified that each subcontractor has the required coverage; or,
3. Provide the State with copies of each subcontractor's Certificate of Insurance evidencing the required coverage.

The Contractor shall not allow any Subcontractor to commence work until the Subcontractor has equivalent insurance. The failure of the State to require a COI, or the failure of the Contractor to provide a COI or require subcontractor insurance shall not limit, relieve, or decrease the liability of the Contractor hereunder.

In the event that any policy written on a claims-made basis terminates or is canceled during the term of the contract or with in one (1) year of termination or expiration of the contract, the contractor shall obtain an extended discovery or reporting period, or a new insurance policy, providing coverage required by this contract for the term of the contract and one (1) year following termination or expiration of the contract.

If by the terms of any insurance a mandatory deductible is required, or if the Contractor elects to increase the mandatory deductible amount, the Contractor shall be responsible for payment of the amount of the deductible in the event of a paid claim.

~~Notwithstanding any other clause in this Contract, the State may recover up to the liability limits of the insurance policies required herein.~~

1. **WORKERS' COMPENSATION INSURANCE**

   The Contractor shall take out and maintain during the life of this contract the statutory Workers' Compensation and Employer's Liability Insurance for all of the contactors' employees to be engaged in work on the project under this contract and, in case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Compensation and Employer's Liability Insurance for all of the Subcontractor's employees to be engaged in such work. This policy shall be written to meet the statutory requirements for the state in which the work is to be performed, including Occupational Disease. **The policy shall include a waiver of subrogation in favor of the State. The COI shall contain the mandatory COI subrogation waiver language found hereinafter**. The amounts of such insurance shall not be less than the limits stated hereinafter. For employees working in the State of Nebraska, the policy must be written by an entity authorized by the State of Nebraska Department of Insurance to write Workers' Compensation and Employer's Liability Insurance for Nebraska employees.

2. **COMMERCIAL GENERAL LIABILITY INSURANCE AND COMMERCIAL AUTOMOBILE LIABILITY INSURANCE**

   The Contractor shall take out and maintain during the life of this contract such Commercial General Liability Insurance and Commercial Automobile Liability Insurance as shall protect Contractor and any Subcontractor performing work covered by this contract from claims for damages for bodily injury, including death, as well as from claims for property damage, which may arise from operations under this contract, whether such operation be by the Contractor or by any Subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall not be less than limits stated hereinafter.

   The Commercial General Liability Insurance shall be written on an **occurrence basis**, and provide Premises/Operations, Products/Completed Operations, Independent Contractors, Personal Injury, and Contractual Liability coverage. **The policy shall include the State of Nebraska, and government subdivisions of the State of Nebraska, including the Department of Motor Vehicles and its employees as Additional Insured(s). This policy shall be primary, and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory**. **The COI shall contain the mandatory COI liability waiver language found hereinafter.** The Commercial Automobile Liability Insurance shall be written to cover all Owned, Non-owned, and Hired vehicles.

REQUIRED INSURANCE COVERAGE	
COMMERCIAL GENERAL LIABILITY	
General Aggregate	$2,000,000
Products/Completed Operations Aggregate	$2,000,000
Personal/Advertising Injury	$1,000,000 per occurrence
Bodily Injury/Property Damage	$1,000,000 per occurrence
Medical Payments	$10,000 any one person
Damage to Rented Premises	$300,000 each occurrence
Contractual	Included
Independent Contractors	Included
WORKER'S COMPENSATION	
Employers Liability Limits	$500K/$500K/$500K
Statutory Limits- All States	Statutory - State of Nebraska
USL&H Endorsement	Statutory
Voluntary Compensation	Statutory
COMMERCIAL AUTOMOBILE LIABILITY	
Bodily Injury/Property Damage	$1,000,000 combined single limit
Include All Owned, Hired & Non-Owned Automobile liability	Included
Motor Carrier Act Endorsement	Where Applicable
UMBRELLA/EXCESS LIABILITY	
Over Primary Insurance	$5,000,000 per occurrence
PROFESSIONAL LIABILITY	
Other Professional Liability (Errors & Omissions)	$1,000,000 Per Claim / Aggregate
COMMERCIAL CRIME	
Crime/Employee Dishonesty Including 3rd Party Fidelity	$1,000,000
CYBER LIABILITY	
Breach of Privacy, Security Breach, Denial of Service, Remediation, Fines and Penalties	$10,000,000
MANDATORY COI SUBROGATION WAIVER LANGUAGE	
"Workers' Compensation policy shall include a waiver of subrogation in favor of the State of Nebraska."	
MANDATORY COI LIABILITY WAIVER LANGUAGE	
"Commercial General Liability & Commercial Automobile Liability policies shall name the State of Nebraska as an Additional Insured and the policies shall be primary and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory as additionally insured."	

If the mandatory COI subrogation waiver language or mandatory COI liability waiver language on the COI states that the waiver is subject to, condition upon, or otherwise limit by the insurance policy a copy of the relevant sections of the policy must be submitted with the COI so the State can review the limitations imposed by the insurance policy.

3. **EVIDENCE OF COVERAGE**

The Contractor shall furnish the DMV Contract Manager, with a certificate of insurance coverage complying with the above requirements prior to beginning work at:

Department of Motor Vehicles
Legal Division
PO Box 94699
Lincoln, NE 68509

These certificates or the cover sheet shall reference the RFP number, and the certificates shall include the name of the company, policy numbers, effective dates, dates of expiration, and amounts and types of coverage afforded. If the State is damaged by the failure of the Contractor to maintain such insurance, then the Contractor shall be responsible for all reasonable costs properly attributable thereto.

Reasonable notice of cancellation of any required insurance policy must be submitted to the contract manager as listed above when issued and a new coverage binder shall be submitted immediately to ensure no break in coverage.

4. DEVIATIONS

The insurance requirements are subject to limited negotiation. Negotiation typically includes, but is not necessarily limited to, the correct type of coverage, necessity for Workers' Compensation, and the type of automobile coverage carried by the Contractor.

5. LIMITATION ON LIABILITY

This paragraph shall not limit Contractor's liability for personal injury or death. Notwithstanding anything to the contrary in this Contract, but subject to the preceding sentence, (a) neither party shall be liable to the other for payment of any indirect, special, incidental or consequential damages regardless of whether arising out of breach of contract, warranty, tort, strict liability or otherwise and (b) Contractor's total liability under this Contract shall not exceed the total amounts payable by the State to Contractor under this Contract.

H. ANTITRUST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
[illegible]			

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

I. CONFLICT OF INTEREST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
[illegible]			

By submitting a proposal, bidder certifies that there does not now exist a relationship between the bidder and any person or entity which is or gives the appearance of a conflict of interest related to this RFP or project.

The bidder certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the performance of its services hereunder or which creates an actual or an appearance of conflict of interest.

The bidder certifies that it will not knowingly employ any individual known by bidder to have a conflict of interest.

The Parties shall not knowingly, for a period of two years after execution of the contract, recruit or employ any employee or agent of the other Party who has worked on the RFP or project, or who had any influence on decisions affecting the RFP or project.

J. STATE PROPERTY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within	NOTES/COMMENTS:

		RFP Response (Initial)	

The Contractor shall be responsible for the proper care and custody of any State-owned property which is furnished for the Contractor's use during the performance of the contract. The Contractor shall reimburse the State for any loss or damage of such property; normal wear and tear is expected.

K. SITE RULES AND REGULATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The Contractor shall use its best efforts to ensure that its employees, agents, and Subcontractors comply with site rules and regulations while on State premises. If the Contractor must perform on-site work outside of the daily operational hours set forth by the State, it must make arrangements with the State to ensure access to the facility and the equipment has been arranged. No additional payment will be made by the State on the basis of lack of access, unless the State fails to provide access as agreed to in writing between the State and the Contractor.

L. ADVERTISING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its services are endorsed or preferred by the State. Any publicity releases pertaining to the project shall not be issued without prior written approval from the State.

M. NEBRASKA TECHNOLOGY ACCESS STANDARDS (Statutory)

Contractor shall review the Nebraska Technology Access Standards, found at http://nitc.nebraska.gov/standards/2-201.html and ensure that products and/or services provided under the contract are in compliance or will comply with the applicable standards to the greatest degree possible. In the event such standards change during the Contractor's performance, the State may create an amendment to the contract to request the contract comply with the changed standard at a cost mutually acceptable to the parties.

N. DISASTER RECOVERY/BACK UP PLAN

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The Contractor shall have a disaster recovery and back-up plan, of which a copy should be provided upon request to the State, which includes, but is not limited to equipment, personnel, facilities, and transportation, in order to continue services as specified under the specifications in the contract in the event of a disaster.

O. DRUG POLICY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Contractor certifies it maintains a drug free work place environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

Section IV:
Payment

Section IV: Payment

Please see the following pages for IDEMIA USA's responses to RFP Section IV: Payment.

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IV. PAYMENT

A. PROHIBITION AGAINST ADVANCE PAYMENT (Statutory)
Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

B. TAXES (Statutory)
The State is not required to pay taxes and assumes no such liability as a result of this solicitation. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

C. INVOICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

Invoices for monthly payments must be submitted by the Contractor to the agency requesting the services with sufficient detail, including the number of cards issued and postage usage, to support payment: Nebraska Department of Motor Vehicles, Attn: Controller, 301 Centennial Mall South, P.O. Box 94789, Lincoln, Nebraska 68509-4726. The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

The Contractor shall, along with their invoice, provide a billing summary.
The summary shall be presented in a table format and show the following columns:

a. Production Date: This is the date the card was created.
b. Batch #
c. # Cards Printed, separated by Type, including Adult and Minor
d. # Cards Pulled by the Factory
e. # Cards Pulled by the Customer
f. # Cards Mailed
g. Mailing Date
h. # Cards Expedited

The report shall also show:

a. Postage cost
b. Billing total for the cards
c. Total billing amount (billing total for cards plus postage and expedited shipping costs)

D. INSPECTION AND APPROVAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
			This exception is requested pursuant to the State's response to Question # 12 in Addendum 3. IDEMIA USA would be glad to provide the State with access to its premises, but access to areas containing sensitive data must be conditioned on compliance with certain requirements, such as citizenship requirements.

Final inspection and approval of all work required under the contract shall be performed by the designated State officials.

The State and/or its authorized representatives shall have the right to enter any premises where the Contractor or Subcontractor duties under the contract are being performed, and to inspect, monitor or otherwise evaluate the work being performed. All inspections and evaluations shall be at reasonable times and in a manner that will not unreasonably delay work and shall be subject to such conditions as may be necessary to comply with applicable federal, state, and industry standards or to protect the data of other customers of the Contractor.

E. PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

State will render payment to Contractor when the terms and conditions of the contract and specifications have been satisfactorily completed on the part of the Contractor as solely determined by the State. (Neb. Rev. Stat. Section 73-506(1)) Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §81-2401 through 81-2408). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any services provided by the Contractor prior to the Effective Date of the contract, and the Contractor hereby waives any claim or cause of action for any such services.

F. LATE PAYMENT (Statutory)

The Contractor may charge the responsible agency interest for late payment in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. § 81-2401 through 81-2408).

G. SUBJECT TO FUNDING / FUNDING OUT CLAUSE FOR LOSS OF APPROPRIATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The State's obligation to pay amounts due on the Contract for a fiscal years following the current fiscal year is contingent upon legislative appropriation of funds. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal year(s) for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of termination. All obligations of the State to make payments after the termination date will cease. The Contractor shall be entitled to receive just and equitable compensation for any authorized work which has been satisfactorily completed as of the termination date. In no event shall the Contractor be paid for a loss of anticipated profit.

H. RIGHT TO AUDIT (First Paragraph is Statutory)

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:

The State shall have the right to audit the Contractor's performance of this contract upon a 30 days' written notice. Contractor shall utilize generally accepted accounting principles, and shall maintain the accounting records, and

other records and information relevant to the contract (Information) to enable the State to audit the contract. The State may audit and the Contractor shall maintain, the information during the term of the contract and for a period of five (5) years after the completion of this contract or until all issues or litigation are resolved, whichever is later. The Contractor shall make the Information available to the State at Contractor's place of business or a location acceptable to both Parties during normal business hours. If this is not practical or the Contractor so elects, the Contractor may provide electronic or paper copies of the information. The State reserves the right to examine, make copies of, and take notes on any Information relevant to this contract, regardless of the form or the Information, how it is stored, or who possesses the information. Under no circumstance will the Contractor be required to create or maintain documents not kept in the ordinary course of contractor's business operations, nor will contractor be required to disclose any information, including but not limited to product cost data, which is confidential or proprietary to contractor.

The Parties shall pay their own costs of the audit unless the audit finds a previously undisclosed overpayment by the State. If a previously undisclosed overpayment exceeds one-half of one percent (.5%) of the total contract billings, or if fraud, material misrepresentations, or non-performance is discovered on the part of the Contractor, the Contractor shall reimburse the State for the total costs of the audit. Overpayments and audit costs owed to the State shall be paid within ninety days of written notice of the claim. The Contractor agrees to correct any material weaknesses or condition found as a result of the audit.

Section V: Project Description and Statement of Work

We have read RFP Section V: Project Description and Statement of Work and have provided responses to this section in Appendix A: Bidder Response, as required in RFP Section VI, A. Proposal Submission, item 2.

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Section VI:
Proposal Instructions

Section VI: Proposal Instructions

We have read RFP VI. Proposal Instructions and have followed these instructions to structure our compliant Technical Proposal response.

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Section VII: Cost Proposal Requirements

We have read RFP VII. Cost Proposal Requirements and have followed these instructions to structure our Cost Proposal.

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Form A Bidder Contact Sheet

Please see the following page for IDEMIA USA's completed Form A.

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Form A
Bidder Contact Sheet
Request for Proposal Number 5914 Z1

Form A should be completed and submitted with each response to this RFP. This is intended to provide the State with information on the bidder's name and address, and the specific person(s) who are responsible for preparation of the bidder's response.

Preparation of Response Contact Information	
Bidder Name:	Idemia Identity & Security USA LLC
Bidder Address:	296 Concord Rd. STE 300 Billerica, MA 01821
Contact Person & Title:	Frank Mac Donald, Principal Proposal Manager
E-mail Address:	frank.macdonald@us.idemia.com
Telephone Number (Office):	978-215-2815
Telephone Number (Cellular):	978-394-9906
Fax Number:	978-215-2406

Each bidder should also designate a specific contact person who will be responsible for responding to the State if any clarifications of the bidder'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	
Bidder Name:	Idemia Identity & Security USA LLC
Bidder Address:	296 Concord Rd. STE 300 Billerica, MA 01821
Contact Person & Title:	Dino Redmond, Client Executive
E-mail Address:	Dino.Redmond@us.idemia.com
Telephone Number (Office):	260-496-7480
Telephone Number (Cellular):	260-438-2329
Fax Number:	978-215-2406

Contractual
Services Form

RFP Contractual Services Form

Please see the following page for IDEMIA USA's signed RFP Contractual Services Form.

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REQUEST FOR PROPOSAL FOR CONTRACTUAL SERVICES FORM

By signing this Request for Proposal for Contractual Services form, the bidder guarantees compliance with the procedures stated in this Request for Proposal, and agrees to the terms and conditions unless otherwise indicated in writing and certifies that bidder maintains a drug free work place.

BIDDER MUST COMPLETE THE FOLLOWING

Per Nebraska's Transparency in Government Procurement Act, Neb. Rev Stat § 73-603 DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska Contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

_____ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this RFP.

_____I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. § 73-107 and wish to have preference, if applicable, considered in the award of this contract.

_____ I hereby certify that I am a blind person licensed by the Commission for the Blind & Visually Impaired in accordance with Neb. Rev. Stat. §71-8611 and wish to have preference considered in the award of this contract.

FORM MUST BE SIGNED USING AN INDELIBLE METHOD (NOT ELECTRONICALLY)

FIRM:	Idemia Identity & Security USA LLC
COMPLETE ADDRESS:	296 Concord Rd., STE 300, Billerica, MA 01821
TELEPHONE NUMBER:	978-215-2815
FAX NUMBER:	978-215-2406
DATE:	10/25/2018
SIGNATURE:	
TYPED NAME & TITLE OF SIGNER:	Frank Mac Donald, Proposal Manager

ORIGINAL

Appendix A:
Bidder Response

Appendix A: Bidder Response

Please see the following pages for IDEMIA USA's responses to RFP Appendix A: Bidder Response.

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APPENDIX A: Bidder Response
5914 Z1

Bidder Name: IDEMIA Identity & Security USA LLC

Bidders should complete all questions in Appendix A.

CORPORATE OVERVIEW

The Nebraska DMV's CATS solution benefits from IDEMIA USA's organizational experience through reduced program risk and higher confidence. This section reflects IDEMIA USA's extensive organizational experience and reliability in projects similar in nature and complexity to Nebraska's. Our references can attest to our ability to listen, adjust, and address the needs of state centralized driver's license (DL) solutions. Our 60 years of experience in the DL industry—combined with our current annual production of over 80 percent of U.S. DLs in 37 states—provides you with a partner that has the qualifications and experience needed to deliver quality work on time.

U.S. DL Experience Matters

Similar experience does not represent "like" experience. Suppliers using experience with credit cards, banking cards, and other credentials in place of state DL programs present a learning curve risk with potential impact to your program's success. Recent implementations by other suppliers have experienced major issues for customers and motor vehicle agencies because of this shortcoming. Due to the complexity and security concerns associated with U.S. DLs, actual U.S. DL experience is what matters.

Because we are the State of Nebraska's long-term partner, the DMV's CATS solution will benefit from the most current technology in the secure DL industry. For example, we currently hold 249 patents for security related innovations and have 136 patents pending. **We are proven innovators in the market, and our technology continues to evolve to address changing conditions and market expectations. Your new solution will be improved based on your feedback to us, paired with our technology advances.**

The State will avoid the learning curve and cost that come with a new vendor trying to understand your work environment and refine their solution. **Our team is experienced, trained, and ready to deliver our solution today.** Our company has developed the U.S. DL industry and gained critical experience and lessons learned through our successful state DL deliveries. For the DMV, this expertise is invaluable in reviewing your requirements and providing the right solution to meet your needs. Our experience makes us the low-risk choice for your program.

Section VI. Proposal Requirements Corporate Overview

a. Bidder Identification and Information

1. Provide the full company or corporate name, address of the company's headquarters, entity organization (corporation, partnership, proprietorship, etc.), state in which the Bidder is incorporated or otherwise organized to do business, year in which the Bidder first organized to do business, and whether the name and form of organization has changed since first organized.

✓ **IDEMIA USA complies.**

Please see Table 1 below for the information requested in this requirement.

Table 1: IDEMIA USA Corporate Information

Full company name	Idemia Identity & Security USA LLC (IDEMIA USA)
Address of headquarters	296 Concord Road, Suite 300 Billerica, MA 01821
Entity organization (type)	Corporation
State and year of incorporation	May 23, 1996 in Delaware.
Previous company names*	• Polaroid Corporation • Digimarc Corporation

	• Viisage Technology, Inc. • Identix Incorporated • L-1 Identity Solutions, Inc. • OT-Morpho • MorphoTrust USA, LLC

*Though our name has changed over the years, we have always been **The Driver's License Company.**

Section VI. Proposal Requirements Corporate Overview
Bidder description of qualifications

2. Provide a brief description of the company and its relevant qualifications for providing the requested solution.

✓ **IDEMIA USA complies.**

In 2017, Advent International, a U.S. based, world-leading private equity firm with more than $31 billion in managed assets, acquired the Morpho group of entities, of which MorphoTrust was a member. The result is IDEMIA, an evolved company (Figure 1) with a market-leading position in identity management and approximately $3 billion in revenue worldwide covering Citizen Identity Solutions (DL/ID), Digital ID, Smart Cards, Federal ID, Law Enforcement solutions, border protection, and more. IDEMIA USA (formerly MorphoTrust USA) is the United States business unit of IDEMIA with $500M in annual revenue. The company has a business focus on the U.S. driver license market, with 38 State contracts to provide the technology and services required for end-to-end credentialing programs.

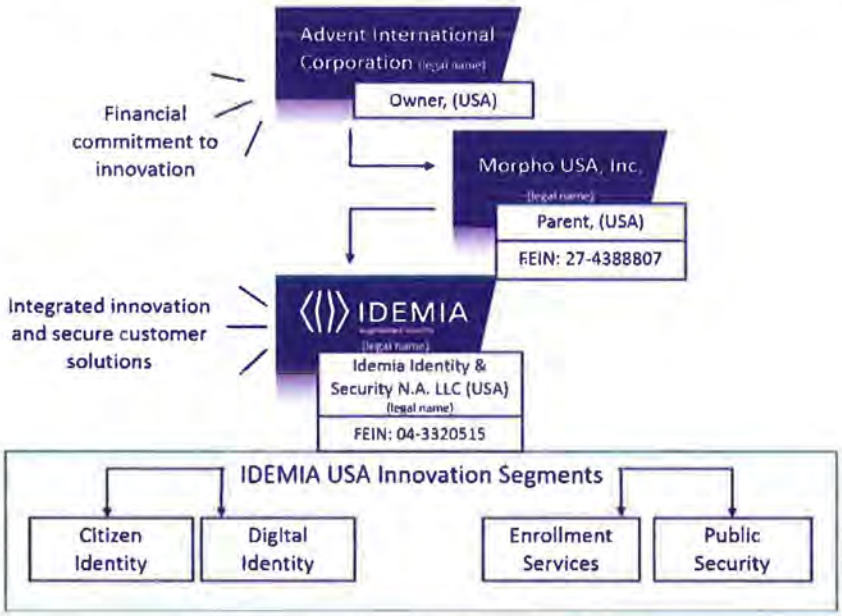


Figure 1: IDEMIA USA Company Structure

For 60 years, IDEMIA USA has been the industry leader in the U.S. driver's license market, delivering identity solutions and services to State DMVs and government agencies that enable trusted transactions—in person or online—wherever identity matters. We are the U.S. Driver's License Company in the identity business. We provide depth of experience resulting in low risk for your program.

Section VI. Proposal Requirements Corporate Overview
Financial statements

3. Provide financial statements applicable to the firm. If publicly held, the Bidder must provide a copy of the corporation's most recent audited financial reports and statements, and the name, address,

and telephone number of the fiscally responsible representative of the Bidder's financial or banking organization.

If the Bidder is not a publicly held corporation, either the reports and statements required of a publicly held corporation, or a description of the organization, including size, longevity, client base, areas of specialization and expertise, and any other pertinent information, must be submitted in such a manner that proposal evaluators may reasonably formulate a determination about the stability and financial strength of the organization. Additionally, a non-publicly held firm must provide a banking reference.

The Bidder must disclose any and all judgments, pending or expected litigation, or other real or potential financial reversals, which might materially affect the viability or stability of the organization, or state that no such condition is known to exist.

✓ **IDEMIA USA complies.**

As IDEMIA USA is not a publically held corporation, please see our description of the organization below.

Organization Description and Financial Stability

Safran Identity & Security SAS (Morpho) and Oberthur Technologies SA (Oberthur), two leaders in identity assurance, joined forces to form IDEMIA, an international corporation with approximately $3 billion in revenue worldwide. IDEMIA USA (formerly MorphoTrust USA) is the United States business unit of IDEMIA, with $500M+ in annual revenue. IDEMIA USA maintains strong positive cash flow, and if needed, has access to IDEMIA's net cash position (around $200M as of June 2018) and its line of credit (around $350M) to satisfy its contractual and supplier obligations. Thus, in addition to the technical expertise to deliver superior solutions as detailed elsewhere in this proposal, we also have extensive financial resources and a stable business base to ensure continued strong performance for the State of Nebraska.

For further evidence of our financial solvency, IDEMIA USA can provide our audited financial statements for the last three years upon request. The financial processes and statements of Idemia USA are audited at least annually by two independent firms, Ernst & Young and Mazars USA LLP.

IDEMIA USA has no judgments, pending or expected litigation, or other real or potential financial reversals, which might materially affect the viability or stability of the organization.

We are part of Advent, a private U.S.-based equity firm, who acquired us for more than $2 billion. The merger of the Morpho group with Oberthur Technologies (parent company) created a new company with a market-leading position in identity management and approximately $3 billion of revenue. As a result, IDEMIA's Identity & Security USA division is among those with the highest level of financial stability in the industry.

Banking Reference

The information for the fiscally responsible representative of IDEMIA USA's banking organization is as follows:

- Name: April Park Chow, Senior Vice President, Wells Fargo – Middle Market Banking
- Address: Greater Los Angeles-South 111 West Ocean Blvd., Suite 530, Long Beach, CA 90802
- Telephone number: 626-261-1648

Section VI. Proposal Requirements Corporate Overview

Change of ownership

4. If any change in ownership or control of the company is anticipated during the twenty-four (24) months following the proposal due date, the bidder should describe the circumstances of such change and indicate when the change will likely occur. Any change of ownership to an awarded Contractor(s) or Subcontractor will require notification to the State as soon as information is publicly available but no later than 15 days.

✓ **IDEMIA USA complies.**

IDEMIA USA does not anticipate any change in ownership or control of the company during the 24 months following the proposal due date.

Section VI. Proposal Requirements Corporate Overview
Office location

5. Identify the office location to which award of a Contract with the State of Nebraska would be assigned.

✓ **IDEMIA USA complies.**

An award of a Contract with the State of Nebraska would be assigned to our headquarters: 296 Concord Road, Suite 300, Billerica, MA, 01821.

Section VI. Proposal Requirements Corporate Overview
Relationships with the State

6. Describe any dealings with the State over the previous five years. If the organization, its predecessor, or any party named in the Bidder's proposal response has contracted with the State, the Bidder shall identify the contract number(s) and/or any other information available to identify such contract(s). If no such contracts exist, so declare.

✓ **IDEMIA USA complies.**

IDEMIA USA is the current provider of Nebraska's driver's license, knowledge testing, and skills testing solutions. The contract numbers are listed in Table 2. We are uniquely qualified to provide this solution as the single point of contact without the need of third parties to provide solutions, personnel, and operational support.

Table 2: IDEMIA USA's Current Contracts with the State

Service Supplied and Delivered	Contract Number
Digital Driver License System – Central Issuance	41107 O4
AutoTest Maintenance and Support Contract	9711 O4
Electronic Road Testing System (ERTS)	69466 O4

Section VI. Proposal Requirements Corporate Overview
Bidder's employee relations to State

7. If any party named in the Bidder's proposal response is or was an employee of the State within the past 36 months, identify the individual(s) by name, State agency with whom employed, job title or position held with the State, and separation date. If no such relationship exists or has existed, so declare.

   If any employee of any agency of the State of Nebraska is employed by the Bidder or is a Subcontractor to the Bidder, as of the due date for proposal submission, identify all such persons by name, position held with the Bidder, and position held with the State (including job title and agency). Describe the responsibilities of such persons within the proposing organization. If, after review of this information by the State, it is determined that a conflict of interest exists or may exist, the Bidder may be disqualified from further consideration in this proposal. If no such relationship exists, so declare.

✓ **IDEMIA USA complies.**

No party named in IDEMIA USA's proposal response is or was an employee of the State within the past 36 months. No employee of any agency of the State of Nebraska is or was employed by IDEMIA USA as of the due date for proposal submission.

Section VI. Proposal Requirements Corporate Overview

Contract performance

8. If the Bidder or any proposed Subcontractor has had a contract terminated for default during the past 10 years, all such instances must be described as required below. Termination for default is defined as a notice to stop performance delivery due to the Bidder's non-performance or poor performance, and the issue was either not litigated due to inaction on the part of the Bidder or litigated and such litigation determined the Bidder to be in default.

   It is mandatory that the Bidder submit full details of all termination for default experienced during the past ten (10) years, including the other party's name, address, and telephone number. The response to this section must present the Bidder's position on the matter. The State will evaluate the facts and will score the Bidder's proposal accordingly. If no such termination for default has been experienced by the Bidder in the past ten (10) years, so declare.

   If at any time during the past 10 years, the Bidder has had a contract terminated for convenience, non-performance, non-allocation of funds, or any other reason, describe fully all circumstances surrounding such termination, including the name and address of the other contracting party.

✓ **IDEMIA USA complies.**

IDEMIA USA has not had a contract terminated for default during the past 10 years.

Section VI. Proposal Requirements Corporate Overview

Summary of Bidder's corporate experience

9. Provide a summary matrix listing the Bidder's and Subcontractor's (if used) previous credential and testing projects similar to this RFP in size, scope, and complexity. The State will use no more than three (3) narrative project descriptions submitted by the Bidder during its evaluation of the proposal. The Bidder should provide narrative descriptions to highlight the similarities between the Bidder's experience and this Request for Proposal. These descriptions must include:

   a. The time period of the project;
   b. The scheduled and actual deployment dates;
   c. The Contractor's responsibilities;
   d. For reference purposes, a customer name (including the name of a contact person, a current telephone number, a facsimile number, and e-mail address);
   e. Each project description should identify whether the work was performed as the prime Contractor or as a Subcontractor. If a Bidder performed as the prime Contractor, the description should provide the originally scheduled completion date and budget, as well as the actual (or currently planned) completion date and actual (or currently planned) budget; and
   f. Contractor and Subcontractor(s) experience should be listed separately. Narrative descriptions submitted for Subcontractor(s) should be specifically identified as Subcontractor projects.

✓ **IDEMIA USA complies.**

Listed below are IDEMIA USA's three project references similar to this RFP in size, scope, and complexity.

Project 1: Illinois Secretary of State

Project Name	Digital Driver's License, ID Card, and Facial Recognition System Implementation; Automated Knowledge Testing
Time Period	08/2013 – 07/2023
Deployment	Driver License System—There was an original two-year implementation plan that was broken up into two phases: Phase 1 – Over-the-counter (OTC) to central issuance (CI) with back office implementation • Scheduled: Baselined for 07/2016

	• Actual: 07/2016 Phase 2 – Front office capture system deployment • Scheduled: Re-baselined for 02/2018 • Actual: 02/2018 Automated Knowledge Testing Scheduled: 08/2017 Actual: 08/2017
Budget	Driver License System Scheduled: $42,693,750 Actual (current planned): $42,693,750 Automated Knowledge Testing Scheduled: $3,000,000 delivery + $3,000,000 for ongoing maintenance Actual: $3,000,000 delivery + ongoing maintenance
Point of Contact	Name: Steven Mahnich, PMP, CSM Telephone: 217-558-5400 Fax: N/A Email smahnich@ilsos.net
Prime Contractor or Subcontractor	Prime Contractor (IDEMIA USA)
Project Description	The Illinois Secretary of State (ILSOS) required a solution for a digital driver's license and facial recognition system with the following components: • Facial Image and Signature Capture Solution • Mobile Image and Signature Capture Solution • Central Image System • Facial Recognition System • Covert Issuance System • Card Design Services • Card Production Services in a Secure Central Issuance Facility • Disaster Recovery Services with Active Card Production Capability • Project Management and Implementation Services • Long-Term Support Services IDEMIA USA provided all hardware, software, and services to transition from OTC to CI production. Additionally, IDEMIA USA provided ILSOS with its AutoTest solution, which was delivered on-time – August 15, 2017. We deployed AutoTest to 50 Illinois DMV offices, replacing a non-supported legacy system and combination paper testing process with 415 all-in-one test stations. We also rolled out student Web testing across 400 high schools. We provide continued growth and expansion of this AutoTest system, including into 14 additional Chicago-area DMVs in six additional languages. Illinois plans on expanding statewide over the next couple years.
IDEMIA USA's Responsibilities	Under this contract, we provided ILSOS with a CI-produced ExianEvident credential, a facial recognition system, gated issuance manager, factory management, and field service support. We also provided support for the public relations and awareness campaign for the very successful transition to CI.
Similarities to this RFP in size, scope, and complexity	The project description above outlines nearly every single aspect of what the Nebraska DMV is requesting from a qualified vendor. In further detail:

	1. Illinois DMVs issue 3,800,000 DL/ID credentials annually; these highly secure credentials are manufactured at the same IDEMIA USA North American Security Products Organization (NASPO) Certified Class 1 credential factory proposed for primary production for Nebraska in Springfield, IL 2. We provide the image capture software and hardware for 176 systems at 116 DMV locations around the State 3. We provide the back office hardware and software to Image Server, Issuance Manager, and Facial Recognition 4. We designed and currently deliver a high-security card with a multi-modal set of card security features, including a Digital Watermark (DWM) on the front of the credential 5. We produce documents in a high-security CI facility that meets American Association of Motor Vehicle Administrators (AAMVA) and NASPO certifications for REAL ID 6. We mail the license documents to the citizens of Illinois 7. Our service technicians provide onsite service and support for all software and hardware delivered by IDEMIA USA to all DMV locations 8. Along with Nebraska, Illinois also is a participant in the CDL Multi-State Face Recognition Project

Project 2: Arkansas Department of Motor Vehicles

Project Name	Driver's License and ID Card Issuance System
Time Period	07/01/2018 – 06/30/2021 (three-year base with four one-year extension options)
Deployment	Scheduled: 03/24/2017 – 08/28/2018 Actual: 03/24/2017 – 08/28/2018
Budget	Scheduled: $9,369,000 Actual: $9,369,000
Point of Contact	Name: Ken Williams, CIO Telephone: 501-971-6021 Email: ken.williams@dfa.arkansas.gov
Prime Contractor or Subcontractor	Prime Contractor
Project Description	IDEMIA USA delivered a new over-the-counter (OTC), REAL ID-compliant issuance solution with our Web Enrollment and Facial Recognition systems. This solution included: • Delivery of 200 Image Capture Workstations to 135 DMV issuance offices • Delivery of a Central Image Service and software to store and manage all DL/ID credentialing images IDEMIA USA also delivered our Facial Recognition System. We converted 18,786,851 images from the previous vendor's Central Images System and enrolled them into our Facial Recognition System. Arkansas's DL/ID credential meets REAL ID regulations and includes a machine-readable covert security feature on the front of the credential, which is used by the Federal Transportation Agency for Security Checkpoint to validate the DL/ID credential. Arkansas issues 1,200,000 secure credentials per year.

IDEMIA USA's Responsibilities	IDEMIA USA transitioned a third-party's driver's license images into the new Arkansas DL system. IDEMIA USA provided end-to-end complete Driver's License System that required technical design and software develop for a Web-based enrollment capture and backend systems; systems testing, staff training, onsite Go-Live support, and ongoing sustaining engineering support and field operations. We also designed DL/ID credentials with multi-modal security features, including a Digital Watermark (DWM) on the front of the credential.
Similarities to this RFP in size, scope, and complexity	The Arkansas DMV has an end-to-end Driver's License system that in many ways is the same as Nebraska's. We provided program management and implementation services, which met the Arkansas DMV's goals for an on-time delivery. We installed the same capture system, Web Enrollment, as we are proposing to Nebraska. We also trained Arkansas's front office staff to use the image capture system, which we will do for Nebraska as well. Finally, IDEMIA USA provides onsite and remote services and maintenance for the entire system in Arkansas, as we will for the Nebraska solution.

Project 3: Missouri Motor Vehicle Administration

Project Name	Central Issuance Driver License Document System
Time Period	10/01/2010 – 09/30/2019 (IDEMIA USA recently was awarded a new six-year contract, which is planned per the State's direction to begin in Q2 2020)
Deployment	Scheduled: 06/2013 Actual: 04/2013
Budget	Scheduled: $23,334,280 Actual: $28,544,000 (includes multiple change orders during the State's software development phase and extension of contract)
Point of Contact	Name: Jackie Bemboom Telephone: 573-526-1827 Fax: 573-526-4774 Email jackie.bemboom@dor.mo.gov
Prime Contractor or Subcontractor	Prime Contractor
Project Description	IDEMIA USA provides key driver's license lifecycle components, field service, and credential issuance (CI) services to support the annual issuance of 1,500,000 credentials for Missouri's Central Issuance Driver's License Document System. The Missouri Department of Revenue provided the image capture software application and hosted backend environment. Vendor was required to interface and work directly with State IT resources to assist in the development of the front office and back office applications.
IDEMIA USA's Responsibilities	IDEMIA USA provides key driver's license lifecycle components, field service, and credential issuance services for this program, including: • Completing program management services for the delivery of the driver's license system, which includes meeting State-required Minority Business Enterprise (MBE)/Women Business Enterprise (WBE) • Delivering, installing, and maintaining the image capture workstation equipment to process Missouri driver's license applications from license offices across the State • Training all headquarters staff and third-party driver's license agents located through the state on image capture workstation operation and

	central office staff on card issuance management application • Delivering Software Development Kit (SDK) software components interacting with State applications • Providing and maintaining the equipment and consumables for the offices across the State • Providing Technical Help Desk support to respond to equipment and consumable issues for the offices across the State • Designing and delivering a high-security card with a multi-modal set of card security features, including a Digital Watermark on the front of the credential • Producing documents in a high-security central issuance facility that met AAMVA and NASPO certifications for REAL ID • Mailing the license documents to the citizens of Missouri • Interfacing and delivering driver's license issuance production status to Missouri's database
Similarities to this RFP in size, scope, and complexity	Similar to our proposed solution for the State of Nebraska, we provide the State of Missouri with the following: • Image and signature capture solution • Interface with State-owned backend hardware and software • Card design services • Highly secure credentials made of the same material as proposed to the Nebraska DMV in a secure central issuance facility • Mission-critical support with in-state IDEMIA USA field service technicians

Project 4: Minnesota Division of Vehicle Services (DVS)

Project Name	Automated Driver's License Knowledge Testing System (ADKTS)
Time Period	Contract signed 11/08/2016 and ends 09/30/2017
Deployment	Scheduled: 06/30/2017 Actual: 09/30/2017 (extended 3 months by mutual agreement)
Budget	Scheduled: $610,722 Actual: $610,722
Point of Contact	Name: Andrea Fasbender Telephone: 651-201-7669 Fax: 651-797-1142 Email: andrea.fasbender@state.mn.us
Prime Contractor or Subcontractor	Prime Contractor
Project Description	DVS required an automated driver's license knowledge testing system (ADKTS) that would be maintained and supported for a minimum of five years and potentially 10 years. The system needed an upgrade path to avoid obsolescence for all components. The State required the ADKTS to be updated to operate on current or current minus one Microsoft operating systems, browsers, and databases. Additionally, Minnesota required the ADKTS system be fully capable of integrating with the current computer operating environment and MNLARS, the State's new system currently under development, by providing a set of comprehensive Application Programing Interfaces (APIs).
IDEMIA USA's Responsibilities	IDEMIA USA provided the software and services to replace another vendor's ADKTS software. The solution provided software for 256 testing kiosks in 26

	locations. We provided the tests in seven foreign languages plus American Sign Language (ASL) video. IDEMIA USA managed the project, developed the software, provided training and documentation, and supported testing, pilot, and rollout.
Similarities to this RFP in size, scope, and complexity	Our AutoTest System used in Minnesota will be exactly the same Automated Knowledge Test System proposed for Nebraska DMV.

Project 5: Virginia Department of Motor Vehicles (DMV)

Project Name	Automated Knowledge and Skills Testing Systems (KATS)
Time Period	Automated Knowledge Test (AutoTest): 12/2013 – 03/2019 Electronic Skills Test (RoadTest): 05/2014 – 03/2019
Deployment	AutoTest Scheduled: 12/2013 Actual: 03/2014 RoadTest Schedule: 05/2014 Actual: 05/2014
Budget	AutoTest Scheduled:$3,400,000 Actual: $3,400,000 RoadTest Scheduled: $800,000 Actual: $800,000
Point of Contact	Name: Tully Welborn Telephone: 804-367-8069 Email: Tully.welborn@dmv.virginia.gov
Prime Contractor or Subcontractor	Prime Contractor
Project Description	The Virginia DMV sought to overhaul and centralize its knowledge testing (KATS) solution.
IDEMIA USA's Responsibilities	IDEMIA USA provided our AutoTest and RoadTest software, hardware and all associated implementation services. The system, consisting of 400 AutoTest test stations at 80 testing locations, was delivered on time and on budget, allowing the DMV to meet its desired schedule. Currently, the AutoTest system in Virginia provides testing in 15 languages, including American Sign Language, with plans to add additional languages in the near future. The system is hosted on IDEMIA USA servers at one of our NASPO-certified facilities and is completely administered and maintained by us. The project also includes the capability for DMV to allow Virginia high schools to test students in their own high school computer labs. Schools use the system's scheduling component to create testing events and allow students to sign up online. Test scores are sent to the DMV's driver information system automatically, and those who pass receive a bar-coded test receipt. This receipt is brought to a DMV office where personnel complete the review of documents and the processing of the learner's permit. In 2014, IDEMIA USA implemented our RoadTest automated skills testing solution. Today, the State has deployed over 30 RoadTest tablets, enabling their

	examiners to move away from paper forms and automate the processing of skill test results. We delivered our RoadTest solution on schedule.
Similarities to this RFP in size, scope, and complexity	Our AutoTest and RoadTest systems used in Virginia will be exactly the same Automated Knowledge Test System proposed for Nebraska DMV.

Section VI. Proposal Requirements Corporate Overview

Summary of Bidder's corporate experience

10. Provide a listing of every jurisdiction or organization for whom the Bidder has implemented or operated systems in the past 10 years; and describe how your experience in other states is going to positively impact this project and the solution you are offering.

✓ **IDEMIA USA complies.**

Our solutions produce 80 percent of U.S. driver's license and identification (DL/ID) cards, making us the most trusted identity document solution provider in the U.S. IDEMIA USA is primarily focused on delivering solutions and services that enable trusted transactions wherever identity matters—in person or online. Partnering with a vendor with 37 U.S. driver's license program contracts, the State of Nebraska will benefit from working with a company that is focused on state motor vehicle agencies (MVAs) and U.S. implementations rather than a supplier that is in the identity or credit card business also providing DL/IDs. **The State will receive the best avenue for future improvements with a partner focused on the U.S. driver's license industry versus a company just having DL/IDs in a broader business portfolio**.

The map in Figure 2 indicates our U.S. geographical breadth for supporting driver's license systems today. Our ability to reach out to other states with similar solutions enhances the quality of support that the State of Nebraska will receive by continuing your partnership with our team. As an example, IDEMIA USA has been able to reach across our customer base to help create the CDL Multi-State Screening program. This pioneering program allows sharing of CDL photos between states, which can then be biometrically compared to find criminals trying to shop from state to state when their CDL credential has been suspended.

Figure 2: IDEMIA USA's Geographical Breadth in the U.S. Today

Nationwide operational technicians are readily available to the State should business situations require more support.

Listed below is every jurisdiction/organization for whom IDEMIA USA has implemented or operated systems in the past 10 years. Our lessons learned from our more than 60 years of driver's license system implementation and support experience result in a lower risk for your program.

State	Solutions provided over the last decade
Alabama	Driver's License, AutoTest, RoadTest
Arizona	Driver's License, AutoTest
Arkansas	Driver's License
California	Driver's License
Connecticut	Driver's License, AutoTest, Facial Recognition, Document Authentication
Delaware	Driver's License, Facial Recognition, Document Authentication
Florida	Driver's License, Facial Recognition, Document Authentication
Georgia	Driver's License, Facial Recognition, Document Authentication
Idaho	Document Authentication
Illinois	Driver's License, AutoTest, Facial Recognition
Indiana	Driver's License, AutoTest, Facial Recognition
Iowa	Driver's License, AutoTest, Facial Recognition, Document Authentication
Kansas	Driver's License, Facial Recognition, Document Authentication
Kentucky	Driver's License, AutoTest, Facial Recognition
Louisiana	Driver's License
Maine	Driver's License, Facial Recognition
Maryland	Facial Recognition
Massachusetts	Driver's License, AutoTest, Facial Recognition, Document Authentication
Michigan	Driver's License
Minnesota	Driver's License, AutoTest, Facial Recognition
Mississippi	Driver's License, AutoTest, RoadTest, Facial Recognition
Missouri	Driver's License
Montana	Driver's License, AutoTest, RoadTest, Facial Recognition
Nebraska	Driver's License, AutoTest, RoadTest, Facial Recognition
Nevada	Driver's License, Facial Recognition
New Hampshire	AutoTest, RoadTest
New Jersey	Driver's License, AutoTest, Facial Recognition
New Mexico	Driver's License, Facial Recognition
New York	Facial Recognition, Document Authentication
North Carolina	Driver's License, Facial Recognition
North Dakota	Driver's License, RoadTest, Facial Recognition
Ohio	Driver's License, Document Authentication
Oklahoma	Driver's License, Facial Recognition, AutoTest, RoadTest

Oregon	Driver's License, Facial Recognition
Pennsylvania	Driver's License, AutoTest, Facial Recognition
Rhode Island	Driver's License, AutoTest, Facial Recognition
South Carolina	Driver's License, AutoTest, Facial Recognition
South Dakota	Driver's License, Facial Recognition, Document Authentication
Tennessee	Driver's License, Facial Recognition
Texas	Driver's License, AutoTest, RoadTest, Facial Recognition
Utah	Driver's License, AutoTest, RoadTest
Vermont	Driver's License, Facial Recognition
Virginia	AutoTest, RoadTest
Washington	Driver's License
Wisconsin	Driver's License, Facial Recognition, Document Authentication

Section VI. Proposal Requirements Corporate Overview
Client contact information

11. Provide client contact information for a minimum of three (3) CATS systems, or components of the CATS outlined in this RFP, installed by your company.

✓ **IDEMIA USA complies.**

Please find contact information for three CATS systems installed by IDEMIA USA that are similar to the system outlined in this RFP:

Client	Contact Name:	Contact Telephone:	Contact Fax:	Contact Email:
Illinois Secretary of State	Steven Mahnich	217-558-5400	N/A	Smahnich@ilsos.net
Missouri Department of Revenue	Jackie Bemboom	573-526-1827	573-526-4774	Jackie.bemboom@dor.mo.gov
Arkansas Department of Motor Vehicles	Ken Williams	501-971-6021	N/A	Ken.williams@dfa.arkansas.gov
Virginia Department of Motor Vehicles	Tully Welborn	804-367-8069	N/A	Tully.welborn@dmv.virginia.gov
Minnesota Division of Vehicle Services	Andrea Fasbender	651-201-7669	651-797-1142	Andrea.fasbender@state.mn.us

Section VI. Proposal Requirements Corporate Overview
Summary of Bidder's proposed personnel/management approach

12. Identify the specific professionals who will work on the State's project if the project is awarded. The names and titles of the team proposed for assignment to the State project shall be identified in full,

with a description of the team leadership, interface and support functions, and reporting relationships. The primary work assigned to each person should also be identified. The Bidder should provide resumes for all personnel proposed by the Bidder to work on the project. The State will consider the resumes as a key indicator of the Bidder's understanding of the skill mixes required to carry out the requirements of the RFP in addition to assessing the experience of specific individuals. Key personnel are, at a minimum, as follows:

1. Project Manager
2. Lead Technical Architect
3. Technical lead
4. Testing Lead
5. Training Lead
6. Conversion/Migration Lead
7. Card Manufacturing Lead
8. Field Maintenance Lead/Field Support Lead

If there are other roles considered "key" by the Bidder, the Bidder should so state and provide a resume for each. Resumes must not be longer than three (3) pages. Resumes shall include, at a minimum, academic background and degrees; professional certifications, including the date first certified, any lapse in certification, and whether or not the individual is currently certified; employment history; and description of relevant experience. For key personnel, provide three (3) references (name, address, and telephone number) who can attest to the competence and skill level of the individual.

✓ **IDEMIA USA complies.**

Project Organization

IDEMIA USA's Nebraska Credential and Training System (CATS) Project Team (shown in Figure 3) has extensive domain expertise in the State's driver's license and testing systems. Many of our team members support the DMV today and have been directly involved in previous successful deployments. This experience will be invaluable to our success in CATS implementation.

Figure 3: IDEMIA USA Nebraska CATS Program Team

Our team has unmatched experience on DMV programs and are subject matter experts in their fields. These familiar faces provide the DMV with the knowledge and depth of experience to provide ease of transition to your new CATS program.

The project will reside within IDEMIA's Civil Identity business line. The executive leadership includes:

- John Sennott—Our Senior Vice President (SVP) for Civil Identity, who is responsible for the overall success of this effort.
- Jenny Openshaw—Our SVP for Civil Identify Sales, joins him in an executive oversight role.

Both Mr. Sennott and Ms. Openshaw have been our executive leaders for all Nebraska projects since 2013.

The program leadership includes:

- Alan Moore—Our Senior Director and Regional Business Manager, who will ensure the CATS project team is resourced for success to deliver this project.
- Dino Redmond—Our Client Executive for the State of Nebraska, who is responsible for IDEMIA USA's ongoing business relationship with the DMV.

Together, Mr. Moore and Mr. Redmond have overall responsibility for project execution and client satisfaction with our team.

Our program team is led by T.J. Stamas as the Project Manager. Mr. Stamas is the Program Manager for the current Nebraska Driver's License contract. He is a certified Project Management Professional (PMP) who has been with IDEMIA USA since 2012 and has successfully deployed large projects for states across the central U.S. Mr. Stamas and the other key personnel proposed for this project have extensive experience and expertise with Nebraska DMV systems and are well-positioned to manage the implementation of the new CATS program.

Key Personnel

Table 3 lists the individuals who will be assigned to the project, their role, and the primary work assigned to them.

Table 3: Project Key Personnel

Primary Name	Title	Primary Work
TJ Stamas	Project Manager	Single point of contact for the CATS solution responsible for successful on-time delivery of DMV-approved program scope. Responsible for managing all the roles and functions of team members listed below.
Jacques Perrault	Lead Technical Architect	Single point of contact for oversight an implementation of the CATS solution, including all hardware, software, and interfaces provided for front office, back office, and training.
Shuchi Chawla	Technical Lead	Supports the Lead Technical Architect and is responsible for daily integration of CATS hardware and software design components and interfaces.
Craig Daniels	Testing Lead	Leads our testing activity and is responsible for the successful product-level testing and quality assurance (QA) testing of the end-to-end CATS solution. Responsible for all requirements testing and documentation.
Karen Gullotti	Training Lead	Leads training activity and is responsible for delivery of training curriculum and documentation, per RFP requirements. Oversees all ongoing training needs during the entire contract.
Peter Korsland	Conversion/Migration Lead	Leads our onsite implementation for back office and front office integration. This includes responsibility for all data conversion/migration activity. He will be actively involved in all UAT events as we deploy the new CATS solution.
David Pennetta	Card Manufacturing Lead	Leads our credential manufacturing and production

		activity for the primary and secondary factories. Responsible for implementation of any new card design to the factories to support the DMV.
Jeff Atwell	Field Maintenance Lead/ Field Support Lead	Single point of contact onsite for the ongoing support the CATS system hardware and software support. Monitors the system to ensure continual uptime and makes sure the field support team is staffed with U.S. DL-trained technicians. Supports the new CATS deployment with IDEMIA USA's local team for surge support as required.
Ann Carrigan	Card Design Lead	Single point of contact for the customer interactive final card design and execution. Oversees IDEMIA USA's annual free-of-charge Card Design Review event, which presents the DMV with the most current available card security technology.

Supporting Functions

Our proposed key personnel for the Nebraska CATS solution will be supported by personnel in the functional groups listed in Table 4.

Table 4: Support Functions

Title	Primary Work
Chief Security Officer	Ensures factory North American Security Products Organization (NASPO) certifications are current and RFP-required security measures are met.
Human Resources	Conducts background checks for all team members, recruiting of qualified candidates when needs arise, team adherence to RFP and company ethics and business guidelines/requirements.
Sales and Marketing	Advocates for technology advancement and supports customer messaging concerning our DL/ID solutions. Available to assist the DMV with messaging campaigns.
Hardware Engineering	Responsible for maintaining and documenting our product hardware configurations. Conducts unit-level testing and performs interoperability studies for the solutions in delivery to our customer base.
Software Engineering	Responsible for maintaining and documenting our product hardware configurations. Conducts unit-level testing and performs interoperability studies for the solutions in delivery to our customer base. Also responsible for maintaining impact of any changes to any commercial off-the-shelf (COTS) applications delivered as part of any of our DL/ID solutions.
Quality Assurance	Responsible for overall quality control of our DL/ID solutions and any State-specific tailoring. Responsible for end-to-end testing of every delivered solution. Also responsible for initial quality aspects of credentials being produced in or introduced to our factory environments.
Product Application Engineering	Implements our delivered DL/ID solutions. Performs all hardware configuration and software deployments. Responsible for data conversion/migration and support of all customer-specific user acceptance testing (UAT) and pilot events.
Manufacturing Engineering	Supports our card factories in maintenance, upgrades, and new product introductions. Provides integral support to the Card Design Team to support proof-of-concept and scalable manufacturing of all credentials produced within our factory infrastructure. Manages our production-level Factory Management System (FMS).
Card Manufacturing (Factories)	Responsible for credential manufacturing. Provides disaster recovery capability for IDEMIA USA card factories.

Supply Chain	Responsible for material sourcing and procurement. Manages our vendor relationships for any procured hardware/software or services.
Card Design	Responsible for development and maintenance of card design and documentation for all credentials that we deliver. Works with our customers to select appropriate security features and state specific design aspects of each credential. Ensures federal compliance with AAMVA standards.
Customer Service & Help Desk	Responsible for field service nationwide. Draws personnel from adjacent states during surge periods, providing "Service Without Borders."
Engineering Solution Architecture	Responsible or system-level integration and network designs for IDEMIA USA DL solutions. Responsible for the architecture of any solution we provide using IDEMIA USA products or other third-party products we may deliver as part of our total solution. Responsible for interoperability with any defined external interfaces to our systems deployed. Serve as the technical point of contact for any DL/ID solution.

Resumes

Please find resumes for all key personnel in the following pages.

T.J. STAMAS, PMP

PROJECT MANAGER

ACADEMIC BACKGROUND AND DEGREES

- B.A., Political Science, Bates College, Lewiston, ME

PROFESSIONAL CERTIFICATIONS

- Project Management Professional (PMP) Certification, first certified June 2009, no certification lapses, currently certified (PMI membership # 1545187)

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Billerica, MA **12/2012 – Present**

Senior Program Manager

- Delivers and manages complex IT-based identification solutions, including the Wisconsin ID Suite Upgrade, Vermont DL Refresh Project, Louisiana Credential Issuance Solution Project, Nebraska Digital Driver's License System, and Indiana Bureau of Motor Vehicle DL/ID Project.
- Managed the design and deployment of the upgraded Nebraska Digital Drives License System, which included deployment of a new back office system, upgraded front office equipment, and a modified card design.
- Managed the design and deployment of the upgraded Indiana Bureau of Motor Vehicle DL/ID Project; included new deployment of a new back office solution, all front-end hardware, new print farm solution, and new card design.
- Managed the design and deployment of the upgrades for the Vermont DL Refresh Project capture station and imaging server systems, including central issuance and over-the-counter DL deployments and a facial recognition system.
- Managed the design and deployment of the upgraded Louisiana credential issuance project; included new deployment of capture stations at 120 offices and new image servers in the data processing center.
- Serves as the primary point of contact between IDEMIA USA and client jurisdictions; manages and coordinates all aspects of a program, including scope, task definition, schedule definition, completion of program deliverables, and budget; manages system implementations.
- Ensures teams uphold responsibilities and commit to the work breakdown structure.
- Manages the project risk plan and execution and manages the change control plan; monitors the project schedule and revises as needed.
- Provides monthly written status reports as well as any ad-hoc reports.

Harris Corporation, Melbourne, FL **07/1999 – 12/2012**

Program Manager, Public Safety and Professional Communications Division

- Directed a project team of multiple engineers, project administrators, and subcontractors on a State of Maine Radio Project; managed multiple subcontractors responsible for site design, build, and deployment on a statewide public safety radio project; rolled out radio infrastructure and user equipment for use by multiple state agencies.
- Managed the primary subcontractor responsible for site acquisition, build, and deployment of a multi-site public safety radio project for the State of New York; led customer meetings and reviews, reporting on overall project status and user equipment issues.
- Managed equipment procurement, factory build, and deployment on a 500-site radio system for the State of Pennsylvania; coordinated daily activities of site managers, system engineers, and various subcontractors.

Lockheed Martin Corporation, Burlington, MA **11/1980 – 07/1999**

Project Planner, Infrared and Imaging Systems

- Served as senior project planner on multiple defense projects.
- Responsible for network and detailed milestone schedules used in monitoring the progress of all program activities in order to identify problems and recommend corrective action solutions.

TJ STAMAS, PMP (CONTINUED)

DESCRIPTION OF RELEVANT EXPERIENCE

Mr. Stamas manages the delivery of complex driver's license proposals. He is the current program manager for the upgraded Nebraska Digital Driver's License System. For this project, Mr. Stamas managed the design and deployment of the upgraded system, which included deployment of a new back office system, upgraded front office equipment, and modified card design. He coordinates all aspects of a program, including scope, task definition, schedule definition, completion of program deliverables, and budget. He also has delivered and managed complex IT-based identification solutions, including the Wisconsin ID Suite Upgrade, Vermont DL Refresh Project, Louisiana Credential Issuance Solution Project, and Indiana Bureau of Motor Vehicle DL/ID Project.

REFERENCES

Name, Title	Organization & Address	Telephone	Email
1. Ken Steere, Sr. Project Manager	Harris Corp. 1025 W. NASA Blvd. Melbourne, FL 32919	860-772-7156	Ken_steere@hotmail.com
2. Russ Tremblay, Sr. Project Manager	American Science & Engineering 829 Middlesex Turnpike Billerica, MA 01821	978-764-6176	Russel.Tremblay@as-3.com
3. Eddy Clemente, Financial Manager	Harris Corp. 1025 W. NASA Blvd. Melbourne, FL 32919	978-764-0063	eclemente@harris.com

JACQUES PERRAULT

LEAD TECHNICAL ARCHITECT

ACADEMIC BACKGROUND AND DEGREES

- B.S., Business Administration, Bryant University, Smithfield, RI, 1996

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Billerica, MA **06/2016 – Present**

Principal Solutions Architect, Multistate CDL, Northeast and Midwest Pods

- Designed and led the successful deployment and integration of CDL Facial Recognition between Iowa and Nebraska in the Midwest, and New York and Maryland in the Northeast.
- Responsible for coordinating the integration of additional participants into this program.

Technical Lead, Nebraska DL Extension

- Designed and led the successful upgrade of front office systems and software, deployment of new back office issuance, and deployment of a biometric systems to a new data center, including the associated data migration.
- Following the operational handoff, led the design and oversaw the deployment of the Enhanced Payment Workflow for the Metro South Service Center.

Technical Lead, Arkansas DL/ID OTC Program

- Responsible for the migration of Arkansas's legacy facial recognition system, complete refresh of all front office and back office issuance systems, and new card design; completed the program on time to the customer's satisfaction.

IBM, Cambridge, MA **10/1997 – 06/2016**

Mobile IT Architect, Cloud and Architecture Technology *01/2013 – 06/2016*

- Advocated IBM open-source participation and contribution to cloud, analytics, mobile, security and social technologies.
- Built and composed services and proofs of concept supporting IBM's cognitive software/cloud platform.

Solution Architect, IBM Software Services for Collaboration *01/2011 – 01/2013*

- Worked with regional and global sales leaders to develop, scope, and write proposals for opportunities predominantly in the messaging and collaboration space.
- Coordinated with product and development teams to incorporate customer feedback into product and roadmap.

IT Specialist, IBM Software Services for Lotus *07/2007 – 12/2010*

- Designed and implemented enterprise-class collaborative infrastructures.
- Performed integration between multiple cross-vendor products.

IT Architect, Business Transformation *04/2005 – 07/2007*

- Designed and developed of workplace-based proofs of concept.
- Employed Eclipse, Standard Widget Toolkit, Workplace Collaboration Services APIs, and the emerging Workplace Web conferencing and LiveNames APIs to integrate a third-party video conferencing solution with the Workplace Managed Client.
- Worked with top IBM accounts to explain IBM strategy and vision for the workplace, and design technical roadmaps to help accounts plan and implement workplace technologies in their enterprise.

IT Architect, IBM Software Services for Lotus *1997 – 03/2005*

- Provided technical direction and leadership, conducted requirements assessment, performed application design and implementation.

Babson College, Wellesley, MA **05/1996 – 10/1997**

Internet Application Specialist

- Migrated legacy ("green-screen") applications—registration, grading, billing systems, and address management—into secure, Web-enabled applications; key technologies included IBM Lotus Notes/Domino, and MS SQL server.

JACQUES PERRAULT (CONTINUED)

DESCRIPTION OF RELEVANT EXPERIENCE

Mr. Perrault is a senior solutions architect. His technical experience encompasses the design and deployment of enterprise infrastructures at over 130 municipal, national, and global entities. He is skilled with application programing interface (API) specification and implementation and design and delivery of training programs. His customer experience includes C-level executive briefings, critical situation management, and technical sales. Serving as the Technical Lead, for the State of Nebraska's DL Extension, Mr. Perrault designed and led the successful upgrade of front office systems and software, deployed new back office issuance, and deployed biometric systems to a new data center, including the associated data migration. As the technical lead for similar projects such as the Arkansas and Iowa DL programs, he provided technical leadership for customer interactions, gathering requirements, authoring specifications, and designing solutions. Mr. Perrault also served as the Principal Solutions Architect for our Multistate CDL initiative in the Northeast and Midwest U.S. In this role, he designed and led the successful deployment and integration of CDL Facial Recognition between Iowa and Nebraska in the Midwest, and New York and Maryland in the Northeast.

REFERENCES

Name, Title	Organization & Address	Telephone	Email
1. Jyothi Prasad, Project Manager	Arkansas Dept. of Finance and Administration 1509 W 7th St. Little Rock, AR 72201	501-683-0507	Jyothi.prasad@dfa.arkansas.gov
2. Melissa Spiegel, Director of Driver Services	Iowa Dept. of Transportation P.O. Box 9204 Des Moines, IA 50306	515-237-3010	Melissa.spiegel@iowadot.us
3. Bryce Feldhoff, Information Technology Specialist	Iowa Dept. of Transportation P.O. Box 9204 Des Moines, IA 50306	515-239-1507	Bryce.feldhoff@iowadot.us

SHUCHI CHAWLA

TECHNICAL LEAD

ACADEMIC BACKGROUND AND DEGREES

- M.Eng., Engineering (Control Systems), Motilal Nehru National Institute Of Technology, Allahabad, Uttar Pradesh, India
- B.E., Electrical and Electronics Engineering, National Institute of Technology, Patna, Patna, Bihar, India

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Billerica, MA **03/2017 – Present**

Senior Solutions Architect

- Responsible for gathering business requirements, designing technical solution and guiding development and testing to reach the final delivery.
- Responsible for overall system architecture and the design of all external interfaces and their corresponding technical specifications for the program
- Work with the program's management on organization of and successful delivery of projects, including scope, and schedule for program deliveries.

Comverse Network Systems, Wakefield, MA **10/2003 – 03/2017**

Solutions Architect *10/2011 – 03/2017*

- Responsible for customizing projects to fit customers' requirements.
- Served as the technical focal point for both pre-sale and post-sale activities.
- Ensured product feature alignment with development team and customer technical requirements.
- Interfaced with engineers, product managers, and account managers to solve business and technical problems.
- Collected Effort Estimation and close end-to-end commitments between the relevant groups that contribute to the implementation.
- Identified, addressed, and managed the technical questions, concerns, and issues throughout the project cycle.
- Delivered technical workshops to customers.

Sr. Systems Integration Engineer *08/2009 – 09/2011*

- Served as a systems integration engineer for Comverse's various voice mail products including Visual Interface products like Visual Voicemail, Voicemail to Email, Voicemail to Text, and Web User Interface for North American Tier 1 network operators.
- Integrated software based on system requirements; updated system configuration and prepare customization packages and RDDs.
- Provided feedback, concerns, issues and other relevant information on system requirement specifications.
- Worked closely and extensively with project managers, solutions managers, deployment managers, engineers, and developers during the entire integration cycle.
- Led a process improvement plan for the integrations team.

System Integration and Test Engineer *10/2003 – 08/2009*

- Served as an Integration and QA Engineer for Comverse's various voicemail products, including Visual Interface products like Visual Voicemail, Voicemail to Email, Voicemail to Text, and Web User Interface as an Integration Engineer for North American Tier 1 network operators.
- Developed, modified, and executed software test plans based on system requirements. Using defined procedures and practices, analyzed and wrote test standards and procedures.
- Maintained documentation of test results to assist in debugging and modifying software.
- Analyzed test results to ensure existing functionality and recommended corrective action to develop, apply, and maintain quality standards for company products.
- Help provide effort estimates for projects; mentored new QA engineers.

SHUCHI CHAWLA (CONTINUED)

Mobile Wisdom, Inc., Wakefield, MA **03/2001 – 09/2003**

QA Engineer

- Independently handled the integration and testing of the M2M Transaction Software, which provided a platform over which machine-to-machine Applications can control and monitor remote machines over the GSM/GPRS network from its infancy.
- Developed comprehensive system level testing plans that including Customer Acceptance Plans.
- Integrated and tested the application during the early stages of software development.
- Identified the defects and supported the diagnoses of failures, determined the root cause, drove corrective action, and provided technical direction to development.
- Responsible for remote and on sites technical support.

DESCRIPTION OF RELEVANT EXPERIENCE

Ms. Chawla is a Senior Solution Architect at IDEMIA USA with extensive experience in applications and data networks. As a technical lead for similar projects such as Pennsylvania DL and Texas DL, she excels at leading, architecting, designing, integrating, and implementing large solutions in alignment with customer technical requirements and identifies, addresses, and manages the technical questions, concerns, and issues of internal and external customers throughout the project cycle.

REFERENCES

Name, Title	Organization & Address	Telephone	Email
1. Bina Vachtel, Program Manager	Akamai Technologies 150 Broadway, Cambridge, MA 02142	781-354-1434	bina.vachtel@gmail.com
2. Megha Maheshwari, Vice President Customer Management	Micro Focus 150 Cambridgepark Dr., Suite 800 Cambridge, MA 02140	339-927-5730	megha.mohan@gmail.com
3. Renan Marx, Solutions Consultant	Comverse Network Systems 200 Quannapowitt Pkwy Wakefield, MA 01880	781-985-8955	mrx.one@gmail.com

CRAIG DANIELS

TESTING LEAD

ACADEMIC BACKGROUND AND DEGREES

- B.S., Business Management (Concentration in Management Information Systems), University of Massachusetts, Boston, MA, 1999

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Billerica, MA **07/2018 – Present**

Senior QA Engineer

- Deploys driver's license programs to U.S. jurisdictions, including Kentucky.
- Analyzes, designs, constructs, and verifies test cases and procedures for assigned software projects.
- Develops and maintains test specifications for unit testing, system, volume, performance, and business workflows.
- Documents and analyzes results and provides recommendations.
- Directs and monitors QA activities associated with multiple programs/projects simultaneously if necessary, throughout the software development lifecycle.
- Works collaboratively with development teams to provide direction on software configuration processes, standards, procedures, and quality criteria.
- Confers with program management, engineers, analysts, and/or representatives of other departments to clarify software intent and programming requirements.
- Perform programs risk management by identifying critical factors, potential risk areas, and problem's resolutions.
- Identifies pass/fail criteria and ensure adherence to the established criteria.
- Generates testing progress and issue tracking matrices for review with the project team as well as company management.
- Ensures product compliance to software, hardware, cards, and identified requirements.
- Participates in the development and institutionalization of the overall quality process.

IBM Corp., Littleton, MA **10/2006 – 07/2018**

Cloud Operations Engineer *12/2017 – 07/2018*

- Responsible for provisioning environments for Maximo SaaS; installed and configured Maximo on Linux and Windows OS.
- Performed troubleshooting and resolution of customer tickets regarding their SaaS environments.

Lead QA Software Engineer *10/2006 – 11/2017*

- Responsible for creating manual and automated test cases, test case execution, scheduling, installation, and environment configuration for IBM Maximo Enterprise Asset Management.
- Specialized in integration with third party software such as SAP, TRIRIGA, and ESRI maps.
- Served as a Scrum Master working on projects in an Agile environment on an international team.
- Delivered new releases and upgrade products on or ahead of schedule.
- Resolved customer issues, as needed.

MRO Software Inc., Bedford, MA **08/2002 – 09/2006**

Senior QA Engineer

- Responsible for creating test cases, installation, maintenance and testing of Maximo Integration with ERPs such as SAP, PeopleSoft, and Oracle Applications.
- Delivered new and upgrade products on or ahead of schedule.

PSDI/MRO Software Inc., Bedford, MA **09/1999 – 07/2002**

Lead System Configuration Support Analyst

- Responsible for customer support of installation and upgrade of multiple Maximo versions on various platforms.

CRAIG DANIELS (CONTINUED)

DESCRIPTION OF RELEVANT EXPERIENCE

Mr. Daniels is a Senior Quality Assurance (QA) engineer at IDEMIA USA with more than 16 years of experience analyzing, designing, constructing, and verifying test cases and procedures for assigned software projects. Most recently, he served as testing lead for the State of Kentucky's latest driver's license program installation.

REFERENCES

Name, Title	Organization & Address	Telephone	Email
1. Rob Warner, Lead Software Developer	Nielsen 265 Winter St. Waltham, MA 02451	978-376-5988	–
2. Mimi Ahn, Manager	PriceWaterhouseCoopers (PwC) 101 Seaport Blvd. Boston, MA 02210	919-780-8574	–
3. Scott Boudreau, Lead QA Software Engineer	IBM Corp. 550 King St. Littleton, MA 01460	781-820-8518	–

KAREN GULLOTTI

TRAINING LEAD

ACADEMIC BACKGROUND AND DEGREES

- B.S., Electrical Engineering, Northeastern University, Boston, MA

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Billerica, MA **06/2011 – Present**

Manager Training, Customer Training *07/2017 – Present*

- Manages the training cycle from inception, development, and final implementation for trainers and end users.
- Involved with multiple projects at the federal, state, and international level.

Senior Field Application Trainer *06/2011 – 06/2017*

- Provide training, applications development, customer support management, software/hardware installation, and troubleshooting for many large-scale projects.

Waltham Central Transportation, Waltham, MA **08/2007 – 06/2011**

Transportation Manager

- Management, development, and design of the route scheduling, inventory, and billing system.

GenRad, West Concord, MA **1985 – 1999**

Corporate Website Manager

- Designed, implemented Initial International Corporate presence.

Manager US Customer Support Center

- Managed group supporting customer client base of programmers.

Applications Engineer I / II

- Wrote test programs for large corporate clients testing multifunction circuit boards. See less

DESCRIPTION OF RELEVANT EXPERIENCE

Ms. Gullotti is a lead trainer for managers and customers at IDEMIA USA. She has more than 20 years of experience in training, applications development, customer support management, software/hardware installation, and troubleshooting for many large-scale projects. She has been involved with four state DMV deployments, five other state deployments, two major federal deployments, one commercial, and one international deployment. These included Arkansas, South Dakota, Pennsylvania, Illinois, and Kentucky.

REFERENCES

Name, Title	Organization & Address	Telephone	Email
1. Mandy Endsley, State Revenue Administration	Arkansas Department of Finance and Administration 1509 W 7th St. Little Rock, AR 72201	501-682-7089	Mandy.Endsley@dfa.arkansas.gov
2. Jane Schrank, Program Director	South Dakota Dept. of Public Services 118 W Capitol Ave. Pierre, SD 57501	605-773-4123	Jane.Schrank@state.sd.us
3. Matthew Cole, Assistant Director	Kentucky Division of Driver Licensing 127 S Lake Dr. Prestonsburg, KY 41653	502-564-9900 x4235	Matthew.Cole@kentucky.gov

PETER KORSLUND

CONVERSION/MIGRATION LEAD

ACADEMIC BACKGROUND AND DEGREES

- M.S., Computer Information Systems, Boston University, Boston, MA
- B.A., Business, Saint Anselm College, Manchester, NH

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Billerica, MA **03/2001 – Present**

Sr. Application Engineering Manager *08/2014 – Present*

- Managed all application engineering responsibilities, including staffing resources and internal budgets, for the company's government secure credentialing programs.
- Responsible for deploying and configuring all client and server solutions in demanding and widely varying customer environments, including the California, Georgia, and Kansas DL systems.

Senior Manager, Tier 3 Operations *06/2012 – 07/2014*

- Responsible for overall system architecture and the design of all external interfaces and their corresponding technical specs.
- Gathers requirements and specifications for all hardware, software, and integration components of a project.
- Conducts technical meetings, discussions, and other correspondence to create a library of documents to be used by all other IDEMIA USA engineering and support groups for delivery of the overall solution.
- Directs and coordinates the efforts necessary to gather, package, review, and gain acceptance of all specified project-related documentation; acts as the primary conduit of technical intelligence between IDEMIA USA's pre-sales/bid teams and customer technical staff and business stakeholders.
- Leads development of design specifications and requirements; develops procedures to ensure data integrity and system reliability.
- Contributes to development of test plans and requirements; plans and leads system testing.
- Manages software/hardware configuration and development.
- Directs technical staff in detailed design, coding, and testing.

Manager, Integration Engineering *01/2008 – 06/2012*

- Managed all Integration Engineering responsibilities, including staffing resources and internal budgets, for the company's Government Programs and Secure Credentialing divisions.
- Responsible for deploying and configuring all client and server solutions in demanding and widely varying customer environments.

Senior Systems Engineer *10/2005 – 01/2008*

- Provided overall technical direction for delivery of individual Government program contracts and marshalled program success from contract award to program operational support.
- Established and fostered customer relationships at the technical and management level crossing multiple functions within jurisdictions, most commonly between infrastructure and DMV line of business groups, leading to consensus-based results.
- Led efforts to standardize business rules and technical documentation standards within the systems engineering.

Customer Solutions Architect *11/2004 – 11/2005*

- Provided technical leadership and guidance for marketing and sales teams.
- Established customer relationships with Government programs.

Technical Manager *03/2001 – 11/2004*

- Provided overall technical direction for delivery of individual government program contracts and marshalled program success from contract award to program operational support.

PETER KORSLUND (CONTINUED)

- Established and fostered customer relationships at the technical and management level, crossing multiple functions within jurisdictions.

Lucent Technology / Kenan Systems, Murray Hill, NJ **05/1999 – 03/2001**

Technical Lead

- Developed, managed, and implemented most tasks necessary to redesign and programmatically rewrite a commercially deployable c/s application for wireless and landline product marketing and collections campaign management.

American Management Services, Inc., Orlando, FL **11/1996 – 05/1999**

MIS Supervisor

- Researched, recommended, directed purchase, and/or maintained and supported all corporate computers, peripherals, and data and voice network infrastructures for a medium sized organization.
- Designed, developed, and implemented custom applications automating and enforcing business rules and content communications for a dynamic management consulting firm.
- Directed, developed, and executed company computer training curriculum.

Brown Brother Harriman & Company, Boston, MA **1994 – 1994**

Technical Support Specialist

- Designed and implemented enhanced cash and securities reconciliation system integrating front and back office interfaces that led to increased management and staff efficiency.
- Supported department computer troubleshooting and training needs.

Senior Reconciliation Analyst

- Researched and resolved client account discrepancies between internal and foreign custodian sub-accounts.

The Boston Company, Boston, MA **1991 – 1994**

Trust Accountant

- Maintained various ERISA trusts totaling $2.25 billion regularly.
- Accounting experience in global securities and foreign exchange.

DESCRIPTION OF RELEVANT EXPERIENCE

- Mr. Korslund is the Senior Manager of Tier 3 Operations at IDEMIA USA. He is responsible for overall system architecture and the design of all external interfaces and their corresponding technical specifications. He is responsible for gathering requirements and specifications for all hardware, software, and integration components of a project. He has deployed and configured client and server solutions in demanding and widely varying customer environments, including the California, Georgia, and Kansas DL systems.

REFERENCES

Name, Title	Organization	Telephone	Address
1. Wesley Goo, Deputy Director for Licensing Operations Division	California Dept. of Motor Vehicles 2570 24th St. Sacramento, CA 95818	916-657-6721	wesley.goo@dmv.ca.gov
2. George Theobald, PMO Division	Georgia Dept. of Driver Services 2206 Eastview Pkwy. Conyers, GA 30013	678-413-8876	GTheobald@dds.ga.gov
3. Kent Selk, CDL Manager	Kansas Department of Revenue 300 SW 29th St. Topeka, KS 66611	785-296-2013	kent.selk@ks.gov

DAVID PENNETTA

CARD MANUFACTURING LEAD

ACADEMIC BACKGROUND AND DEGREES

- MBA., Entrepreneurship, Finance, and Marketing, University of Rochester, Rochester, NY
- B.S., Electronics Engineering Technology, DeVry Institute of Technology, Columbus, OH

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Fort Wayne, IN **2005 – Present**

Sr. Director of Card and Manufacturing Engineering *2015 – Present*
Sr. Director of Manufacturing *2010 – 2014*
Director of Program Delivery *2008 – 2009*
Sr. Program Manager *2005 – 2007*

- Provides cross-functional leadership from concept to production for card features, designs, and process development; fosters cross-team collaboration with card-issuing jurisdictions to establish project requirements and detailed plans for implementation, assign resources, provide periodic status updates to the collective team, manage project risks, and implement needed mitigation actions.
- Implements production key performance indicators (KPIs) in all manufacturing facilities for improvements tracking and executive reporting; implemented consistent customer status reporting, schedule template, and WBS structure across all programs.
- Led manufacturing organization with aggressive growth in opening several new factories to startup a dozen new card production programs within a few years; implemented manufacturing strategies to reduce single points of process failure and enable cross-facility production; added manufacturing facilities and new programs resulting in volume growth from 47M to 65M cards per year.
- Improved vendor and internal maintenance capability and effectiveness to minimize equipment downtime.
- Led team to improve production delivery from 90 – 99 percent on time or early while reducing labor content by 13 percent.
- Served as project manager for the development and implementation of Minnesota and Indiana driver's license (DL) systems; restored trusting partnerships with state agencies through effective communication and delivery performance.
- Provided card and factory development oversight for DL deliveries in Texas, Florida, North Carolina, Georgia, Iowa, Kansas, Missouri, Mississippi, and Nebraska.

Diebold Corporation, North Canton, OH **2001 – 2005**

Director, Central Manufacturing Services *2003 – 2005*
Continuous Improvement Manager *2001 – 2002*

- Served as project leader for the development and production startup for voting equipment line of products.
- Served as project leader for the supplier development and manufacturing startup for ATM product lines for France, China, and Brazil operations.
- Managed a 52-person team that provided new product technology transfer during development through prototype components, processes, tooling, and plant setup on a global basis.
- Led corporate continuous improvement program resulting in $13 million in annual savings; led voting terminal startup in under four months, reduced 1st year costs by $2.8 million over 40,000 terminals.
- Coached internal mold build team to achieve lead times of half the time needed by outside suppliers at lower costs
- Challenged CCA team to achieve prototype lead-time of 24 hours from last component receipt
- Dramatically increased rapid prototype production output reducing time to market for entire product line with existing staff. Annual volume increases of: circuit card assemblies from 5,000 to 16,500, sheet metal parts from 68,000 to 170,000 and molded parts from 6,400 to 10,000.

DAVID PENNETTA (CONTINUED)

Parker Aerospace, Hannifin Corporation, Dublin, GA **1996 – 2001**

Program Manager *2000 – 2001*

Manufacturing Engineer / Production Supervisor *1998 – 1999*

Manufacturing Engineer *1996 – 1997*

- Assigned mid-program, led the acceleration of the development and manufacturing startup for the JASSM Air Force program from one year behind schedule to completion six months ahead of schedule.
- Led turnaround of Pegasus NASA program in closing out six months of late deliveries during transition of program to another division for manufacturing.
- Provided leadership for product alignments between divisions and ongoing program management for new high technology aircraft, satellite launch vehicle, and missile control system component programs.
- Established barrier to competitive re-sourcing through strategic selection of program investments.
- Established effective program management processes for leadership of new product design and implementation.
- Restored quality, delivery, and cost performance of internal solenoids, LVDTs, and motors assembly department.
- Facilitated improved use of staff and floor space through strategic sourcing of non-core assembly production.
- Re-engineered new production introduction process resulting in faster time to market and improved manufacturing readiness.

Qualitrol Corporation, Fairport, NY **1991 – 1995**

Lead Manufacturing Engineer and Production Supervisor *1994 – 1995*

Manufacturing Engineer *1991 – 1993*

- Provided process and test equipment engineering support for new product introductions and to assist in transformation of the company in the implementation of Toyota Production Systems concepts across the division.
- Promoted to provide leadership to manufacturing engineering team, serve as division kaizen lead as part of corporate team and provide production supervision for several departments.
- Established concurrent engineering process for new product introductions resulting in faster time to market
- Implemented Kanban in four production departments to enable delivery of customer orders with reduced lead times
- Slashed product lead time from four weeks to next day with TPS principles resulting in increased market share
- Served as division Kaizen leader contributing in events at other Danaher divisions on corporate improvements team

ITEK Graphix, Rochester, NY **1988 – 1991**

Senior Electronic Manufacturing Engineer

- Provided harness and electromechanical assembly instructions, tooling, test equipment and time standards to achieve new product introduction schedules while standardizing processes between new and legacy assemblies.
- Performed make vs. buy analyses resulting in annual savings over $200k for in-source of circuit card assemblies
- Transitioned microfiche imaging product line between divisions reducing inventory, labor content and floor space.
- Established new product introduction process developing factory processes while providing engineering prototypes.

Reichert Jung, Buffalo, NY **1986 – 1988**

Production Engineer

- Provided new product competitive benchmark analysis, improved production efficiencies and equipment utilization, and reduced quality defects in harness production department.
- Implemented cost effective utilization of automated wire processing machine.
- Established best practice harness processes to achieve over $400k in annual labor savings.
- Reduced harness assemblies quality defects by 30 percent through setup training and auditing procedures.

DAVID PENNETTA (CONTINUED)

DESCRIPTION OF RELEVANT EXPERIENCE

Mr. Pennetta is the Senior Director of Manufacturing Engineering. In this role, he provides cross-functional leadership from concept to production for card features, designs, and process development; fosters cross-team collaboration with card-issuing jurisdictions to establish project requirements and detailed plans for implementation, assign resources, provide periodic status updates to the collective team, manage project risks, and implement needed mitigation actions. He leads our manufacturing engineering team and is responsible for the delivery of all our new factories. He provided card and factory development oversight in the current Nebraska contract as well as for the following state DL systems: Texas, Florida, North Carolina, Georgia, Iowa, Kansas, Missouri, and Mississippi. He has served as project manager for the development and implementation of DL systems in Minnesota and Indiana.

REFERENCES

Name, Title	Organization & Address	Telephone	Email
1. Michael McCaskill, Deputy Director of Field Operations	Florida Department of Highway Safety and Motor Vehicles 2900 Apalachee Parkway, C-408 Tallahassee, FL 32399	850-617-2688	michaelmccaskill@flhsmv.gov
2. Joan Kopcinski, Driver Services	Minnesota Driver and Vehicle Services 445 Minnesota St., Suite190 St. Paul, MN 55101	651-201-7666	Joan.kopcinski@state.mn.us
3. Paul Watkins, Deputy Assistant Director	Texas Dept. of Public Safety 5805 N. Lamar Blvd Austin, Texas 78752	512-424-5415	Paul.Watkins@dps.texas.gov

JEFFREY ATWELL

FIELD MAINTENANCE LEAD/FIELD SUPPORT LEAD

ACADEMIC BACKGROUND AND DEGREES

- High School Diploma, Wray High School, Wray, CO, 2000

PROFESSIONAL CERTIFICATIONS

- ITIL Foundation Certificate in IT Service Management, first certified September 2018, no lapse in certification, currently certified

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Lincoln, NE **04/2003 – Present**

Field Service Supervisor / Tech Lead, Nebraska *10/2013 – Present*

- Oversees the field service team in the day-to-day operations supporting the Nebraska Digital Driver License program, AutoTest Software, and RoadTest software and hardware.
- Provides customer service via remote and onsite support.
- Leads and manages the field service team, coordinating resources where needed.

Field Service Technician – Lead Technician *04/2003 – 10/2013*

- Installs hardware, software, and peripheral equipment.
- Provided phone, remote, and onsite support for hardware and software.
- Provided superior customer service skills and goal setting.

Prophet System Innovations, Ogallala, NE **10/2001 – 04/2003**

Technical Support *04/2002 – 04/2003*

- Performed troubleshooting of numerous issues at the same time.
- Worked as a team to accomplish goals that are set forth.

Systems Integration Specialist *10/2001 – 04/2002*

- Installed hardware, software, and networking setups.
- Travelled to client sites to train and assist onsite personnel.

DESCRIPTION OF RELEVANT EXPERIENCE

Mr. Atwell is the field service supervisor and technical lead for the State of Nebraska's driver's license, knowledge testing, and skills testing systems and their associated hardware and software. In this role, he has assisted with multiple rollouts in the State of Nebraska since 2003. He leads and manages the field service team for the State of Nebraska and provides service via remote and onsite support. Over the past 15 years in this role, Mr. Atwell has travelled across the State of Nebraska countless times, which has given him an unmatched knowledge of the logistical coordination needed to support hardware and software at the DMV and County Treasurer Offices. During this time, he also has developed business relationships with many people on the DMV and County teams, which promotes valuable communication and problem solving skills.

JEFFREY ATWELL (CONTINUED)

REFERENCES

Name, Title	Organization & Email	Telephone	Email
1. Jim Robinson, Manager	MorphoTrust (now IDEMIA USA) 296 Concord Rd., STE 300 Billerica, MA 01821	785-304-3126	robinson.jim60@yahoo.com
3. Rick Boaldin, Regional Manager	L-1 Identity Solutions (now IDEMIA USA) 296 Concord Rd., STE 300 Billerica, MA 01821	785-213-0689	rickboal@boaldin.com
2. Phillip Fees, Manager	Digimarc (now IDEMIA USA) 296 Concord Rd., STE 300 Billerica, MA 01821	402-587-1324	phillipfees@gmail.com

ANN CARRIGAN

CARD DESIGN LEAD

ACADEMIC BACKGROUND AND DEGREES

- B.S., Communication/Media (Concentration in Graphic Design), Fitchburg State College, Fitchburg, MA, 1996
- A.A., Liberal Arts, Quinsigamond Community College, Worcester, MA, 1976

EMPLOYMENT HISTORY

Idemia Identity & Security USA LLC, Billerica, MA **10/2003 – Present**

Senior Card Design Specialist

Card Design Specialist

- Responsible for all tasks in the development and implementation of driver's licenses and identification (DL/ID) card design; facilitates the design and production of DL/ID cards and their security features.
- Served as design lead for the development and implementation of more than 20 driver's license programs for U.S. and international markets.
- Specializes in implementation of complex mDL /eID card designs adhering to applicable standards.
- Creates technical and design specifications used to create secure DL/ID cards; has expertise in translating AAMVA standards, customer data, and security feature requirements within manufacturing processes into secure designs for production.
- Confers directly with customers on designs, integrating requirements and incorporating feedback; engages with state marketing teams to coordinate collateral efforts around project Go-Live.

Palley Advertising, Worcester, MA **06/1998 – 10/2003**

Art Director *05/2000 – 10/2003*

Graphic Designer *06/1998 – 05/2000*

- Coordinated flow of job traffic with sales and other staff.
- Interview and hired for art department positions; supervised and directed two designers.
- Direct photo shoots.
- Prepared job quotes and estimates.
- Designed and laid out catalogs, brochures, ads, trade show graphics, signage, and presentation materials.
- Created package designs and websites.
- Prepared and collected files for output; implemented and maintained filing and backup system for electronic files.

Assabet Valley Regional Technical High School, Marlborough, MA **09/1998 – 12/1998**

Instructor

- Instructed adult students in the use of Adobe Illustrator 7.0 in a seven week program.
- Selected textbook, prepared lessons, and provided classroom instruction.

Precision Arts Advertising, Westminster, MA **12/1996 – 06/1998**

Graphic Designer

- Designed and laid out catalogs, brochures, ads, trade show graphics, and presentation materials.
- Created package designs and websites.
- Met and coordinated with clients regarding media plans, printed materials, and Web design.
- Prepared job quotes and estimates.

Image Press, West Boylston, MA **07/1996 – 12/1996**

Graphic Designer/Pre press

- Prepared client files for output to film or paper and sent files to imagesetter; worked with clients on layout and design.

ANN CARRIGAN (CONTINUED)

Simplex, Gardner, MA **01/1996 – 05/1996**

Graphic Designer

- Designed product materials.
- Coordinated with other designers on product launch items
- Revised technical publications in the Marketing/Communications Department.
- Assisted in the Camera Department, duplicating slides and organizing photos/slides.
- Collated and bound publications in the Printing Department.

DESCRIPTION OF RELEVANT EXPERIENCE

Ms. Carrigan is a Senior Card Design Specialist with over 15 years of experience as a card design lead for the development and implementation of more than 20 driver's license programs for U.S. and international markets. She is responsible for all tasks in the development and implementation of driver's licenses and identification (DL/ID) card design, facilitating the design and production of DL/ID cards and their security features. With expertise in translating AAMVA standards, customer data, and security feature requirements into secure credentials for state customers, Ms. Carrigan confers directly with customers on designs and incorporates feedback, engaging with state marketing teams to coordinate collateral efforts around project Go-Live.

Section VI. Proposal Requirements Corporate Overview
Summary of Bidder's proposed personnel/management approach

13. Provide the planned percentage of time dedicated to the project and the physical location from which the resource will work.

✓ **IDEMIA USA complies.**

Table 5 provides the percentage of time each named key personnel will be dedicated to the project as well as their primary physical location. Our focus is the successful, on time delivery of your program. Key Team members will be on the ground in Nebraska during user acceptance testing and will be accessible in for situations warranting in-state presence.

Table 5: Personnel Location and Percentage of Time Dedicated to Project

Role	Percentage of Time Dedicated to Project	Primary Physical Location
Project Manager	100%	Billerica, MA
Lead Technical Architect	75%	Billerica, MA
Technical Lead	50%	Billerica, MA
Testing Lead	100%	Billerica, MA
Training Lead	10%	Billerica, MA
Conversion/Migration Lead	100%	Nebraska
Card Manufacturing Lead	50%	Springfield, IL and Sacramento, CA
Field Maintenance Lead/ Field Support Lead	100%	Lincoln, NE
Card Design Lead	80%	Billerica, MA

Section VI. Proposal Requirements Corporate Overview
Summary of Bidder's proposed personnel/management approach

14. Describe, for each key personnel proposed, prior experience with projects of the size and scope of this RFP.

✓ **IDEMIA USA complies.**

Table 6 describes each key personnel's prior experience with projects of the size and scope of this RFP.

Table 6: Project Key Personnel Previous Similar Experience

Name	Previous Similar Experience
T.J. Stamas, Project Manager	Mr. Stamas manages the delivery of complex driver's license proposals. He is the current program manager for the upgraded Nebraska Digital Driver's License System. For this project, Mr. Stamas managed the design and deployment of the upgraded system, which included deployment of a new back office system, upgraded front office equipment, and modified card design. He coordinates all aspects of a program, including scope, task definition, schedule definition, completion of program deliverables, and budget. He also has delivered and managed complex IT-based identification solutions, including the Wisconsin ID Suite Upgrade, Vermont DL Refresh Project, Louisiana Credential Issuance Solution Project, and Indiana Bureau of Motor Vehicle DL/ID Project.

Jacques Perrault, Lead Technical Architect	Mr. Perrault is a senior solutions architect. His technical experience encompasses the design and deployment of enterprise infrastructures at over 130 municipal, national, and global entities. He is skilled with API specification and implementation and design and delivery of training programs. His customer experience includes C-level executive briefings, critical situation management, and technical sales. Serving as the Technical Lead, for the State of Nebraska's DL Extension, Mr. Perrault designed and led the successful upgrade of front office systems and software, deployed new back office issuance, and deployed biometric systems to a new data center, including the associated data migration. As the technical lead for similar projects such as the Arkansas and Iowa DL programs, he provided technical leadership for customer interactions, gathering requirements, authoring specifications, and designing solutions. Mr. Perrault also served as the Principal Solutions Architect for our Multistate CDL initiative in the Northeast and Midwest U.S. In this role, he designed and led the successful deployment and integration of CDL Facial Recognition between Iowa and Nebraska in the Midwest, and New York and Maryland in the Northeast.
Shuchi Chawla, Technical Lead	Ms. Chawla is a Senior Solution Architect at IDEMIA USA with extensive experience in applications and data networks. As a technical lead for similar projects such as Pennsylvania DL and Texas DL, she excels at leading, architecting, designing, integrating, and implementing large solutions in alignment with customer technical requirements and identifies, addresses, and manages the technical questions, concerns, and issues of internal and external customers throughout the project cycle.
Craig Daniels, Testing Lead	Mr. Daniels is a Senior QA engineer at IDEMIA USA with more than 16 years of experience analyzing, designing, constructing, and verifying test cases and procedures for assigned software projects. Most recently, he served as testing lead for the State of Kentucky's latest driver's license program installation.
Karen Gulloti, Training Lead	Ms. Gullotti is a lead trainer for managers and customers at IDEMIA USA. She has more than 20 years of experience in training, applications development, customer support management, software/hardware installation, and troubleshooting for many large-scale projects. She has been involved with four state DMV deployments, five other state deployments, two major federal deployments, one commercial, and one international deployment. These included Arkansas, South Dakota, Pennsylvania, Illinois, and Kentucky.
Peter Korsland, Conversion/ Migration Lead	Mr. Korslund is the Senior Manager of Tier 3 Operations at IDEMIA USA. He is responsible for overall system architecture and the design of all external interfaces and their corresponding technical specifications. He is responsible for gathering requirements and specifications for all hardware, software, and integration components of a project. He has deployed and configured client and server solutions in demanding and widely varying customer environments, including the California, Georgia, and Kansas DL systems.
David Pennetta, Card Manufacturing Lead	Mr. Pennetta is the Senior Director of Manufacturing Engineering. In this role, he provides cross-functional leadership from concept to production for card features, designs, and process development; fosters cross-team collaboration with card-issuing jurisdictions to establish project requirements and detailed plans for implementation, assign resources, provide periodic status updates to the collective team, manage project risks, and implement needed mitigation actions. He leads our manufacturing engineering team and is responsible for the delivery of all our new factories. He provided card and factory development oversight in the current Nebraska contract as well as for the following state DL systems: Texas, Florida, North Carolina, Georgia, Iowa, Kansas, Missouri, and Mississippi. He has served as project manager for the development and implementation of DL systems in Minnesota and Indiana.
Jeff Atwell, Field Maintenance Lead/ Field Support Lead	Mr. Atwell is the field service supervisor and technical lead for the State of Nebraska's driver's license, knowledge testing, and skills testing systems and their associated hardware and software. In this role, he has assisted with multiple rollouts in the State of Nebraska since 2003. He leads and manages the field service team for the State of Nebraska and provides service via remote and

	onsite support. Over the past 15 years in this role, Mr. Atwell has travelled across the State of Nebraska countless times, which has given him an unmatched knowledge of the logistical coordination needed to support hardware and software at the DMV and County Treasurer Offices. During this time, he also has developed business relationships with many people on the DMV and County teams, which promotes valuable communication and problem solving skills.
Ann Carrigan, Card Design Lead	Ms. Carrigan is a Senior Card Design Specialist with over 15 years of experience as a card design lead for the development and implementation of more than 20 driver's license programs for U.S. and international markets. She is responsible for all tasks in the development and implementation of driver's licenses and identification (DL/ID) card design, facilitating the design and production of DL/ID cards and their security features. With expertise in translating AAMVA standards, customer data, and security feature requirements into secure credentials for state customers, Ms. Carrigan confers directly with customers on designs and incorporates feedback, engaging with state marketing teams to coordinate collateral efforts around project Go-Live.

Section VI. Proposal Requirements Corporate Overview
Summary of Bidder's proposed personnel/management approach

15. Disclose current assignments or other commitments of proposed key personnel, and when proposed key personnel would be available for assignment to the DMV project, based on the Contract start date.

✓ **IDEMIA USA complies.**

Table 7 lists the current assignments and commitments for each key personnel as well as the time at which each key personnel will be available for assignment to this project.

Please note that upon assignment to your implementation team, each key team member below will be responsible for the successful, on-time delivery of your program. We have a nationwide team of trained professionals who focus on U.S. DL/ID programs and will not rely on third party or unqualified support.

Table 7: Project Key Personnel Current Assignments and Commitments

Name	Current Assignments and Commitments	When Available for Assignment
T.J. Stamas, Project Manager	Serves as the Program Manager for Nebraska, Indiana, and Rhode Island with scope of work varying based on projects underway in each jurisdiction.	Contract start
Jacques Perrault, Lead Technical Architect	Serves as the Principal Solution Architect providing proposal support for similar solutions for five states, including Nebraska.	Contract start
Shuchi Chawla, Technical Lead	Solution architect providing integration support and documentation for six states today. Tasking can vary based on activity in each respective jurisdiction.	Contract start
Craig Daniels, Testing Lead	Manages our product quality assurance today with varied end-to-end quality test as required in support of state customers such as Kentucky.	Contract start
Karen Gullotti, Training Lead	Supports training curriculum development and technical documentation for four other jurisdictions.	Contract start
Peter Korsland, Conversion/ Migration Lead	Supports driver's license implementation efforts for three other jurisdictions.	Contract start

David Pennetta, Card Manufacturing Lead	Manages manufacturing engineering factory supporting IDEMIA USA nationwide factory infrastructure, including Springfield, where all Nebraska credentials are currently manufactured.	Contract start
Jeff Atwell, Field Maintenance Lead/ Field Support Lead	Provides operational support to the State of Nebraska today and will continue through the curation of this contract.	Contract start
Ann Carrigan, Card Design Lead	Served as design lead for the development and implementation of more than 20 driver's license programs for U.S. and international markets.	Contract start

Section VI. Proposal Requirements Corporate Overview
Summary of Bidder's proposed personnel/management approach

16. The proposed project personnel may not be reassigned, replaced, or added during the project without the prior written consent of the DMV. The Bidder shall agree the Bidder's proposed key project personnel may not be assigned new or additional Contract assignments outside the DMV Contract, without the prior written consent of the DMV. The Bidder shall describe understanding, adherence to, and intent to remain in compliance.

✓ **IDEMIA USA complies.**

IDEMIA USA understands and agrees that our proposed key project personnel will not be assigned new or additional Contract assignments outside the DMV Contract, without the prior written consent of the DMV.

Our team focus is the successful, on time deployment and ongoing support of your program. The assigned Project Manager is your single point of contact for program success. Any concerns regarding this matter can be directed to the Project Manager. Any arising situation will be properly escalated to appropriate parties that include the assigned Business Leader, Senior VP of Programs, CEO, and Legal representatives. We understand the requirement, will adhere to it and it is our intent to remain in compliance.

Section VI. Proposal Requirements Corporate Overview
Summary of Bidder's proposed personnel/management approach

17. Indicate your agreement that the DMV reserves the right to require a change by the Bidder in the project personnel at the Project Administrator's discretion. The Bidder shall describe understanding, adherence to, and intent to remain in compliance.

✓ **IDEMIA USA complies.**

We agree that the DMV reserves the right to require a change by IDEMIA USA in the project personnel at the Project Administrator's discretion.

Our team focus is the successful, on time deployment and ongoing support of your program. The assigned Project Manager is your single point of contact for program success. Any concerns regarding this matter can be directed to the Project Manager. Any arising situation will be properly escalated to appropriate parties that include the assigned Business Leader, Senior VP of Programs, CEO, and Legal representatives. We understand the requirement, will adhere to it and it is our intent to remain in compliance.

Section VI. Proposal Requirements Corporate Overview
Subcontractor information

18. For subcontracted work, provide:

    1. Name, address, and telephone number of the Subcontractor(s);
    2. Narrative description of Subcontractor(s) prior experience;
    3. Specific tasks for each Subcontractor(s);
    4. Percentage of performance hours intended for each Subcontract;

5. Total percentage of Subcontractor(s) performance hours; and
6. Time periods of Subcontractor(s) responsibilities.

✓ **IDEMIA USA complies.**

IDEMIA USA is not proposing subcontractors for this project. Without third party or subcontractors, your program office will have a supplier with complete ownership for the solution. We are uniquely qualified to deploy and support your program without reliance on subcontractors. Our U.S.-based team of trained professionals in the U.S. DL industry are in place today and have full accountability, meaning there will not be any finger pointing to third parties or confusion regarding who owns any issues that may arise. We have the people, products, nationwide support systems and commitment to research and development to provide you with the best solution set available today and during the life of this contract. Figure 4 details the benefits of a single program owner.

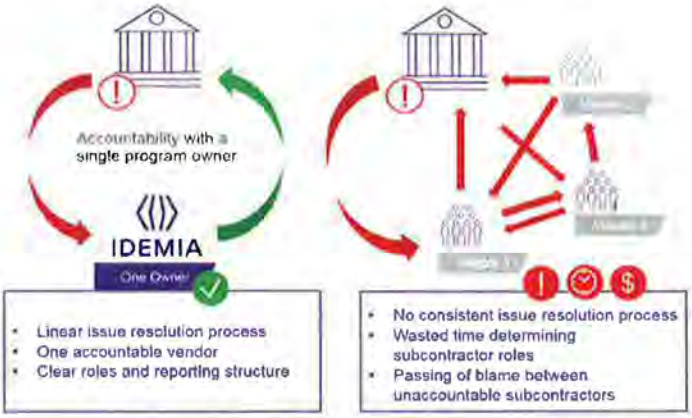


Figure 4: Not reliance on third-party components, we are a single vendor with the experience and confidence to support your team and your implementation

Section VI. Proposal Requirements Corporate Overview
Criminal background checks

19. Indicate your agreement with the provisions outlining requirements for criminal background checks below.

Any employee of the Contractor or subcontractor who will be employed for this project, have access to the buildings occupied by the DMV/Nebraska OCIO or who are involved in the manufacture or production of licenses or cards, or who have the ability to affect information on such licenses or cards shall be subject to a criminal history record information check, including a prior employment references, a lawful status check as required by 6 C.F.R. part 37, and a fingerprint investigation as required by Neb.Rev.Stat. 60-479.01.DMV reserves the right to review criminal background checks conducted on project personnel to uphold the integrity of the project.

The Contractor is responsible for any costs associated with the criminal history record information check and the fingerprint-based state and federal background inquiries. If a fingerprint-based check is required, the DMV will assist with arranging such check. Completion of all other checks are the responsibility of the Contractor. After the contract has been executed, and before any such Contractor's employees are permitted to have access to personal or sensitive personal information or facilities, the Contractor shall submit a list of all persons who will have access to such information and/or facilities to the Director of the DMV or her/his designee. The list shall be kept up-to-date by the Contractor as employees are added to and removed from working on the project in order to manage access to project information and facilities.

✓ **IDEMIA USA complies.**

IDEMIA USA agrees with the provisions outlining requirements for criminal background checks detailed in this RFP requirement.

Section VI. Proposal Requirements Corporate Overview
Personnel security measures

20.	Describe security measures that the Bidder and Subcontractors will take to determine employee suitability to access personal or sensitive personal information and/or facilities, including, but not limited to, employee criminal history record information checks. The description should include how the list shall be kept up-to-date by the Contractor as employees are added to and removed from working on the project in order to manage access to project information and facilities.

✓ **IDEMIA USA complies.**

Before starting employment with IDEMIA USA, all employees must pass thorough background checks, which include criminal, academic, employment, watch list, and financial. In addition, those that work in our central issuance production facilities undergo regular random drug testing. These CI facility employees also receive thorough security training that includes security awareness, "Zero Gap" materials management, and security control procedures.

Upon hire, all employees of IDEMIA USA sign non-disclosure agreements (NDAs) and non-compete agreements. Compliance training for all IDEMIA USA employees is managed via an automated, online system to ensure full distribution of all IDEMIA USA policies, updates, and training. All IDEMIA USA employees are required to read and sign all policies and attend training. Our Human Resources Department conducts a rigorous termination off-boarding process to avoid potential information compromise by the departure of any employee.

In order to manage access to project information and facilities, IDEMIA USA will keep the DMV informed as employees are added to and removed from working on the project. To help maintain security, we use "least privilege" as our base security principle. Least privilege requires that a user be given no more system access than necessary to perform his or her job. Ensuring least privilege requires identifying what the user's job is, determining the minimum set of privileges required to perform that job, and restricting the user to a domain with those privileges—and nothing more. Denying privileges prevents individuals from circumventing the organizational security policy.

TECHNOLOGY REQUIREMENTS

Our proposed CATS solution offers you an **efficient, modern credential and testing solution to handle every element your complex business needs through one vendor.** We will leverage our years of experience as your partner to deliver a tailored solution from the start, providing a smooth transition from award to implementation and beyond. Our understanding of your systems and business practices is unmatched by any other vendor.

Our recent re-architecture for the DMV's "All-in-One" operations illustrates the partnership and technical flexibility we offer. We will work with you to create more efficient processes for delivering exceptional service to the DMV's external and internal customers.

Throughout this contract, we will deliver and maintain **industry-standard hardware and software to provide you with the most innovative, intuitive, and streamlined user experience to handle** the DMV's complex business needs. Our updated solution for the State includes the following components:

Lower Risk in Transition

IDEMIA USA has been the sole provider for DMV knowledge testing solution since 2005 and your skills testing solution since 2016. No other vendor has the intimate knowledge of the DMV systems, operations, external interfaces, and partners. We will offer the same proven and effective team resources to the DMV that have been with you for the last decade. Without losing time due to the learning curve of a new supplier, the DMV will experience the smoothest transition possible to your new CATS solution.

Our solution is developed completely in-house without reliance on third-party components.

- Our re-architected, Web-based front office and back office software—Web Enrollment and Issuance 360 Back Office—for a streamlined, flexible credential issuance system that increases DMV examiner productivity, reduces customer wait times, and improves administrator effectiveness while fighting fraud
- Our newest version of AutoTest software for up-to-date knowledge testing in English, Spanish, and ASL
- Our next-generation RoadTest application for skills testing
- Our award-winning, upgraded 10-year ExianEvident credential that helps safeguard your citizens' identities
- Our highly secure manufacturing process to protect the integrity of Nebraska identity documents

D. Technology Requirements

a. Proposed solution

21. Give a **brief** overview of your technological solution to meet the CATS requirements.

✓ **IDEMIA USA complies.**

To improve the efficiency with which you are able to deliver services and to expand the functions and capabilities of your business, we propose the following:

Front Office – Fast, Efficient Customer Service

Our new browser-based image capture software, called Web Enrollment (Figure 5), accelerates applicant processing with a clean, intuitive, easy-to-use interface that makes it simpler for DMV examiners to do their jobs. The redesigned software limits the number of "clicks" required to move from step to step. Designed with the goal of ease of use and flexibility of deployment, Web Enrollment follows an exception-based workflow, meaning that it automatically proceeds to the next step in the workflow unless something requires a DMV examiner's attention.

Web Enrollment also uses devices such as cameras or scanners effortless, which will help the DMV to leverage their investment in some of their more expensive peripherals.

Figure 5: Web Enrollment—Increasing Examiner and Administrator Productivity

Examiners and administrators will benefit this fresh, modern, intuitive experience.

Integrated Back Office Issuance and Facial Recognition

Our new browser-based back office software, Issuance 360 Back Office (Figure 6 and Figure 7), combines the functions of our Image Server and Facial Recognition software into a single, unified, integrated platform to support back office business requirements. Running on the Microsoft stack, Issuance 360 Back Office's new design makes getting information about a customer, issuance/card production status, and biometric investigation easier than ever. To maximize system availability, reduce downtime for maintenance, and protect data integrity, IDEMIA USA's resilient, high-availability, virtualized solution will run in the DMV's server platform environment.

Figure 6: Issuance 360 Back Office Administrator Tools

The DMV administrator's productivity will improve with this simplified, intuitive suite of tools that focus on the person, not the transaction.

Figure 7: Issuance 360 Back Office strengthens Nebraska's credentials with innovative investigative tools

Knowledge Testing

More than 20 states, including Nebraska, use IDEMIA USA's knowledge testing solution, AutoTest. AutoTest provides examiners, administrators, and test takers with an intuitive user interface and high-quality graphics, which present a non-threatening testing solution that is easy to use, even for first-time or novice PC users. Figure 8 shows a sample screenshot of a Test Station test question shown to the customer.

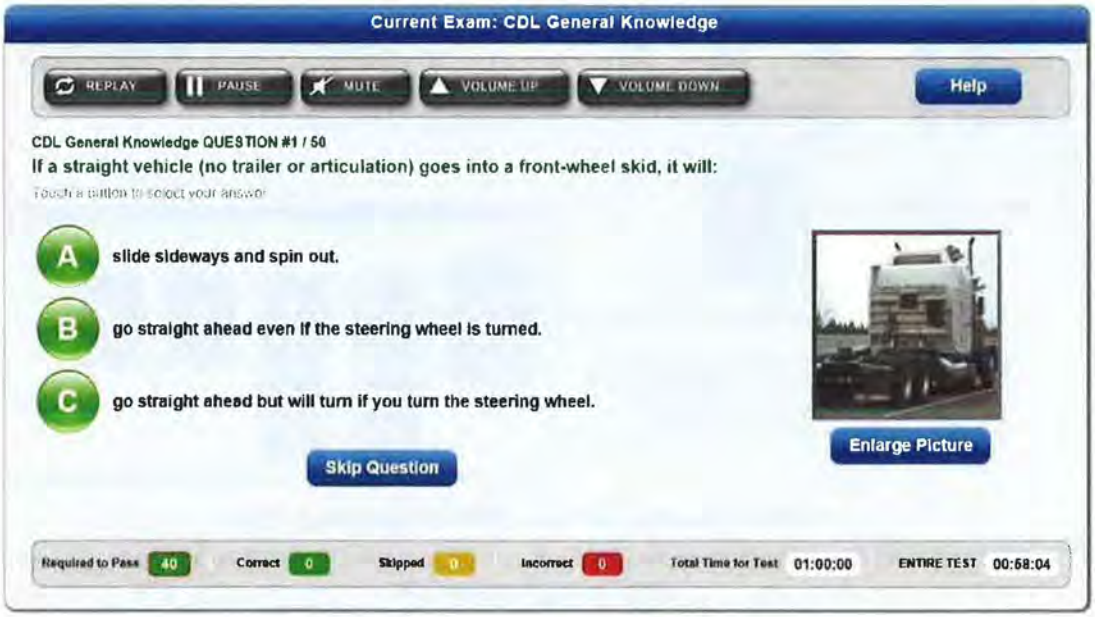


Figure 8: AutoTest Test Station – User Interface

AutoTest Test Station's intuitive touchscreen interface makes test taking easy and efficient.

AutoTest comes pre-loaded with the Federal Motor Carrier Safety Administration (FMCSA) pre-approved pool of over 600 test questions to develop knowledge tests for each Commercial Driver's License (CDL) vehicle group and endorsement. The FMCSA item bank includes audio narration and a complete set of picture graphics for all test

items, which have been vetted and approved by multiple jurisdictions. As standard practice, we monitor all new requirements and question content published by FMCSA, and we provide free updates to these items for both AutoTest and RoadTest to all customers with current software support agreements. The same applies to the Motorcycle Safety Foundation (MSF) recommended question database. Assuming there are no or few changes to the current item bank, the State's pool of questions, answers, distractors, and languages from your current item bank can be reused and simply transferred into the modernized platform.

Skills Testing

Our new next-generation skills testing solution, RoadTest, builds on the success of the current product already installed in Nebraska. Because we have maintained a very similar look and feel, your skills examiners will be able to use the new solution with a minimal learning curve. Improved functionality speeds up data entry and distributes new route maps more effectively. The latest version of RoadTest supports many new feature options that the DMV may enjoy, including:

- Refined Examiner interface that eliminates the need for examiners to scroll through lengthy CDL forms
- "Find My Device" function to view the location of all configured tablets on a map, which enhances examiner safety when unexpected, significant delays occur and helps to combat potential fraud
- GEO-FENCE (Figure 9), which allows the skills test administrator to create an adjustable box around a designated test area; anytime a tablet goes outside of the boundaries, GEO-FENCE will send an automatic email notification to the DMV administrator

Figure 9: GEO-FENCE established around perimeter of all skill test routes for one office location

AutoTest and RoadTest are designed to exceed the strict requirements of the FMCSA and the American Association of Motor Vehicle Administrators (AAMVA) for CDL testing. Our customers have always received high marks from FMCSA in their CDL audits.

Highly Reliable Credential

Expert Card Design

Our card solution for central issuance (CI) production will include an AAMVA 2016-compliant security design that incorporates the DMV's preferred security features. The security designs include many linked and layered features that resist counterfeiting, data alteration, document duplication, image substitution, tampering, and cannibalization.

Our Billerica, MA-based Card Design Team is experienced in designing cards, formats, and layouts that incorporate secure card body materials with a strong suite of card security features in AAMVA-compliant designs. **No other vendor has as much U.S.-specific document design experience.** Our team is trained on the latest security design techniques and software. We have selected security features from AAMVA's latest 2016 Card Security Design Standard, Annex C, that exceed current AAMVA security feature requirements as well as DHS REAL ID card security requirements. Our proposed suite of card security features will provide the DMV and Nebraska citizens with a fully compliant and highly secure credential. The design will incorporate State-specific artwork and embedded Digital Watermark containing a payload of information that cross-references data on the card, making it very difficult to counterfeit.

High-quality, tamper-proof, 10-year credential

We propose our ExianEvident card, a Teslin color credential solution that lasts for at least 10 years of normal use, ensuring cards remain intact and usable and no customer images, signatures, and data deteriorate, smudge, fade, or discolor. Teslin cards are tested by independent laboratories for durability per International Committee for Information Technology Standards (INCITS) 322:2016. **Teslin cards currently are delivered in 33 U.S. DL/ID programs to 69% of the U.S. population and have proven durability of 10 years or more in actual use.**

Our Teslin card body (shown in Figure 10) is fused and bonded without the use of adhesives. Eliminating adhesives in card construction creates a highly secure card structure that resists attack and shows positive evidence of tampering if alteration is attempted. If someone attempts deliberate misuse, the evidence of tampering compromises the card—in effect, the card becomes useless. The nature of our manufacturing process makes it a credential of high integrity that helps to protect Nebraskans' identities—difficult to make, difficult to fake!

Figure 10: High-quality, tamper-proof, 10-year credential protects the identity of the driver

Secure Credential Production

Card production will take place at our Springfield, IL factory with failover disaster recovery at our production facility in Sacramento, CA.

Issuance 360 Back Office securely communicates with our factories to deliver encrypted card production requests. Each of our CI facilities is audited and recertified annually by North American Security Products Organization (NASPO), a standards organization for ensuring the proper handling, storage, and transport of secure credential materials. In addition, all of our credential production facilities are International Standards Organization (ISO) 14298 certified. We also maintain American Institute of Certified Public Accountants (AICPA) SOC 2 Type 2 compliance. Our mission is to ensure successful, uncompromised delivery of your secure information and documents.

We look forward to continuing our long-standing partnership with the DMV and providing you with the strongest solution for Nebraska today and in the future.

D. Technology Requirements

a. Proposed solution

22. Hardware and software architecture:

    a. Describe the hardware and software architecture and requirements of the proposed solution.
    b. Provide hardware and software architecture diagrams.
    c. Provide basic hardware, systems software (operating systems licenses, auxiliary or support systems software, etc.), and disk storage space requirements necessary to meet or exceed the minimum requirements represented in this RFP.
    d. Describe the software needed at the DMV to implement the system.

✓ **IDEMIA USA complies.**

To ensure seamless integration within the DMV and across your stakeholder systems now and the flexibility to support your needs far into the future, our products have tightly integrated front and back office functionality designed to work together as a single solution with a streamlined architecture—not disparate products cobbled together.

a. *Describe the hardware and software architecture and requirements of the proposed solution.*

Front Office

Shown in Figure 11, our proposed capture stations include all hardware and software required to effectively and efficiently capture images and data necessary to produce a credential. Our browser based capture software, Web Enrollment, runs on industry standard PCs with the Windows 10 operating system and supports Chrome, Internet Explorer, and Firefox browsers. Each workstation communicates to the central server via a secure virtual private network (VPN) over the State network. Like the image capture workstations, the proposed knowledge test station runs on industry standard PCs with the Windows 10 operating system and supports Chrome, Internet Explorer, and Firefox browsers. Because it is the best tool for the job, we propose the same skills test tablet that you use today.

Figure 11: We offer you a complete enrollment front office solution using industry-standard devices and software

Back Office: High-Availability, Load-Balancing, and Disaster Recovery Architecture

IDEMIA USA has delivered complete end-to-end identity solutions to more than 40 states, including Nebraska, and has implemented some of the largest and most complex systems for enrolling applicants, collecting biometrics, issuing identification documents, and managing confidential demographic information.

Issuance 360 Back Office—our central image server—leverages our expertise and innovation in identity issuance workflows, architectures, data management, and systems integration that we have gained through our history of delivering innovative solutions for citizen identities. Issuance 360 Back Office stores customer images, signatures, demographic data, and issuance history in a highly available, encrypted database. All customer PII is secured at rest as well as in transit through multiple layers of encryption and controlled access.

Issuance 360 Back Office is designed specifically for state DL/ID issuers to provide a secure, highly available, configurable, and REAL ID-compliant repository that enables storage, tracking, and retrieval of DL/ID images. Industry-standard computer and database security is enforced for access to the servers. A rich set of standard user access levels are pre-defined and can be customized, and Issuance 360 Back Office user security is based on a hierarchical system of roles, groups, and users.

As a core part of our solution for secure enrollment, Issuance 360 Back Office integrates tightly with Web Enrollment (our front office capture software) and the Factory Management System (FMS) and easily scales to meet the DMV's needs as they expand over time. Once a transaction is initiated, Issuance 360 Back Office maintains the current status of all cards and batches throughout the issuance process. To prevent fraud and enforce business rules, it runs cards through one or more preset "gates" used to qualify the applicant, before sending the cards for production. One common gate is a biometric identification—or facial recognition—gate, where the portrait is run through Issuance 360 Back Office's Biometric Identification subsystem for enrollment and identification. Only if an applicant's record passes this step will the record be sent to the factory for production.

Once approved through the configured "gates," the transaction is added to the job that is sent over the VPN to the manufacturing facility. Jobs containing document transactions for permanent document production and delivery are sent through the FMS, which can divert transactions to the secondary factory if required. Production results are received from the factory and forwarded to the State system of record, NDLIS, to complete final processing.

Issuance 360 Back Office is split into Web interface (external), application, and data layers. Components within each layer are redundant and run on their own virtual machines (VMs). Transactions between the layers are stateless, allowing true load balancing and scalability. If load increases over time, additional VMs can be brought online to maintain system performance.

Figure 12 shows the architecture of the Issuance Manager component of our Issuance 360 Back Office solution and how it integrates with the overall solution.

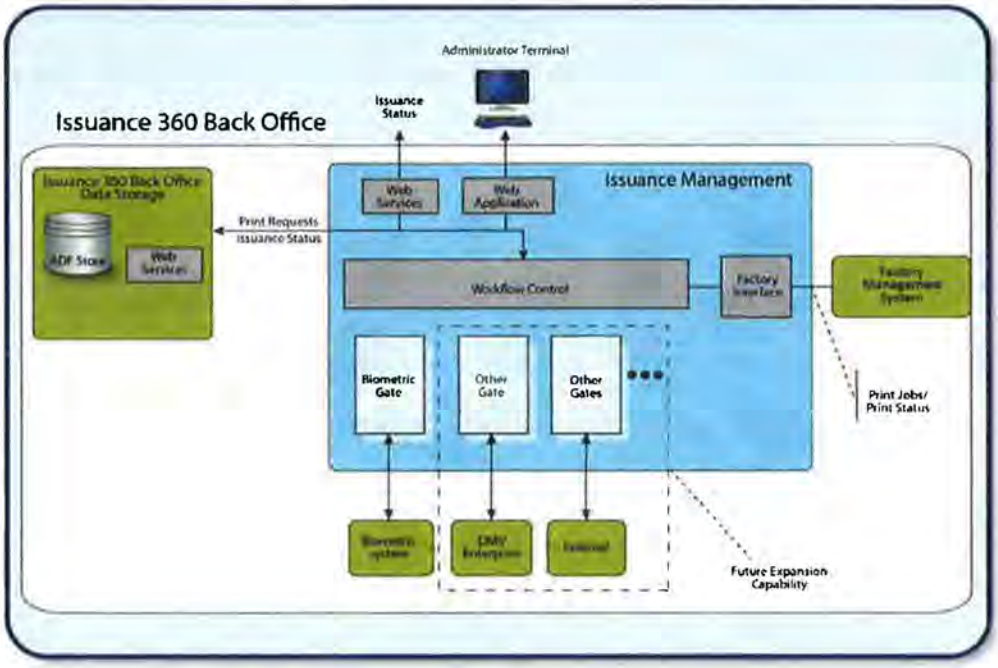


Figure 12: Issuance Manager Solution and Architecture

Issuance 360 Back Office provides integration between key system components and allows for configurable issuance gates.

Issuance 360 Back Office's high-availability configuration eliminates downtime and service interruption due to server platform failures, providing data and images when you need them. In order to maximize system availability, we recommend our Issuance 360 Back Office configuration featuring both a high availability and a geographically dispersed disaster recovery configuration.

For high availability, we recommend that multiple VMs for each function (Web and application) are load balanced using redundant hardware switches at the DMV's primary data center. Hardware-based load balancing provides better efficiency over general software-based load balancing.

The proposed architecture guards against any single point of failure in the hardware and software platforms in Issuance 360 Back Office. In the event of a failure on one of the Web or application nodes in the cluster, the other node(s) will continue to take on the entire production load with no interruption until the failed node is replaced or repaired. The Microsoft SQL database server uses the product's built-in availability group capability to distribute the load and provide fault tolerance at the database layer. Furthermore, the Uptime Monitoring system employed in our data center implementations allows for proactive, agent-less monitoring, alerting, and availability/uptime reporting about server operations. **Your system always will be up and running without service interruption.**

The server detail architecture diagram (shown in Figure 13) shows the highly redundant, high-availability, load-balanced, and failover-enabled configuration of the Issuance 360 Back Office server.

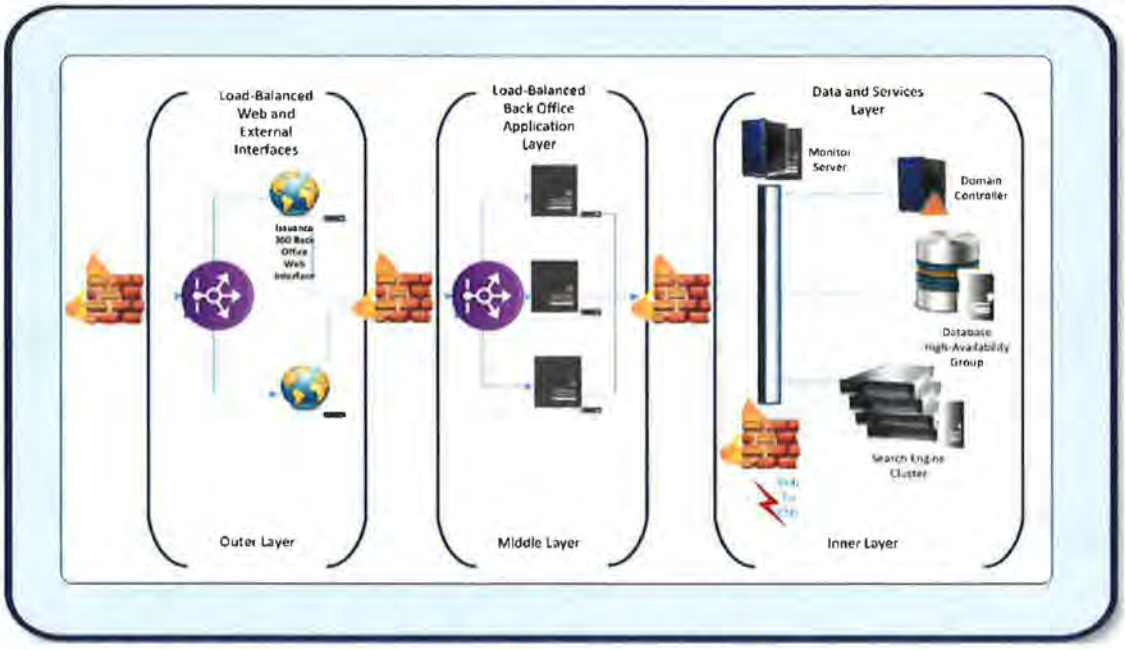


Figure 13: High-availability and Disaster Recovery Virtual Server Configuration (logical view)

With no single point of failure, CATS will be up and running no matter what without service interruption.

Secure Application Architecture

IDEMIA USA follows the highest standards of security to protect all individual personally identifiable information (PII). We adhere to stringent policies and measures to protect the private information of applicants we serve in Nebraska and in all our state and federal programs. We will not knowingly disclose or share PII for any reason.

The three-tier architecture of Web Enrollment and Issuance 360 Back Office secures all communication between system components having both encryption and authorization associated with them. Server-to-server (or service-to-service) security is achieved using the WS-Security Protocol, providing at a minimum transport-level encryption as well as user/machine authorization and additional message-level encryption, as appropriate. All communication between any parts of our system is secured as a minimum with HTTPS using a Transport Layer Security (TLS) transport. Our strong preference is Advanced Encryption Standard (AES).

b. Provide hardware and software architecture diagrams.

Figure 14 and Figure 15 show the hardware and software architecture of the proposed solution.

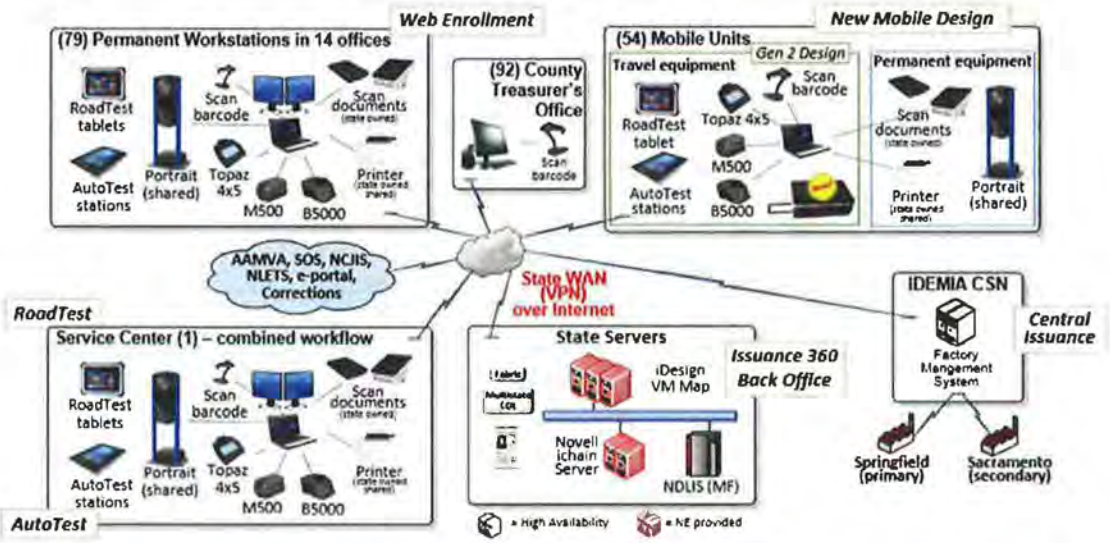


Figure 14: High-Level Overview of Secure Nebraska CATS Hardware Architecture

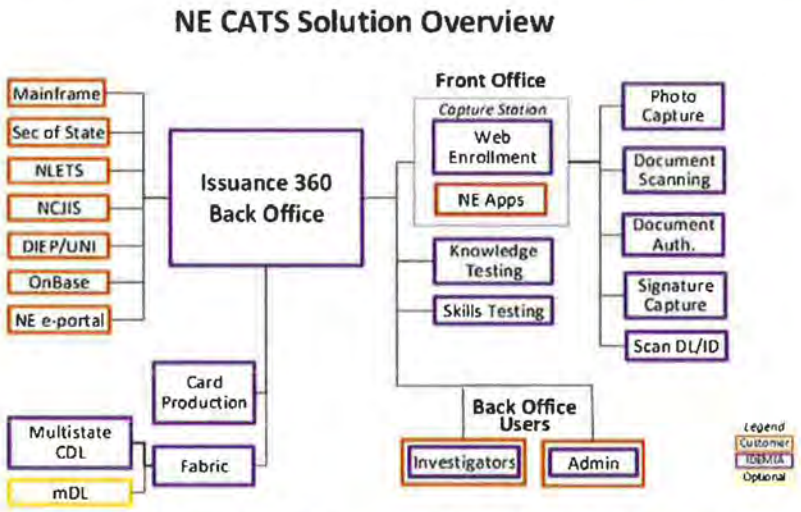


Figure 15: High-Level Overview of the Software Architecture

c. *Provide basic hardware, systems software (operating systems licenses, auxiliary or support systems software, etc.), and disk storage space requirements necessary to meet or exceed the minimum requirements represented in this RFP.*

d. *Describe the software needed at the DMV to implement the system.*

The State server environment is well suited to host our Issuance 360 Back Office server environment with minimal additional software required, which IDEMIA USA will provide. Assuming the State is responsible for complete system and VM backup, Table 8 lists the proposed hardware and software for each major system component.

Table 8: Proposed Hardware and Software for System Components

System Component	Software Requirements
	Front Office
Web Enrollment	Windows 10

	Chrome, Internet Explorer, Firefox browser SQL Express – local storage prior to upload Zabbix – predictive workstations monitoring Windows Server CALs – for server access Antivirus (State-provided)
	Testing
Knowledge Test	AutoTest version 9.1.1 Windows 10 Chrome, Internet Explorer, Firefox browser Zabbix – predictive workstations monitoring Windows Server CALs – for server access Antivirus (State-provided)
Skills Testing	RoadTest version 5 Windows 10 Windows Server CALs – for server access Antivirus (State-provided)
	Back Office
Back Office Server	Issuance 360 Back Office Windows Server 2016 SQL Server 2016 Enterprise Edition (configured using Always On) Oracle Linux for facial recognition search engine Kiwi Log Server for application logging
Back Office Administrators & investigators	Windows 10 Chrome, Internet Explorer, Firefox browser Windows Server CALs – for server access

Figure 16 summarizes the VM configuration requirements to support our Issuance 360 Back Office solution.

Primary VMs		Storage Totals Includes UAT
Active VMs:	35 VMs	46691 GB (Total)
CPU Cores:	201 vCPUs	10919 GB (Fast)
RAM:	1008 GB	15630 GB (Medium)
Storage Location:	SAN	20143 GB (Slow)
Networking:	All 10GB Ethernet	

Disaster Recovery VMs		Storage Totals
Active VMs:	19 VMs	29102 GB (Total)
CPU Cores:	106 vCPUs	7937 GB (Fast)
RAM:	584 GB	11163 GB (Medium)
Storage Location:	SAN	10002 GB (Slow)
Networking:	All 10GB Ethernet	

UAT & Staging VMs		Storage Totals
Active VMs:	12 VMs	8359 GB (Total)
CPU Cores:	24 vCPUs	0 GB (Fast)
RAM:	108 GB	2649 GB (Medium)
Storage Location:	SAN	5710 GB (Slow)
Networking:	All 10GB Ethernet	

Figure 16: VM Configuration Requirements

We will work closely with the DMV and the Office of the State Chief Information Officer (OCIO) to achieve a smooth, timely implementation in your environment.

D. Technology Requirements

b. State environment

23. Describe how the proposed solution will utilize OCIO enterprise environment including virtual machine, SAN, and state WAN/LAN.

    a. Describe how your solution will use the IP network and how all servers will have fixed IP addresses.
    b. Describe how your solution will use the State of Nebraska communications network.
    c. Describe minimum and optimal bandwidth required for the proposed solution to perform.
    d. Describe any deficiencies the Bidder identifies between the minimum bandwidth and available bandwidth for optimal performance of the solution being proposed.
    e. Describe how the proposed solution can be configured to operate within the provided bandwidth and the impact to operations.
    f. Describe how end user hardware will be enabled to access the State of Nebraska network through both wireless and wired connectivity.

✓ **IDEMIA USA complies.**

a. Describe how your solution will use the IP network and how all servers will have fixed IP addresses.

As we do today, IDEMIA USA will have its own domain within the State's domain. We assume that the State will provide us a pool of static IP addresses to be allocated for our use. We will assign those addresses to our VMs and remote devices.

b. Describe how your solution will use the State of Nebraska communications network.

For intra-server communications, we will use our own domain over the State's backbone and a VPN over the State's Wide Area Network (WAN) to and from remote devices and our customer support network.

c. Describe minimum and optimal bandwidth required for the proposed solution to perform.

Our solution is fully browser-based, requiring a minimum of T1 or 1.544 MB/S connection between the DMV office location and main data center. However, for optimal performance, we recommend 10MB/s from the physical location to the central IT data center where the application is hosted. We have created a solution that supports a "data relay" capability, which can monitor bandwidth throughout the day and can prioritize the upload of larger data transfers based on network availability.

d. Describe any deficiencies the Bidder identifies between the minimum bandwidth and available bandwidth for optimal performance of the solution being proposed.

We recommend that any locations that consistently experience greater that 80% utilization should consider increasing bandwidth or adding lines, as response time and time to upload records could be affected.

e. Describe how the proposed solution can be configured to operate within the provided bandwidth and the impact to operations.

We can configure compression of images within records and can upload large records at a lower priority. For most DMV offices, we do not see this as an issue.

f. Describe how end user hardware will be enabled to access the State of Nebraska network through both wireless and wired connectivity.

Generally speaking, permanent and portable capture stations and knowledge testing units in DMV offices will connect to the State network via wired Ethernet. Knowledge testing units in non-DMV locations and skills testing devices will connect to the State network via Wi-Fi.

D. Technology Requirements

b. State environment

24. Describe how your solution will accommodate the State of Nebraska's use of Microsoft technology as a foundation for its applications.

    a. Describe how you will keep up-to-date with the State of Nebraska's current version of the Microsoft application.
    b. How are updates, patches, etc., accomplished (e.g., on web-based it would be remote)? In what cases would updates require personal, in-person intervention?
    c. Describe your plan for ensuring the latest version of product(s) that will comprise CATS be made available and be installed.

✓ **IDEMIA USA complies.**

a. Describe how you will keep up-to-date with the State of Nebraska's current version of the Microsoft application.

The most important element to keeping up-to-date with the State's current version of Microsoft software is communication: strong, effective communication ensures success. Changes are managed by our Change Control Board in cooperation with the DMV's IT governance leads, especially when they are security-related. Major upgrades often require planning and coordination between both parties. This may include quality assurance, stress testing, and changes to our applications. Strong communication guarantees that neither the State nor IDEMIA USA will be surprised by version-related system failures on any given Monday morning. The newer architecture of Issuance 360 Back Office facilitates easier SQL migration and version-to-version support.

b. How are updates, patches, etc., accomplished (e.g., on web-based it would be remote)? In what cases would updates require personal, in-person intervention?

Our software releases will be tested, released, and deployed for State use. These updates and patches are handled remotely. All software releases—whether issue resolutions, security patches, third-party software updates, change requests, or enhancements—will follow the process described in item c. below.

During patching/maintenance activities, we request contact information of someone who can assist remotely or facilitate in-person intervention if we encounter an unlikely hardware failure during maintenance process or if one of the servers doesn't boot up properly after patching.

c. Describe your plan for ensuring the latest version of product(s) that will comprise CATS be made available and be installed.

For the CATS software, we will make latest version of the products in a dot release (i.e., version 0.x; minor enhancements and defect fixes) available to customers to upgrade and install during the course of the program term, if desired. In the case of major software product releases (i.e., version x.0) or facial recognition algorithm changes in the search engine that requires template re-enrollment, additional labor and support would be required and negotiated as a change order.

D. Technology Requirements

b. State environment

25. How will your solution use the State of Nebraska Active Directory for single sign-on to CATS?

✓ **IDEMIA USA complies.**

For single sign-on into CATS, our solutions make extensive use of Active Directory. As we do for the DMV today, our deployment and support models require our own domain. The new solution's Active Directory integration uses Lightweight Directory Access Protocol over SSL (LDAPS). It can be configured to use LDAP if LDAPS is not supported. Groups can be configured in the DMV's Active Directory to direct levels of access within Issuance 360 Back Office, or all authorization can be performed within the application and the DMV's Active Directory can be used for user authentication only. The precise groups, roles, and permissions matrix for the DMV will be customized during the configuration meetings that take place after Contract award.

D. Technology Requirements

c. Roles

26. Describe how your solution will support role-based permissions. Describe how your solution supports persons with more than one role.

✓ **IDEMIA USA complies.**

Role-based authentication for DMV examiners, supervisors, and administrators integrates with your existing Active Directory implementation. For front office users assigned to more than one role, the sum of all their distinct Active Directory access permissions determines what functionalities they can perform within the application. In the back office, Active Directory authenticates login credentials. Additional roles are configured at a granular level within the application administration. Because of the large number of individual permission settings, we will work with you during the design phase of the project to configure a set of system groups that consolidate the permissions needed to perform specific tasks.

D. Technology Requirements

c. Roles

27. Describe how your solution will support the development of additional user roles.

✓ **IDEMIA USA complies.**

DMV-facing tools support 10 or more levels of access and visibility, which supports a broad spectrum of DMV stakeholders. Administrators can configure users, groups, and roles via the Administration module (as shown in Figure 17), which provides an intuitive user interface that makes it easy for the DMV to administer and maintain. Issuance 360 Back Office supports role-based access and security features that limit search criteria, data visibility, and access to specific solution functions such as facial recognition.

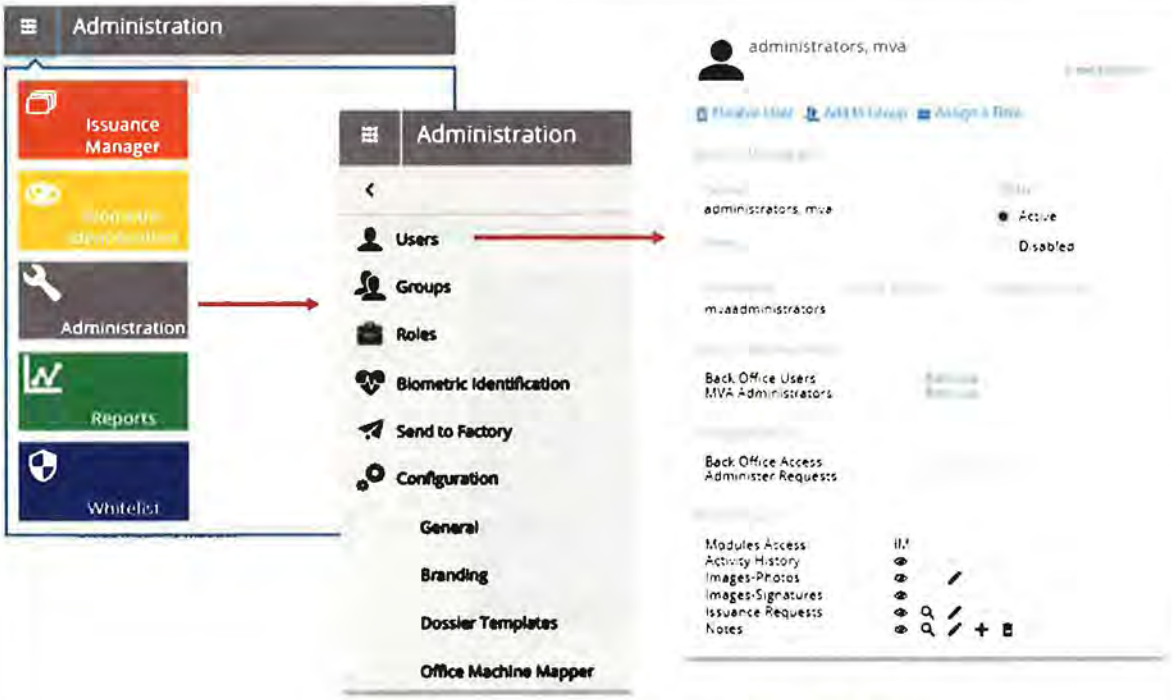


Figure 17: Back Office Administration – User Roles

Granular levels of security protect Nebraska residents' information.

D. Technology Requirements d. Web-based	
28.	Describe how your solution comports with the requirement that the product be web-based and how you will ensure it is an evergreen version of browsers. If an evergreen version is not offered, identify which browsers are compatible and supported.

✓ **IDEMIA USA complies.**

AutoTest, Web Enrollment, and Issuance 360 Back Office are all Web-based, modern browsers. We recommend Chrome (for which we support the latest version) and Internet Explorer 11. Additional browser support is included on our product roadmap. We understand the State's desire to stay up-to-date, and our product development team includes browser update testing for new versions. Some browsers such Google Chrome have frequent updates. We test every update as soon as it is available and know within 24-48 hours in our environment whether a browser update has introduced any issues. We will make a best effort to have a fix within 24-48 hours if needed. To prevent any interruptions in service, we recommend that any browser update be tested before being widely deployed.

D. Technology Requirements d. Web-based	
29.	Please include how portable workstations and wireless units will connect to IP addresses when employees work in multiple locations.

✓ **IDEMIA USA complies.**

As we do today, we will supply the DMV with a Site-Selector tool for your traveling devices. Upon start-up, the site selector looks at the computer name, which varies as the device travels to different locations. It will load a configuration file automatically and present a menu from which the DMV examiner will update the current location (as shown in Figure 18). Currently, the tool used for portable capture stations and AutoTest and RoadTest units differs. The new solution will unify the user interface so the look and feel as well as the DMV examiner interaction is the same across our suite of products.

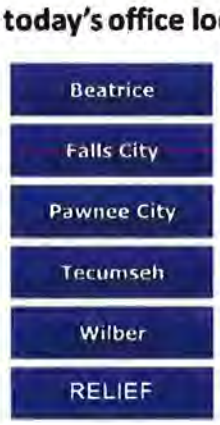


Figure 18: Site-Selector Tool for Traveling Devices

D. Technology Requirements

e. Real time

30. Describe how your solution meets the requirement of real time operations.

✓ **IDEMIA USA complies.**

Our solution for the DMV operates in real time. Once an applicant has completed capture, Web Enrollment immediately uploads the record to Issuance 360 Back Office for storage. It then will forward scanned documents to the State's Enterprise Content Management (ECM), Hyland OnBase, via an application programing interface (API) and will enroll the photo in the facial recognition system automatically. Current business practices dictate that a batch 1:Many facial recognition test is performed nightly after NDLIS releases records for production. If those practices change and, specifically, an applicant has cleared AAMVA checks at the point where capture completes, 1:Many facial recognition checks can be configured to happen in real time as well.

D. Technology Requirements

f. Remote auditing

31. Describe how your solution will supply a reporting mechanism to remotely audit the software and hardware configuration of workstations attached to CATS.

✓+ **IDEMIA USA complies and exceeds.**

IDEMIA USA provides distributed monitoring in real time with centralized Web administration. It allows our support staff to see the health status of all hardware and software on the DMV's network. We use two third-party solutions:

- UpTime Software (to monitor servers)
- Zabbix (to monitor workstations)

All data is consolidated into UpTime's robust reporting suite and dashboard (see Figure 19) and is accessible by the entire support team at all times. This central view allows us to be well-coordinated and extremely responsive

when time is critical. **These preventative measures come at no additional cost to the State and are used by experienced IDEMIA USA support staff only with nothing outsourced.**

Figure 19: Uptime Dashboard for Complete Visibility

Our solution highlights trouble-making applications, making them easily identifiable so users can head off application issues proactively with deep-capacity planning.

Additionally, Issuance 360 Back Office provides proactive application layer monitoring. The system runs regular status health checks of various parts of the system. When error conditions or configurable thresholds exceed acceptable levels, the system automatically sends an email to the State support team to notify them of a potential problem, such as issues with:

- Connectivity status
- Stuck records
- Response time
- Tracking and reporting of repeated errors

The best service is no service. Our goal is detect and correct potential issues before they become your problems.

D. Technology Requirements
g. Location

32. Describe the location where the development of the solution will occur. The DMV requires all data to be stored within the computer environment hosted by the State of Nebraska. The DMV requires that the development and maintenance of applications for the DMV be performed within the United States.

✓ **IDEMIA USA complies.**

Development and maintenance for the DMV's solution will be performed at IDEMIA USA locations across the United States, including Massachusetts, Indiana, Illinois, and California. All production and test data will be stored on DMV-hosted servers in the State of Nebraska.

D. Technology Requirements
g. Location

33. Identify the location of credential production and identify the number of years the production facility has been operational. Factory production of documents shall remain within the United States. Describe how transmitted data will be secured.

✓ **IDEMIA USA complies.**

Credential Production Location

We will produce Nebraska credentials in Springfield, IL with failover to a secondary disaster recovery production system in Sacramento, CA. The Springfield, IL factory location began production operations in 2015. It meets all REAL ID security requirements and is ANSI/NASPO Class I Certified. In addition, this factory is ISO 14298-certified and SOC 2 Type II-compliant, which means we are audited by an independent third party for security. **No other vendor encompasses all of these certifications and compliances together, meaning that our factories are the most secure locations for Nebraska's credential production.**

Transmitted Data Security

Our Central Issuance (CI) facilities operate under maximum security and protection of your residents' PII. All of our CI premises—including the Springfield and Sacramento locations—are highly secure, NASPO-certified facilities and are protected from security risks in both the virtual and the physical environment. All data that is temporarily processed within the CI facility is protected using encryption standards such as AES 256-bit key, which adds an additional layer of safeguarding for PII. All data at rest and in motion is encrypted.

In addition, our CI facilities always removes all card data after the cards have been produced, quality assured, and mailed; this removal process ensures that no PII for completed cards remains in the factory. Workstations within the factory do not even have USB ports accessible so no temporarily residing data can be secretly removed by memory sticks (thumb drives) or other such digital recording/storage devices.

For workstation security, we propose Windows 10 and Trusted Platform Module 2.0 to support BitLocker whole-disk encryption that the State may use to further protect PII at the front end of the issuance system. These PII protection mechanisms used by our FMS system are depicted in Figure 20.

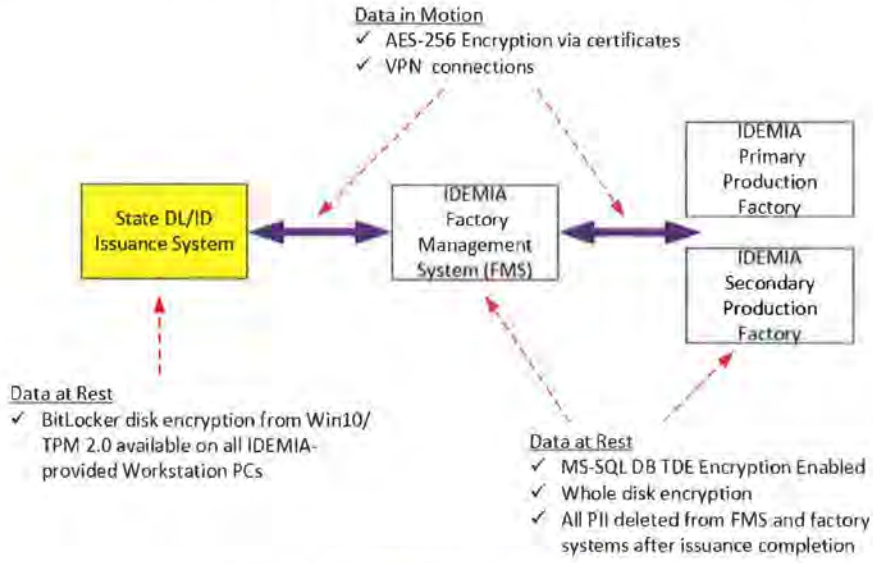


Figure 20: FMS PII Data Encryption

Protecting the PII of the residents of Nebraska is the highest priority for your CATS program. Our solution protects your residents' PII at multiple levels.

E. Users, Units, and Peripherals

a. Specified units

34. Describe the hardware, software, and peripherals you will provide.

a) Indicate how your solution will diverge from the hardware/software requirements described in Section V. Project Description and Scope of Work, E. Number of Users, Units and Peripherals, 1. Table 3 *Number of Users, Units, and Peripherals* and b) describe your rationale for divergence.

✓+ IDEMIA USA complies and exceeds

IDEMIA USA will supply the desired quantity for each item stated in Section V. Project Description and Scope of Work, E. Number of Users, Units and Peripherals, 1. Table 3 *Number of Users, Units, and Peripherals* (shown in Table 9) and will locate the spare inventory in an agreed upon location to be specified prior to rollout.

Table 9: Nebraska RFP Table 3

Table 3. Number of Users, Units, and Peripherals

Hardware	Examining Staff	Home Office Staff	DMV Trainers/IT Staff	CDL Third Party Testers	Spare Inventory	Total
Permanent WorkStation*	79	1	2		10	**92**
Portable Workstation**	54		1		10	**65**
Camera	148	1	2		10	**161**
Backdrops	148	1	2		10	**161**
Knowledge Test Tablets***	153		1		10	**164**
Skills Test Tablets****	85		6	65	10	**166**

The following describes the hardware, software, and peripherals we will provide.

1. Cameras and Backdrops: Permanent and Portable Workstations (total quantity = 161)

The IDEMIA USA Camera Tower is a professional-grade, solid-state digital color camera in attractive packaging that assures clear and consistent portrait colors. Featuring an image capture of over 18 megapixels, autofocus, and standard red, green, and blue (sRGB) color system, applicant photos will exceed all requirements for accurate reproduction of a digital image and credential production.

It features a software-driven autofocus lens system that centers on the customer's face and provides automatic readjustment as the customer shifts. Once calibrated during installation, there is no need for the examiner to manually adjust the camera; the software makes all adjustments. This excellent capture capability is provided by the software-driven auto-focus functionality that is built upon the camera's contrast detection system. It has an automated focusing range of 7.9 inches to infinity. This functionality:

- Completely eliminates any need for manual adjustments with the height or the angle of the camera, which speeds up applicant processing and prevents unnecessary wear and tear on the equipment
- Captures the image of an applicant who is either standing or sitting, as in a wheelchair
- Makes it unnecessary for camera examiners to manipulate or adjust the camera tower; an examiner touches a key on the keyboard or clicks a mouse to capture the image

The camera tower connects to the workstation via a single standard Universal Serial Bus (USB) 2.0 interface and can be "hot swapped" in the event of failure. Its integrated flash strobe and digital camera enable ideal lighting and consistent portraits regardless of the physical environment. The flash bulb itself lasts 20 times longer than those found in standard cameras used in other units, making the Camera Tower nearly maintenance free.

We manufacture our Camera Tower with two different sized bases, shown in Figure 21. The small base camera (right image) is a fully mounted camera solution with an 11"x10" base, which should be securely screwed to a counter to prevent theft and movement. We recommend use of this smaller base camera for your permanent offices. The large base camera is best suited for environments where mounting the camera to a counter or permanent location is not feasible. The larger base provides greater stability for the camera. We recommend its use in your portable offices. As part of the design phase of the project, we will work with you to review camera options and configure a mix that best suits your needs.

Figure 21: IDEMIA USA Camera Towers Fit Your Needs

Our Camera Tower is available with a large base (left) and small base (right) to suit different needs while delivering the same high-quality photos.

We will provide backdrops that meet all AAMVA standards. The proposed backdrop will be a consistent blue color throughout with no need for calibration strips or any special considerations, thus optimizing the performance of our Camera Tower by providing a contrast to the face and hair. Our light blue backdrops are used in over 40 DMV jurisdictions in the U.S. They can be mounted to the wall, suspended from the ceiling, or operated from stands, depending on individual site requirements. Portable backdrops for our mobile image capture solution (shown in Figure 22) operate from provided stands and are stored in a zippered nylon bag similar to an arrow quiver.

Figure 22: The freestanding portable backdrop rolls up and fits into a handy carrying case

We will provide 161 cameras and backdrops for the permanent and portable workstations, as specified in RFP section V.E.1, table 3.

Web Enrollment provides significantly more flexibility to share cameras (without primary/secondary setup) and other devices. Because how and where cameras will be shared can vary, we will work with you during the design phase of the project to review the placement and sharing of cameras within your offices to optimize use of equipment and office space. Correspondingly, we also will work with you to address the type of backdrops required at each location (freestanding or hanging) and their respective placement in the office.

Table 10 provides more detailed information relevant to individual line-level requirements listed in Section V. Project Description and Scope of Work, F. Workstation Description

Table 10: Camera and Backdrop Hardware

Camera and Backdrop	
Hardware	
Camera	IDEMIA USA Camera Tower
Backdrops	Ceiling hung and free-standing IDEMIA USA backdrops (blue)

2. Permanent Workstations (total quantity = 92)

We will provide permanent workstations accessible to authorized DMV examining staff in all DMV offices across the State. These permanent workstations will include all hardware, peripherals, and software necessary to fulfill requirements of this RFP, will be capable of accessing DMV-networked drives, and will be able to authenticate the network through physical and wireless connections.

Figure 23 shows the permanent workstation followed by a description of its components.

Figure 23: Permanent Workstation Setup

- HP ProBook 650 G4 slim design Intel i5 laptop (internal speakers included) with a 15.6" Full High Definition (FHD) display, 8GB of RAM, and 256GB PCIe of SSD storage
- IDEMIA USA 18-megapixel digital Single-Lens Reflex (SLR) software-driven autofocus camera for high-quality photo capture in 2-3 seconds
- Honeywell 1900 bar code scanner to read the barcode on DL/IDs presented for renewal
- Topaz SignatureGem 4"x5" live signature pad for signature capture and interactions with the customer
- IDEMIA USA B5000 authentication device for scanning and authenticating ID-2 or ID-3 sized documents such as passports under white, infrared, and ultraviolet (UV) light sources; it quickly unlocks the chip inside the document and validates its data against the data on the face of the passport to present a valid credential, which helps to fight fraud and protect the integrity of Nebraskans' credentials.
- M500 authentication device quickly scans and authenticates the front and back of a driver's license-sized credential, validating the contents of the card's enhanced security features including the Digital Watermark—in most cases, in under 2 seconds! This speeds up the workflow for the examiner while ensuring that the most common identity document is legitimate
- Dual HP Elite Display E223 micro edge, LED backlit, full high density, flicker-free, anti-glare displays

We will provide permanent workstations to Examining Staff who may or may not act as Issuance Agents at permanent locations placed in all DMV offices across the state. Table 11 details the proposed workstation configuration.

Table 11: Permanent Workstation Hardware, Software, and Peripherals

Permanent Workstation	
Hardware	
Laptop with internal speakers	HP ProBook 650 G4 i5, 8GB, 256GB PCIe, 15.6" FHD
Docking station	HP UltraSlim Dock
Dual 19" monitors	HP Elite Display E223
Wireless keyboard with data entry keypad	HP Slim Wireless Keyboard and Mouse
Peripherals	
Signature pad with fine-tipped stylus	Topaz SignatureGem LCD 4x5
PDF barcode scanner	Honeywell 1900 bar code scanner
Wrist rest	Cushion Care wrist rest
Surge protector	APC BackUPS Pro
Headphones	Kensington Hi-Fi Stereo Sound headphones
Mousepad and mouse	HP Slim Wireless Mouse and Cushion Care mousepad
Card authenticator (small, lightweight, durable)	eSeek M500 and IDEMIA B5000 passport scanner
Webcam	Internal to laptop
Software	
Back Office Application	Issuance 360 Back Office
Front Office Application	Web Enrollment

3. Portable Workstations (total quantity = 65)

Earlier this year, we spent a lot of time talking with our customers and our field service engineers about ways we can improve our mobile solution. It is a tricky problem to solve because every state conducts its business differently, and each state has slightly different needs. We decided to aggregate the most common requests (and complaints) to create a new, improved mobile design that includes the following benefits:

- Lighter and less bulky
- Long handles and bigger wheels
- Quick set up and breakdown time
- Minimal plugging/unplugging of USB connections
- Stronger camera arm
- Greater choice of input device
- Flexibility for times when the applicant is unable to position him/herself behind a backdrop

Our new solution for the portable workstations includes all the functions and components (with the exception of the laptop and docking stations, as required by this RFP) as the permanent workstations, but is more portable than permanent workstations. As users of our current portable solution, one of the biggest changes you will notice is that we have removed the laptop from the mobile case. This design makes the case smaller, lighter, and more agile, providing greater flexibility and options for where the case can be placed. It also means that no case changes are required if you decide to change the laptop to another device. Web Enrollment runs on a small device host in the mobile case, and the external laptop will connect to it via a single Ethernet cable or Wi-Fi (depending upon State preference and security policies), and a single USB cable will connect it to a USB hub.

The new design has the following benefits:

- Increased flexibility of use in the field
- Reduced footprint
- Reduced weight and bulk
- Weight of **25 lbs. or less**
- Minimized cable and power connections
- Case with adjustable handles to account for height of examiner when pulling the case
- Standardized main capture case to include the device management host, camera, signature pad, and barcode scanner
- Set up and break down time of **10 minutes or less**

Your examiners will simply browse to Web Enrollment using the proposed 17.3" HP ProBook 470 G5 i7, 16GB, 256SSD laptop. The laptop will have its own carrying case and will sit on the table when in use, thereby reducing wrist fatigue and pain your examiners sometimes experience when using the laptop in the case.

Any additional peripherals such as document authentication hardware would be housed in a separate lightweight case. Our goal is to have this new design in production in early 2019. Figure 24 shows the portable workstation equipment.

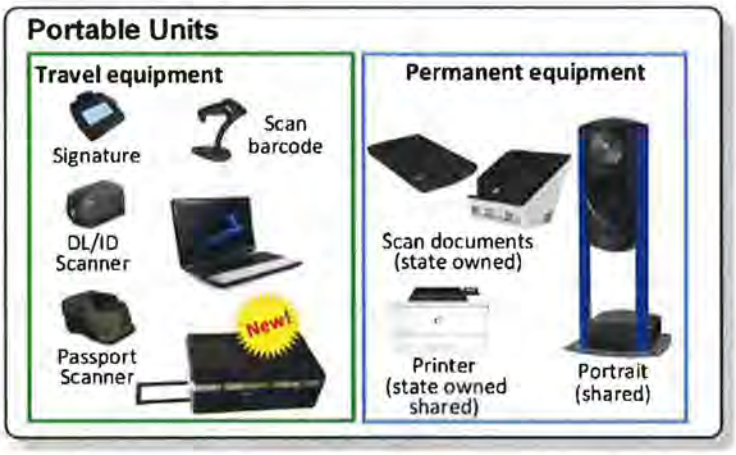


Figure 24: Portable Workstation Setup

Portable workstations will accommodate software the DMV will authorize and must have on the hardware. They also will have the ability to run such software simultaneously with other software necessary to operate the CATS solution without interfering with speed or other aspects of DMV- or IDEMIA USA-supplied software. Additionally, portable workstations will be capable of accessing DMV-networked drives and will be able to authenticate the network through physical and wireless connections.

Table 12 details the proposed portable workstation configuration.

Table 12: Portable Workstation Hardware, Software, and Peripherals

Portable Workstation	
Hardware	
Laptop with internal speakers	HP ProBook 470 G5, i7,16 GB RAM, 256 GB SSD
17" screen monitor	17.3" screen size
Peripherals	
Hard-sided ADA-compliant carrying case with rollers	IDEMIA USA custom case

Wireless keyboard with data entry keypad	HP Slim Wireless Keyboard and Mouse
Signature pad and fine-tipped stylus	Topaz SignatureGem LCD 4x5
PDF barcode scanner	Honeywell 1900 bar code scanner
Wrist rest	Cushion Care wrist rest
Surge protector	APC BackUPS Pro
Headphones	Kensington Hi-Fi Stereo Sound headphones
Mousepad and mouse	HP Slim Wireless Mouse and Cushion Care mousepad
Card authenticator (small, lightweight, durable)	eSeek M500 and IDEMIA B5000 passport scanner
Webcam	Internal to laptop
Software	
Back Office Application	Issuance 360 Back Office
Front Office Application	Web Enrollment

4. Knowledge Test Tablets (total quantity = 164)

Our proposed knowledge test tablets will include all hardware, peripherals, and software necessary to fulfill requirements of this RFP. The Intel core i5-7200U, 8 GB, 256GB SSD, HP EliteBook x360 1030 G3 tablet, shown in Figure 25, includes a docking station and stand. **Featuring up to 16.5 hours of battery life,** this thin, lightweight, 13.3" diagonal tablet is well-suited for both the DMV offices and the portable ones as well. Its ultra-bright display and capacitive touch makes it easy for applicants to take knowledge tests. For greater security and test integrity, its integrated **privacy screen helps to keep anyone around the applicant from seeing answers on the screen**.

Figure 25: Enterprise-Level HP EliteBook x360 Tablet for Fast, Efficient Knowledge Test Taking

The EliteBook tablet recognizes slate screen technology and onboard keyboard entry. Additionally, the EliteBook can accommodate DMV-authorized software and run that software simultaneously with other software necessary to operate the CATS solution without interfering with the tablet speed or other aspects of DMV- or IDEMIA USA-supplied software.

The Knowledge Test tablets are touchscreen devices used for applicant test taking. They present the questions, pictures, alternative answers, and test prompts and feedback. Table 13 details the proposed Knowledge Test Tablet configuration.

Table 13: Knowledge Test Tablet Hardware, Software, and Peripherals

Knowledge Test Tablets	
Hardware	
Tablet with a minimum of 10" screens with • touch screen technology • internal speakers, • ability to connect to state wireless network,	HP EliteBook x360 1030 G3 touchscreen tablet 13.3" display **up to 16.5 hours of battery life**

• rechargeable battery operated with minimum 8 hour charge	
Peripherals	
headphones	Kensington Hi-Fi Stereo Sound headphones
stand	Unite Tray and Stand with Key Cable Lock
stylus	Friendly Swede capacitive touch stylus
soft-sided carrying case	HP 13.3 Business Sleeve
power cord	Included with tablet
surge protector	APC BackUPS Pro
Software	
Knowledge testing solution	AutoTest version 9.1.1

5. Skills Test Tablets (total quantity=166)

We propose continued use of the skills test tablet you use today, the Panasonic Toughpad® FZ-G1 Windows 10 Pro tablet, shown in Figure 26. As the best tool for the job, it is rugged; lightweight; resistant to water, extreme heat, and extreme cold; ergonomic; and is readable under bright light. Water and dust resistant, it has **up to 14 hours of battery life** with user replaceable battery and optional hot swap.

Figure 26: Panasonic Toughpad FZ-G1 Tablet for Skills Testing

The FZ-G1 will include all hardware, peripherals, software necessary to fulfill requirements of this RFP, including an onboard camera. It can accommodate DMV-authorized software and run that software simultaneously with other software necessary to operate the CATS solution without interfering with the tablet speed or other aspects of DMV- or IDEMIA USA-supplied software.

Our RoadTest application and the FZ-G1 tablet support GPS features to record vehicle movement during a test and allow CDL compliance officers and managers to review and verify that the appropriate route was followed. It also allows the operation of any device in any of the test centers through a wireless connection. The FZ-G1 will operate in all designated third-party locations using VPN through a wireless connection.

We propose continued use of the lightweight, rugged, Skills Test tablets used today by DMV examining staff and third-party CDL examiners. Table 14 details the proposed Skills Test Tablet configuration.

Table 14: Skills Test Tablet Workstation Hardware, Software, and Peripherals

Skills Test Tablets	
Hardware	
• tablet with a minimum of 10" screens with touch screen technology, • ability to connect to the state and non-state wireless networks • rechargeable battery operated with	Panasonic Toughpad® FZ-G1 **Up to 14 hours of battery life**

minimum 8-hour charge, and an onboard camera	
Peripherals	
hand strap	Included with Panasonic FZ-G1
shoulder strap	Included with tablet
internal speakers	Included with tablet
soft-sided carrying case	Included with tablet
power cord	Included with tablet
surge protector	APC BackUPS Pro
fine-tipped stylus	Included with tablet
Software	
Skills testing solution	RoadTest version 5

a) Hardware Divergence

Our solution diverges from the requirements specified in the RFP and in the answers to round one and round two questions in a single area, but in a positive way:

- Dual 19" monitors: We recommend the HP Elite Display E223, which is a 21.5" monitor. Although at first blush, one would think it would take up more space, it actually doesn't. Recent experience with other states who have requested 19" monitors has shown us that, due to the size of the bevel around the 19" display, the 21.5" Elite Display is actually very close in overall size to 19" monitors and at a lower price point. So, for the same footprint, DMV examiners will actually have a larger screen and more surface area in which to do their work, further enhancing the user experience of DMV examiners.

F. Workstation Descriptions

b. Workstations

35. Describe your plan to meet the requirements of what is included in each workstation as outlined in Section V. Project Description and Scope of Work, F. Workstation Description.

✓ **IDEMIA USA complies.**

We have reviewed the DMV's requirements for each device as outlined in Section V. Project Description and Scope of Work, F. Workstation Descriptions. We will provide the hardware, peripherals and IDEMIA USA software detailed for each functional area. Each device will support the specified DMV-supplied software as listed in RFP requirements F.2.d, F.3.d, F.4.d, and F.5.d.

The workstations have the ability to run the DMV-supplied software simultaneously with other software necessary to operate the CATS solution without interfering with speed or other aspects of DMV-supplied or IDEMIA USA-supplied software. All devices are capable of accessing DMV-networked drives and will be able to authenticate the network through physical and wireless connections.

We plan a phased rollout of the front office to be completed over a two- to three-month period. During rollout, we will deploy all equipment required for the specified location, making a single visit to each office during that time.

For more detail on exact hardware and software components, please refer to the response to E. Users, Units, and Peripherals, a. Specified Units, item 34.

F. Workstation Descriptions

b. Permanent workstations

36. What is the total spatial dimension needed for the permanent workstation, as defined in Section V. Project Description and Scope of Work, F. Workstation Description, 2. Permanent Workstations? Provide a photograph and diagram of the workstation with dimensions.

✓ **IDEMIA USA complies.**

The total spatial dimension needed for the permanent workstation as defined in Section V. Project Description and Scope of Work, F. Workstation Description, 2. Permanent Workstations is less than 4' x 2'. Figure 27 shows a photograph of a possible layout configuration for your permanent workstations.

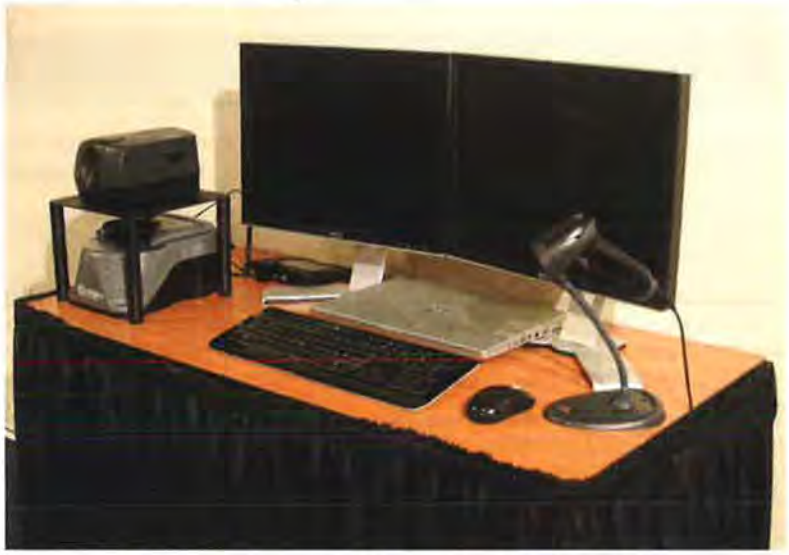


Figure 27: Permanent Workstation Configuration

This image shows a possible configuration for your permanent workstation, sitting on a table with spatial dimension less than 4 feet by 2 feet.

Figure 28 shows a diagram with dimensions of the total spatial area needed.

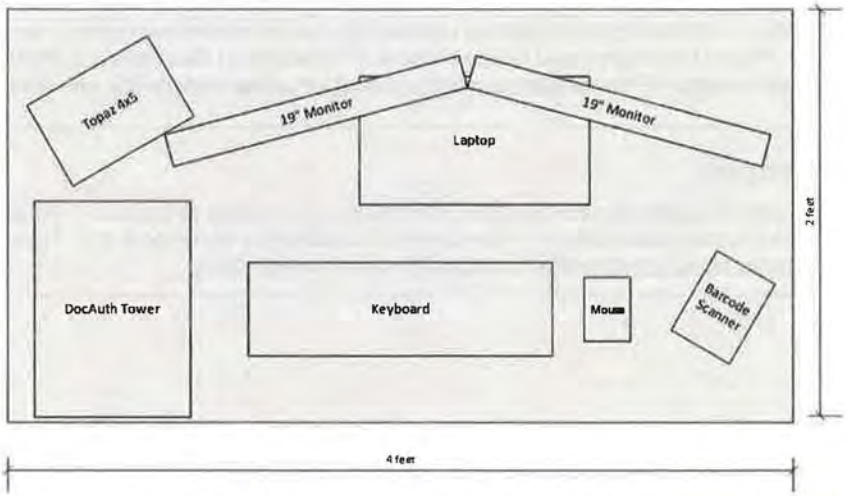


Figure 28: Bird's eye view of the possible permanent workstation layout configuration

Table 15 provides the dimensions of the individual devices represented in the diagram above.

Table 15: Dimensions of Permanent Workstation Components

Device	Dimensions
Topaz 4x5	7" x 6.5"
DocAuth Tower	9.75" x 9.75"
Keyboard	18" x 6.25"
Mouse	2" x 4.5"
Barcode Scanner	5" x 6.75"

19" Monitor	19.22" x 1.76"
Laptop	15" x 10"

F. Workstation Descriptions

c. Portable workstations

37. What is the total spatial dimension needed for the portable workstation as defined in V. Project Description and Scope of Work, F. Workstation Description, 3. Portable Workstations?

a. What is the weight of the entire unit?
b. What is the size and weight of the camera?
c. Provide a photograph and diagram of the workstation with dimensions.

✓ **IDEMIA USA complies.**

As stated in our response to requirement 35 on above, we spent a lot of time earlier this year talking with our customers and our field service engineers about ways we can improve our mobile solution. It is a tricky problem to solve because every state conducts their business differently, and each state has slightly different needs. We decided to aggregate the most common requests (and complaints) to create a new, improved mobile design that includes the following benefits:

- Increased flexibility of use in the field
- Reduced footprint
- Reduced weight and bulk
- Weight of **25 lbs. or less**
- Minimized cable and power connections
- Case with adjustable handles to account for height of examiner when pulling the case
- Standardized main capture case to include the device management host, camera, signature pad, and barcode scanner
- Set up and break down time of **10 minutes or less**

Any additional peripherals such as document authentication hardware would be housed in a separate lightweight case. Our goal is to have this new design in production in early 2019.

a. What is the weight of the entire unit?

The primary mobile case its contents and any additional cases needed, (e.g., for document authentication equipment) will weigh 25 lbs. or less each.

b. What is the size and weight of the camera?

We manufacture our Camera Tower with two different sized bases. Table 16 details the size and weight of each

Table 16: Camera Tower Specifications

	Standard base plate (large)	**Reduced-footprint base plate (small)**
Minimum height	28"	28"
Maximum height	38"	38"
Width at base	12.4"	11"
Length at base	14.76"	10"
Weight	23 lb.	18 lb.

c. *Provide a photograph and diagram of the workstation with dimensions.*

Because our design is entirely new and is subject to confidentiality agreements with the design vendor with whom we are working, we currently are not at liberty to share this design. We will share this design with you as soon as we are able to do so.

F. Workstation Descriptions
c. Portable workstations

38. What is the setup and breakdown time for portable workstations?

✓ **IDEMIA USA complies.**

Our portable workstations can be set up and broken down in 10 minutes or less, making start-up operation quick, simple, and easy to learn for DMV examiners.

F. Workstation Descriptions
d. Differences between permanent and portable workstations

39. Describe any differences when using portable workstations as compared to permanent workstations relating to security, workflow, data access, data entry, or any other function or process.

✓ **IDEMIA USA complies.**

DMV examiners in permanent and portable offices will use the same Web Enrollment software to capture applicants' enrollment images and to interface to the back office server. Both sets of DMV examiners will receive the same training, but DMV examiners in portable offices also will require training on the set up and breakdown of the portable case.

The primary differences to accommodate the mobile nature of the portable office are:

- Portable offices will use the larger 17.3" laptop for a greater screen size whereas permanent offices will use a smaller laptop and two external displays
- Portable offices will require specific set up and breakdown procedures

Other than that, our solution uses the same peripherals as those in the permanent locations, providing you with the same functionality, image quality, and production standards. Because it uses the same equipment and software as permanent workstations, the portable workstation user experience is the same as the fixed office user experience—mobile operators only need to learn additional setup and breakdown procedures.

F. Workstation Descriptions
e. Camera

40. How is the camera adjustable for ease of capture (e.g., can move camera) and able to be fastened to a surface to prevent theft/tip over?

✓+ **IDEMIA USA complies and exceeds.**

We manufacture our Camera Tower with two different sized bases, shown in Figure 29. The reduced-footprint base Camera Tower is a fully mounted camera solution with an 11"x10" base, which can and should be securely screwed to a counter to prevent theft and movement. We recommend use of this smaller base Camera Tower for your permanent offices. The standard base Camera Tower is best suited for environments where mounting the Camera Tower to a counter or permanent location is not feasible. The larger base provides greater stability. We recommend its use in your portable offices. As part of the design phase of the project, we will work with you to review Camera Tower options and configure a mix that best suits your needs.

Shown (L-R): Standard base plate, Reduced-footprint base plate

Figure 29: IDEMIA USA Camera Towers Fit Your Needs

Our Camera Tower is available with a standard base (left) and reduced-footprint base (right) to suit different needs while delivering the same high-quality photos.

The camera features a software-driven autofocus lens system that centers on the customer's face and provides automatic readjustment as the customer shifts. **Once calibrated, there is no need for the DMV examiner to adjust the camera manually; the examiner touches a key on the keyboard or clicks a mouse to capture and the software makes all adjustments.** It has an automated focusing range of 7.9" to infinity. This functionality :

- Speeds up applicant processing
- Decreases unnecessary wear and tear on the equipment

Without any manual adjustments required, the Camera Tower system will capture applicants ranging in height from 28" to 81" when the subject is 60" from the camera lens (about 72" to the backdrop). Applicants can be standing or sitting, such as in a wheelchair, without affecting the quality of the image or requiring any intervention by DMV staff. Figure 30 shows a representation of the extreme flexibility of the IDEMIA USA Camera Tower in taking applicant photos depending on distance to the backdrop, counter heights, and Camera Tower height adjustments.

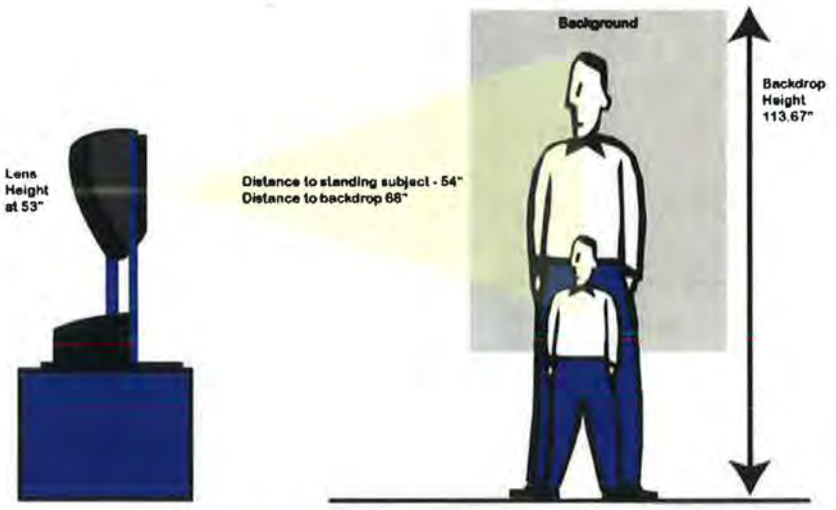


Figure 30: IDEMIA USA Camera Tower Flexibility

We have specifically designed and manufactured our IDEMIA USA Camera Tower for use in the DMV environment. The Camera Tower has an extensive field proven results for usability, durability, and image quality.

The Camera Tower connects to the workstation via a single standard USB 2.0 interface and can be "hot swapped" in the event of failure. Table 17 lists the detailed specifications of the Camera Tower.

Table 17: IDEMIA USA Camera Tower Specifications

Physical Characteristics				
Minimum Height	*Maximum. Height*	*Width at Base*	*Length at Base*	*Weight*
28.5	38 in.	Large: 12.4" Small: 11"	Large: 14.76" Small: 10"	Large: 23 lb. Small: 18 lb.
Performance Characteristics				
Focusing	Auto focus with focusing range: 7.9"/20 cm— (infinity)			
Connectivity	Single USB 2.0 connection			
Flash Recycle Time	Less than .6 seconds			
Flash	250,000 flashes Mean Time Between Failure			
Software Application Programming Interface (API) Compatibility				
Image Formats	Compressed Bitmap (Low- and High-Quality JPEG, RAW)			
Live Video	Full-motion @ 30 fps			
Control Used	Exposure controls programmed via Camera Tower Software Development Kit (SDK)			
Flash Working Range	Wide: Approximately 0.8—5.0M			
Temperature	Operation: 32°F—104°F			
Humidity (Absolute	Operation: 30%—90%			
Power Requirements				
Operating Voltage	120 VAC nominal +/- 10%			
Power Consumption	Watts nominal when idle (0.22A); 50 watts peak (0.44A)			

F. Workstation Descriptions

f. Knowledge test tablets

41. What is the size and weight of the Knowledge Test tablets, as defined in Section V. Project Description and Scope of Work, F. Workstation Description, 4. Knowledge Test tablets? Bidders should also include the Make and Model of the proposed tablet.

✓+ IDEMIA USA complies and exceeds.

Our proposed knowledge test tablet, HP EliteBook x360 1030 G3 tablet (shown in Figure 31), weighs just 2.8 lbs. and has dimensions of 12.48" (W) x 8.6" (L) x 0.59" (H). It has an Intel core i5-7200U processor and 8 GB of RAM, making it fast and efficient for applicants to take knowledge tests and keep DMV lines moving. With 256GB of SSD storage, it stores media files locally to provide optimal response time and performance for the applicant.

Featuring up to 16.5 hours of battery life, this thin, lightweight, 13.3" diagonal tablet is well-suited for both the DMV offices and the portable ones as well. Its ultra-bright display and capacitive touch makes it easy for applicants to take knowledge tests. For greater security and test integrity, its integrated **privacy screen helps to keep anyone around the applicant from seeing answers on the screen.**

Figure 31: Enterprise Level HP EliteBook Tablet for Fast, Efficient Test Taking

F. Workstation Descriptions

g. Skills test tablets

42. What is the size and weight of the Skills Test tablets, as defined in Section V. Project Description and Scope of Work, F. Workstation Description, 5. Skills Test Tablets? Bidders should also include the Make and Model of the proposed tablet.

✓+ IDEMIA USA complies and exceeds.

Our suggested tablet for skills testing with our RoadTest solution is the Panasonic Toughpad® FZ-G1 Windows 10 Pro tablet (pictured in Figure 32), which the State uses today for skills testing. The FZ-G1 tablet is 10.6" (L) x 7.4" (W) x 0.8" (H) with a 10.1" display. It weighs 2.4 lbs. when equipped with the rechargeable stock battery (3.0 lbs. when equipped with the optional long-lasting rechargeable battery). The stock battery with **a 14-hour battery life**, exceeding the RFP minimum 8-hour charge; it also has an optional extended life battery that can last up to 28 hours. The stock battery has a charging time of 2.5 hours off (3 hours on). The extended life battery has a charging time of 3 hours off (4 hours on). Please note that running GPS on the tablet may affect battery life.

Figure 32: Panasonic Toughpad® FZ-G1 Tablet

This all-in-one, ruggedized tablet will provide DMV skills test examiners with an easy-to-carry device that can be used for all of skills testing needs.

The standard FZ-G1 tablet will include all of the accessories required for operation by the DMV, including a stylus and a rotating hand strap. In addition to satellite GPS tracking, there also are options for reading the barcode on the back of the credential to facilitate applicant registration if necessary, desktop cradles for docking the tablet when not in use, and 4G LTE multi-carrier broadband capability.

The FZ-G1 is very durable. It is MIL STD 810G-certified, rated to withstand a four-foot drop, and certified for use in hazardous locations (Class 1, Division 2). The IP65-certified, sealed all-weather design ensures that it can be used in rain, dust, snow, and high/low temperatures without fear of failure. The solid-state drive is heated, making it usable in the coldest of Nebraska winters. It is constructed of magnesium and equipped with elastomer corner guards for added protection against drops or other damages. The FZ-G1's LCD screen is protected from impact by raised bezel; it comes equipped with pre-installed replaceable screen film for extended screen protection.

The FZ-G1 allows the operation of any device in any of the test centers through a wireless connection. It also will operate in all designated third-party locations using the VPN through a wireless connection.

H. Workflow

a. Features

43. What workflow features do you offer that speed client process/reduce lines? How does your solution minimize end users keystrokes or clicks?

✓+ **IDEMIA USA complies and exceeds.**

Web Enrollment

IDEMIA USA has completely redesigned and re-architected our capture application, streamlining the workflow, improving configurability, and updating the user experience to provide the quickest enrollment speed available for the DMV to service customers. You will notice two major improvements:

1. Exception based – no need to confirm each step; software only stops for error correction
2. Logically related transactions are on the same screen

We have combined photo and signature capture onto one screen, and document scanning and authentication on another screen. The steps of the workflow automatically advance if no error occurs. For example, in a renewal transaction, photo capture and signature capture display on the same screen (as shown in Figure 33). When a DMV staff member takes a photo, the software automatically performs an International Civil Aviation Organization (ICAO) quality check and a 1:1 photo comparison. If there are no errors with the photo—which happens most of the time—the workflow automatically advances to signature capture *without any need for the DMV staffer to click a button.* Our preliminary studies have shown that this new design **reduces the click rate by 40% to as little as two clicks to capture a photo and signature** for the majority of renewal transactions, helping the DMV staffer focus on the customer, not the computer. Even if errors occur, remediation is quick. The beauty of this design is that through simple configuration changes, the sequence can be separated easily, thus eliminating the confusion (and need for detailed training) that sometimes occurs in other "all-in-one" screens.

To make the DMV examiner's job easier, Web Enrollment provides the right information at the right time. Color-coded error messages and instructions are easy to understand. Its intuitive interface makes it easy for a DMV examiner to know how to handle business exceptions (e.g., click "Place on hold" if there's suspicious activity).

Figure 33: Web Enrollment

Web Enrollment offers a modern, intuitive interface that improves and accelerates applicant processing.

What can you anticipate when you use Web Enrollment in your offices?

As a continued effort to help us build products that are useful to the DMV and other motor vehicle agencies around the county, our field service engineers routinely measure the speed with which applicants are processed using our application and equipment. We visited six DMV offices and observed several different examiners at each office. We recorded times for each activity involved in capture—photo, signature, document scanning, and document authentication. Some of these examiners are veterans and some are newly hired. Solely looking at capture, it takes 2 minutes and 50 seconds on average to process an applicant.

To provide you an understanding of how Web Enrollment will improve DMV throughput, we did our own testing. Capturing a photo and signature, scanning a two-page document, and authenticating a driver's license took on average of 23 seconds! **This represents a dramatic improvement in throughput and productivity for DMV administrators and investigators.**

Issuance 360 Back Office

Because we propose a single, integrated solution architected from the ground up for ease of use from front office capture through to issuance, navigating between issuance data and biometrics has never been easier. No longer is it necessary to exit one application and log into another to get information; **a single click can provide the answer**.

The Issuance 360 Back Office workflow allows an authorized DMV user to confirm/override matches identified by the 1:N check (e.g., visually compare the images that the 1:N check identified as matching). The 1:N case layout allows the DMV investigator to scan all potential match candidates rapidly, select those that match, and choose to either forward the lead for further review or override the match and release the issuance request for production. Because the 1:N match looks for faces that match with inconsistent demographic data, Issuance 360 Back Office highlights those fields where a match is found. Anything not highlighted indicates a discrepancy, as shown in Figure 34 in which the face is the same, but not much else!

Figure 34: 1:N Case Review

Issuance 360 Back Office accelerates visual comparisons by showing the issuance photo with an array of candidates. Hot keys support rapid execution with minimum effort.

Learning more about this issuance is as simple as a right click. Showing in Figure 35, right clicking on the suspect candidate provides options for investigation.

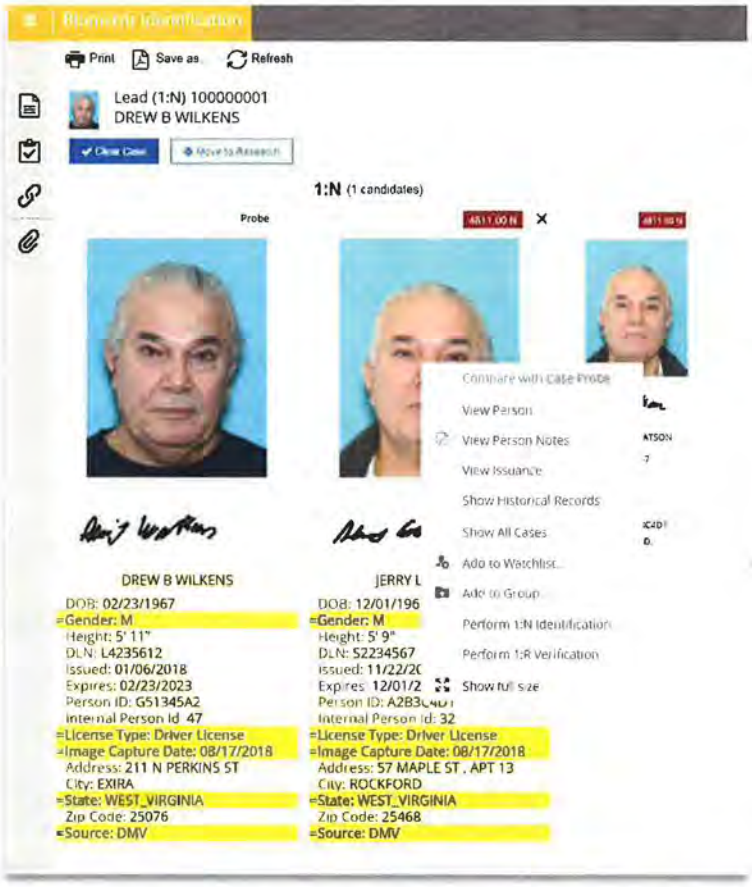


Figure 35: Issuance 360 Back Office makes it easy to see when data doesn't match

Clicking on "View Person" shows all historical information about this person, shown in Figure 36.

Figure 36: Navigating to a person's record is easy

Clicking on "View Issuance" displays detailed information about this specific issuance, as shown in Figure 37.

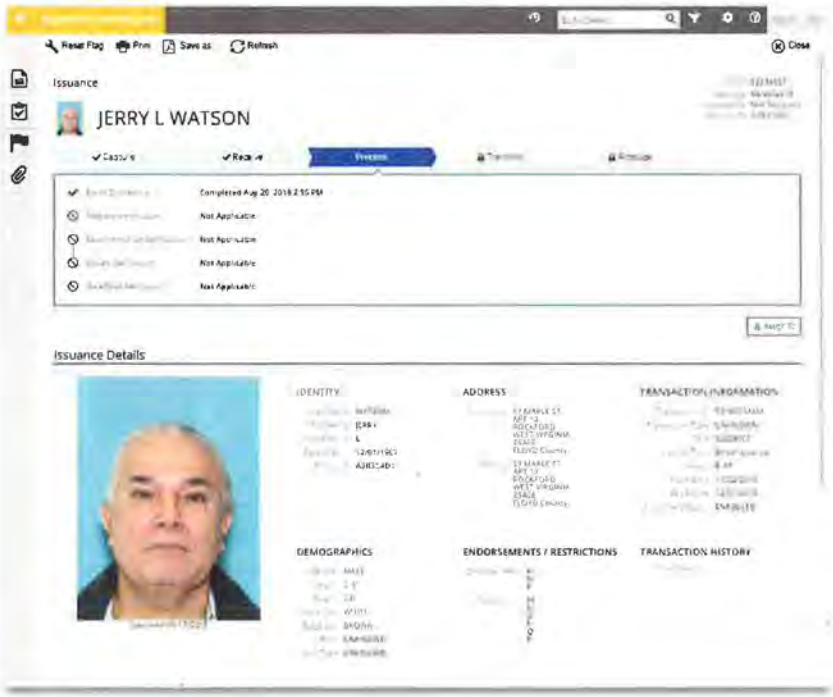


Figure 37: The click of a mouse display the issuance details

Simple and elegant, Issuance 360 Back Office improves DMV investigators' productivity.

A DMV investigator doesn't need to know which application to run or which screen to go to; **it's simply one click away.** Users develop an instinctual way of navigating through the system because they focus on the person and the questions to be answered not the process of getting there.

Additionally, for direct, easy access to applicant information, authorized users can use the search facility to query the database using previously entered data (e.g., name, driver license number, driver license sequence number, date of birth, or other identifying detail), as shown in Figure 38. The fields used for input on the search screen are configurable, and we will work with you to define them during the design phase of the project.

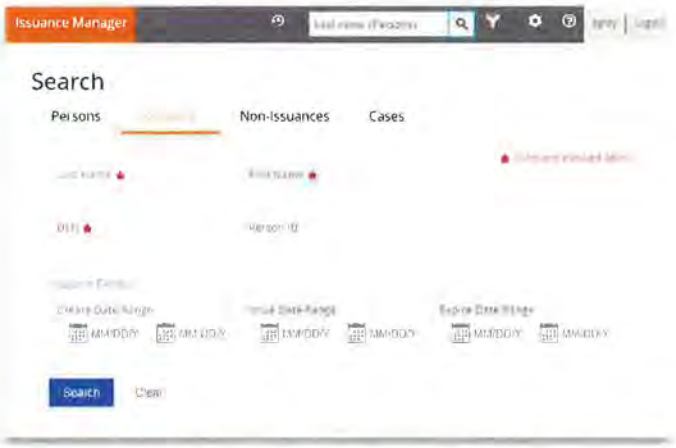


Figure 38: Searching by multiple fields reduces the time it takes to get the right information

Finally, because of the tight integration between Web Enrollment and Issuance 360 Back Office, querying of the data base and the parsing of data and its presentation is more streamlined, resulting in not just a sleeker look but also swifter response times allowing for faster information processing by the users.

H. Workflow

b. Sequence

44. Describe your recommended process/sequence from the client's appearance at the DMV office through client receipt of the credential in the mail (e.g., what is the entitlement process the DMV must complete)?

✓ **IDEMIA USA complies.**

Table 18 details the proposed new and renewal workflows, which we created based on our thorough understanding of your current environment and the requirements of this RFP.

Table 18: Proposed Examiner Workflow

<table>
<tr><td colspan="2">1. Queuing system directs applicant to a capture station</td></tr>
<tr><td colspan="2">2. The DMV examiner indicates a new or renew DL/ID transaction</td></tr>
<tr><td>3. DMV examiner selects a "new" transaction</td><td>4. DMV examiner selects a "renewal" transaction</td></tr>
<tr><td>a. A DL number is generated
b. Issuance 360 Back Office creates a record with the DL number along with a transaction ID
c. DMV examiner takes a photo, recapturing as necessary</td><td>a. DMV examiner scans applicant's credential with barcode scanner
b. Issuance 360 Back Office retrieves historical record including previous photo(s) and signature(s) and creates a new record with this information along with a transaction ID
c. DMV examiner takes a photo, recapturing as necessary
d. Web Enrollment performs a 1:1 photo comparison using most recent historical photo and the one just captured</td></tr>
<tr><td colspan="2">5. Applicant signs</td></tr>
<tr><td colspan="2">6. If applicable, DMV examiner conducts a Digital Exchange Program (DIEP)/Digital Image Access (DIA) comparison</td></tr>
<tr><td colspan="2">7. DMV examiner uses Web Enrollment to authenticate credentials (e.g., DL/ID, passport)</td></tr>
<tr><td colspan="2">8. DMV examiner uses Web Enrollment to scan the applicant's documents (e.g., birth certificate), if required</td></tr>
<tr><td colspan="2">9. Web Enrollment sends images and data to Issuance 360 Back Office</td></tr>
<tr><td colspan="2">10. Issuance 360 Back Office stores photo and signature images and via background processing forwards scanned documents to OnBase ECM via API</td></tr>
<tr><td colspan="2">11. Issuance 360 Back Office enrolls the record into Facial Recognition</td></tr>
<tr><td colspan="2">12. DMV collects payment and prints the receipt</td></tr>
<tr><td colspan="2">13. Mainframe performs nightly AAMVA and associated release tests and sends production file to Issuance 360 Back Office</td></tr>
<tr><td colspan="2">14. Issuance 360 Back Office runs the nightly 1:N facial recognition check</td></tr>
<tr><td colspan="2">15. DMV staff adjudicates 1:N facial recognition results</td></tr>
<tr><td colspan="2">16. Cards are released to the factory for production</td></tr>
<tr><td colspan="2">17. Cards are produced and mailed</td></tr>
<tr><td colspan="2">18. Factory sends final card status with mailing information to Mainframe</td></tr>
</table>

Figure 39 depicts the new transaction workflow, and Figure 40 depicts the renewal transaction workflow.

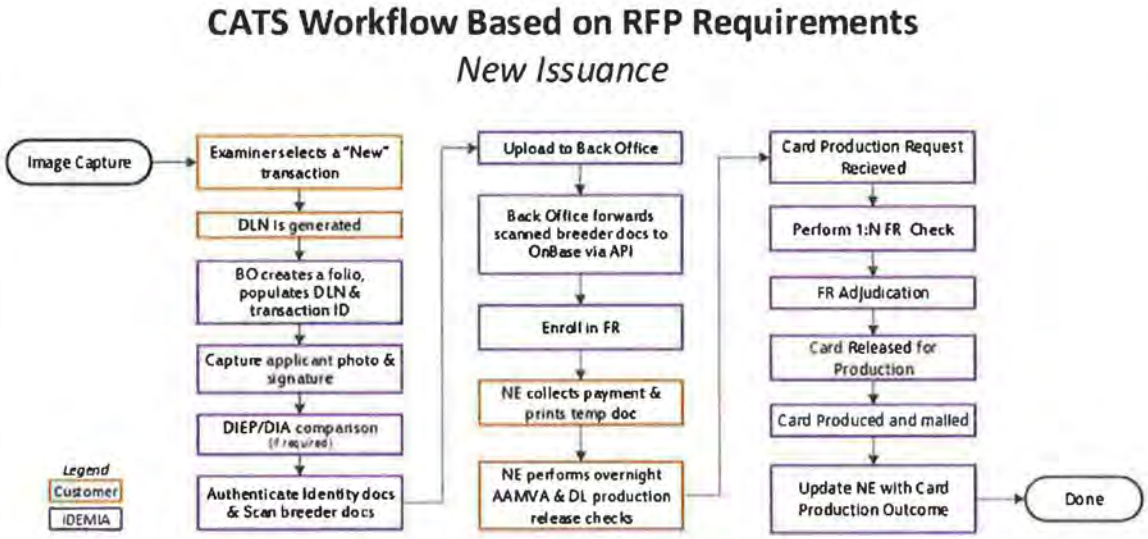


Figure 39: Proposed Workflow for New Transactions

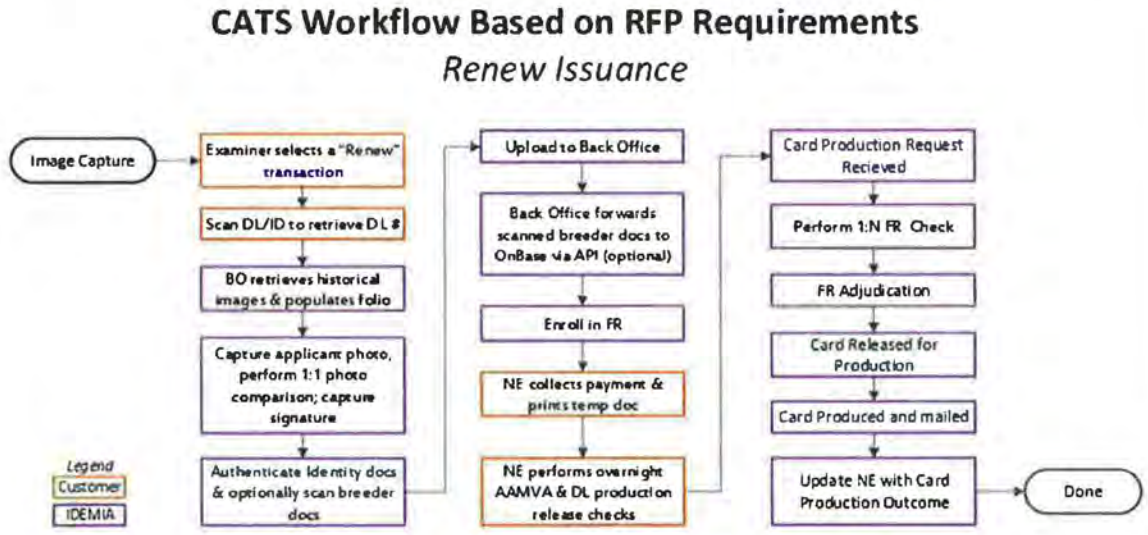


Figure 40: Proposed Workflow for Renewal Transactions

Offline Mode

Our solution supports offline capture of photos and signatures when the system is disconnected from the Back Office Server. Web Enrollment retains the transactions locally on the capture workstation. Once the connection is re-established, Web Enrollment automatically uploads the transactions to the Back Office Server.

Suspended Transactions

If an applicant begins a transaction but for some reason needs to leave the office and return later (e.g., missing the correct documents), the examiner can suspend the transaction. This configurable option places the transaction back on the office queue for completion later that day. The transaction will be deleted from the queue automatically if not completed before the end of that business day.

H. Workflow

c. Applicant tracking

45. Describe how your solution supports tracking of an applicant throughout the enrollment process.

✓ **IDEMIA USA complies.**

Issuance 360 Back Office makes it easy to see where an applicant record is and has been. Figure 41 provides a complete view of the issuance transaction type, stage of the transaction, all workflow steps (including each step's status and corresponding timestamp), and information about the particular credential.

Figure 41: Issuance 360 Back Office Issuance Manager

Complete historical card status information helps improve customer service.

H. Workflow

d. Integration

46. Users should have a seamless experience throughout the workflow. How are all components integrated to offer smooth workflow for DMV staff? How will DMV staff navigate between interfaces and components/modules? That is, in what ways will the products be internally and externally integrated to support the logical workflow and to reduce opening and closing stand-alone interfaces?

✓+ **IDEMIA USA complies and exceeds.**

Front Office

Web Enrollment applies knowledge of the workflow to guide the DMV examiner through the process. There are two primary interactions in the capture process that define how the DMV examiner interacts with the applicant:

- Interacting with the person by asking the applicant to do something (e.g., take photo, sign signature pad)
- Interacting with his/her documents (e.g., scanning breeder documents or authenticating credentials)

Web Enrollment is designed to keep logically related steps of the workflow on the same screen. Capturing a photo and signature by default is configured to be on the same screen, seamlessly advancing the DMV examiner through each step of the workflow. Once the first sequence completes, the workflow automatically advances to the next logical step of the process: scanning paper documents and authenticating credentials. At the end of the

transaction, Web Enrollment automatically uploads the captured information to the back office server, seamlessly moving the DMV examiner through the process. As a browser-based application, **the DMV examiner need not exit Web Enrollment to launch another application**.

Back Office

One of the biggest improvements you will notice about our new solution is how easy it is to navigate. This is especially true for Issuance 360 Back Office's administrative and facial recognition functions, in which a single integrated solution helps manage the workflow and speed up facial recognition adjudication. With a new, modern interface and intuitive user experience, it replaces our legacy disparate products—Image Server and Facial Recognition—and puts them both at your fingertips in the same application. Because Issuance 360 Back Office focuses on the person rather than the transaction, **it allows the DMV to navigate easily between issuance and biometric data**. For example, a user can search on a person, an issuance, or a case. In the example shown in Figure 42, the DMV examiner performed a wildcard search of last names beginning with the letter "S."

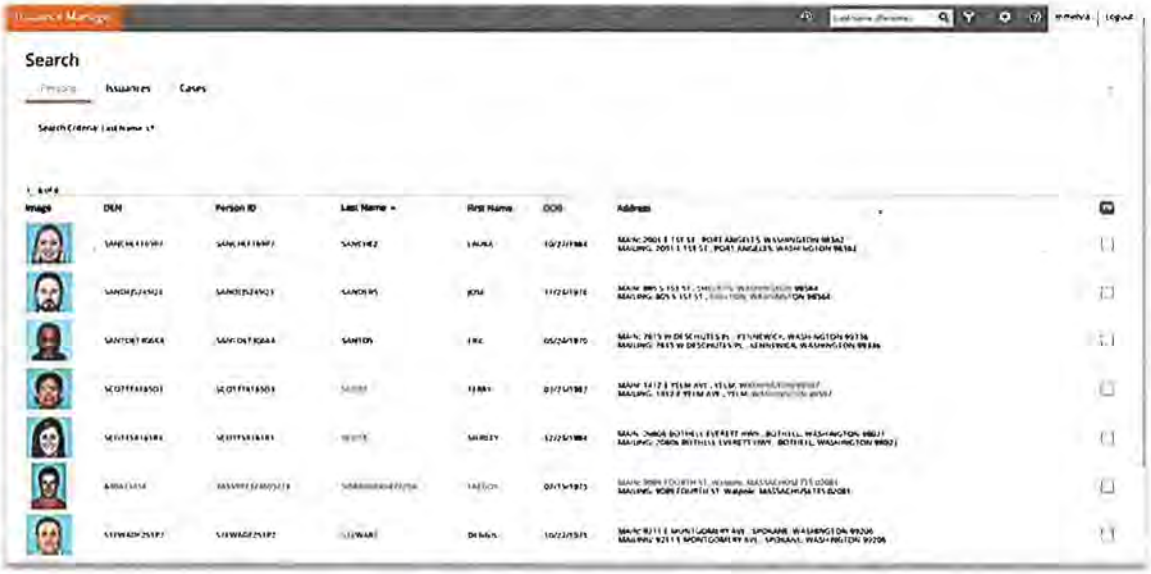


Figure 42: Easy-to-Read Search Results

By simply clicking on the applicant photo, Back Office displays detailed information about the issuance.

Figure 43 shows an applicant record using the "card view" to display the historical issuances.

Figure 43: Issuance History View

A user can click on the Show List or Show Photos link to switch to a different view of the data quickly, as shown in Figure 44.

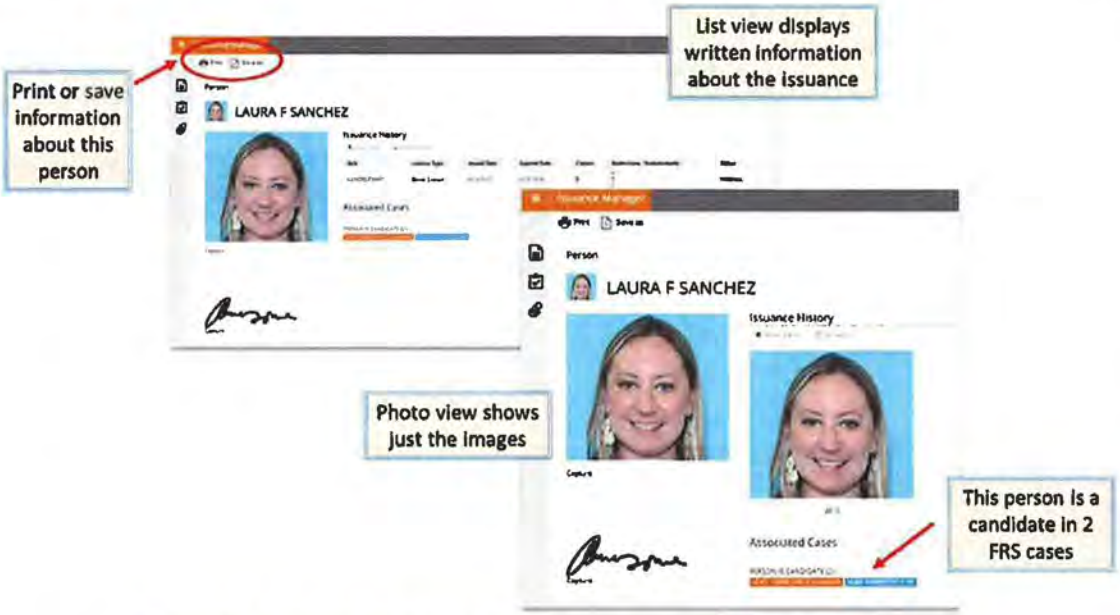


Figure 44: Issuance Manager makes it easy to get the information you need

Authorized users can get a hard copy, or a dossier, of the applicant (shown in Figure 45) by clicking the print button. Clicking the "Save As" button generates a PDF for later use or for email distribution.

Figure 45: Applicant Dossier View

A person search allows authorized users to print or save the retrieved information.

In this example, this person is a candidate in two facial recognition cases. To access that information, the DMV examiner simply clicks the orange or blue button (see previous Figure 44) to switch to facial recognition. As a browser-based application, the DMV examiner need not exit Issuance 360 Back Office to launch another application. **It is so easy to navigate around and switch from issuance to facial recognition that users eventually will see no barriers between these functions.**

H. Workflow

e. Troubleshooting

47. How will examining staff be notified of problems with an individual's enrollment?

✓ **IDEMIA USA complies.**

Front Office

In the front office, Web Enrollment provides color-coded text with instructions, statuses, and/or error messages. Figure 46 shows a green informational/status message so the DMV examiner can tell where s/he is in the workflow, and it shows red error messages with detail about the error so the DMV examiner knows how to correct the problem.

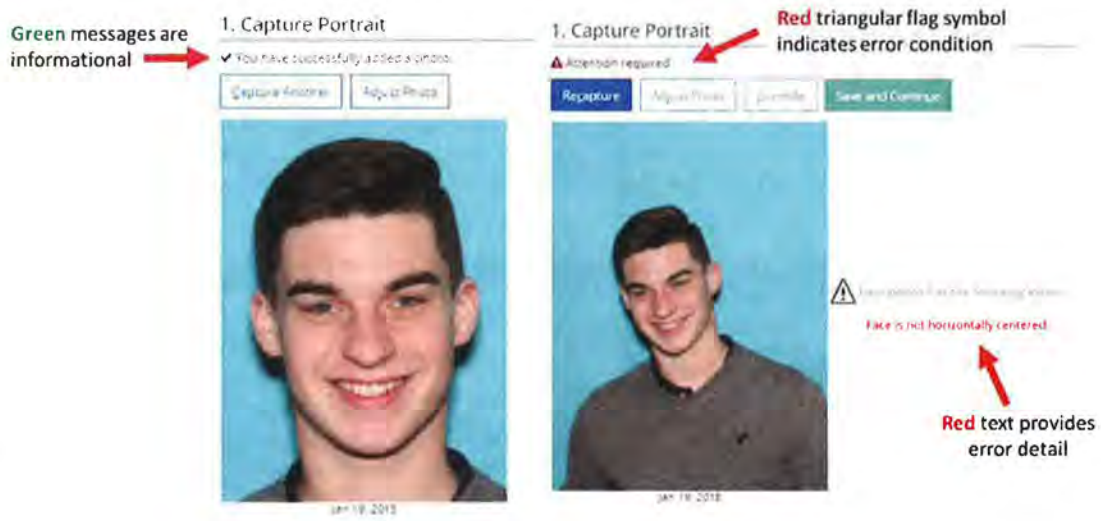


Figure 46: Web Enrollment Issue Alerts

Color-coded, plain language error messages improve the DMV examiner's productivity.

Back Office

Issuance 360 Back Office leverages workflows and business rules to maximize automated processing with minimal manual efforts. These queues contribute to the efficiency of daily reviews and investigations. Pre-filtered queues also facilitate automated assignment and work distribution for daily screening and case investigation activities to individual screeners or investigators. This approach reduces efforts and accelerates approval of issuance requests. To maximize productivity, an individual screener has his/her own personal work queue, as shown in Figure 47. A user can determine what work needs to be done easily by looking at his/her dashboard, which will show the exceptions that have been caught and the work assigned for this particular user. In this case, the notification occurs automatically and populates the appropriate queue.

Figure 47: Issuance 360 Back Office Dashboard

"My Tasks" shows a DMV staff member the work queued up for the day.

We will work with the DMV during the design phase of the project to define a work queue configuration that best supports your business practices.

H. Workflow

e. Troubleshooting

48. Describe how your solution will ensure previous enrollment steps have been completed before moving on to next steps.

✓ **IDEMIA USA complies.**

Web Enrollment's workflow automatically advances through each step of the workflow *unless an error occurs*. If, for example, a photo does not pass the ICAO quality metrics checked for each image (as shown in Figure 48), Web Enrollment interrupts the workflow, alerts the employee of the error using color-coded error messages, and provides instructions on how to continue. The workflow will not continue until the DMV examiner corrects or overrides the error.

Figure 48: Red ICAO Failure Codes

Color-coded messages improve the DMV examiner's productivity by quickly alerting the examiner and not allowing the application to continue until the error is corrected.

Figure 49: Overrides provide flexibility to address customer's unique needs, while maintaining an audit trail of its activity

In the occasional instance where capturing a compliant portrait proves impossible, Web Enrollment provides an override capability along with the option to detail the reason for the non-compliant image, as shown in Figure 49. Many jurisdictions choose to implement controls around overrides by requiring supervisor approval in addition to an optional reason for the override. All override events are logged as an Audit History entry in the applicant's record.

H. Workflow

e. Troubleshooting

49. Describe how users may cancel an applicant in the enrollment process and whether that is possible at any time during the process or only at certain points.

✓ **IDEMIA USA complies.**

DMV staff can cancel an applicant enrollment at any time by clicking the close icon (⊗) on the ribbon at the top of each page, as shown in Figure 50. This button can be pressed at any point during the enrollment process. The action of the close button can be configured to suspend the transaction rather than cancel it completely. In this

case, the transaction would return to the queue for processing later in the day. If the transaction does not complete, it will be removed from the active queue by the end of the business day.

Figure 50: A simple click of the icon cancels a transaction

H. Workflow

f. Beginning/ending

50. Describe how end users will access the default "home" screen and when they are automatically returned to or must manually navigate to the screen.

✓ **IDEMIA USA complies.**

Authorized DMV users can access the home screen first by clicking on the Web Enrollment shortcut on desktop, launching the application, and logging in to Web Enrollment with the correct credentials. Web Enrollment proceeds to guide the DMV examiner through the workflow. When the workflow completes, the DMV examiner is directed to the "home" screen automatically, as defined in the configuration of your workflow.

The DMV examiner also can return directly to the home screen by clicking the search icon ( ) in the navigation menu on the side of the screen, as shown in Figure 51.

Figure 51: Navigation Menu

Examiners can easily find their way "home."

H. Workflow

f. Beginning/ending

51. Describe steps for daily start-up and close-down for all workstations and units.

✓ **IDEMIA USA complies.**

The daily start-up and close-down steps for all workstations and units—which take less than 10 minutes—are detailed below.

- Permanent Units: Because our applications are browser-based, there are no special start-up and shut-down processes for the permanent systems. If the Web Enrollment station is powered down, the DMV examiner starts by powering up the unit. Once booted, he/she can log into the machine. Active Directory authenticates the user, who then would launch the application. At the end of day, the DMV examiner simply exits the application. We do recommend leaving the workstations on overnight for software or operating system maintenance purposes. The same process pertains to Issuance 360 Back Office.
- Portable Units: Portable units follow the same process with one exception. The DMV examiner would need to connect to Wi-Fi and then run the Site Selector tool to complete the set up for the day's current office/location.
- Knowledge Test Units: Other than using the Site Selector tool on the portable units, there are no special start-up procedures. We recommend leaving the AutoTest units on at the end of the day for software maintenance purposes. As we do today, we recommend that AutoTest testing stations are configured to reboot automatically at 5:00 AM every morning. Upon startup, the testing station will look to see if there are any updates and pull them down automatically as needed. The AutoTest Examiner software is centralized, and therefore no updates are done at the DMV examiner level. At the end of the business day and before exiting the application and logging off for the day, the DMV examiner manually cancels any tests that are still in progress on the test stations, cancels any test in the pending queue, and deletes all unnamed paper tests.
- Skills Test Units: After RoadTest tablets are powered down at the end of the day, one of the most important things to do is to make sure that they are seated in the docking station for overnight charging. Once the tablets boot up, the DMV examiner should confirm that the tablet has sufficient battery power and them perform the site selection tool (if needed). The system will check automatically to see if there are any required software updates and pull them down as needed.

STORAGE AND INTERFACES

WAs the current provider of your issuance system, we have a unique and distinct understanding of your environment and of your interfaces and, most importantly, the data flow between the systems. The recent upgrade to your Image Server and facial recognition system solidified and refreshed that understanding. This knowledge has a direct and positive effect on the new CATS deployment, making the transition as smooth as possible.

I. Storage and Interfaces

a. Mainframe Interface

52. Describe how your solution will combine demographic data on the Mainframe with captured and stored images.

✓ **IDEMIA USA complies.**

Similar to the process your Image Server uses today, Issuance 360 Back Office will poll the Mainframe for an issuance request. Issuance 360 Back Office will populate a new applicant transaction record with that data from the mainframe and send the record to Web Enrollment for processing. Upon image capture, Web Enrollment stores the captured photo, signature, and documents into the applicant record. When the transaction completes, Web Enrollment immediately uploads the new record to Issuance 360 Back Office for storage in its database. The new record now contains the most up-to-date demographics and images. Any scanned documents are forwarded to the Hyland OnBase Enterprise Content Management (ECM). Figure 52 shows this process.

Figure 52: Smooth Data Flow from the Mainframe to the Back Office Server

I. Storage and Interfaces

b. User Interface

53. Describe how the solution will enable users to capture new images and access existing images in an integrated and seamless manner.

✓ **IDEMIA USA complies.**

Web Enrollment allows DMV users to capture new images and access existing photo and signature images in an integrated and seamless manner.

Capture New Images

Web Enrollment displays a live facial image during photo capture and performs International Civil Aviation Organization (ICAO) quality checks automatically on the desired image captured from the live video feed. If a historical photo is on file, it will display the most recent photo and automatically perform ICAO quality checks and a 1:1 photo comparison in the background. If both of these steps pass—as they most frequently do—Web Enrollment displays the new photo alongside the historical facial image then advances to the next step of the workflow, as shown in Figure 53. When the transaction completes, Web Enrollment immediately uploads the new record to Issuance 360 Back Office for storage in its database and makes it available to authorized DMV users for searching and retrieval.

Figure 53: Capturing New Images

Photo capture, ICAO checking, and 1:1 comparison all happen in one click, improving your customers' experience and keeping DMV office lines moving.

Access Existing Images as an Administrator

The Issuance 360 Back Office allows authorized users to search and retrieve images and transaction data using various input and search criteria quickly. Its Advanced Search function allows users to locate a transaction or a set of transactions using incomplete or partial data for different types of searches—for people, for transactions, or for investigative cases in facial recognition. Using the person search screen (shown in Figure 54), DMV staff can search by one or more of the fields configured for this screen.

Figure 54: Issuance Manager Search Using Demographic Data

Issuance 360 Back Office will display the retrieved record in either list, photo, or card view, as configured during the design phase of the project. Users will see historical photos and signatures along with associated data for that issuance. DMV users can toggle among the choices easily to find the specific information, as shown in Figure 55.

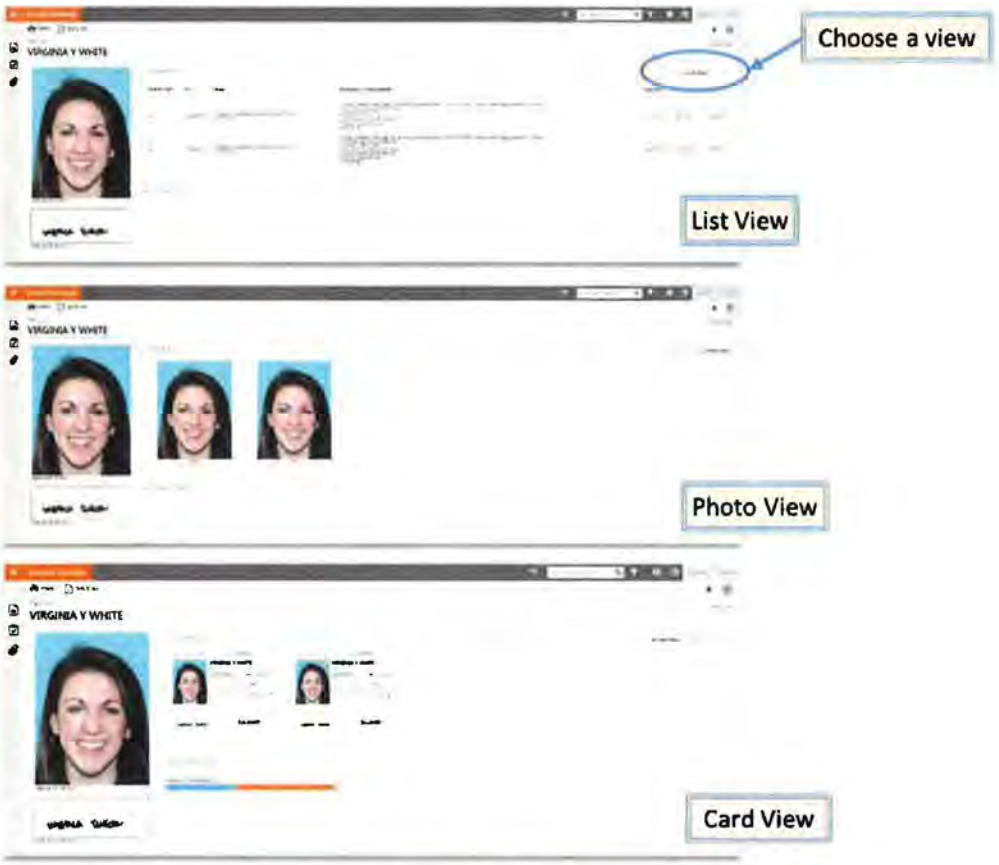


Figure 55: Image View

Flexibility in viewing issuances improves productivity.

I. Storage and Interfaces

c. Hyland certification

54. Describe your approach to interface with the State of Nebraska ECM (Hyland OnBase). This should include all aspects of source document capture.

✓ **IDEMIA USA complies.**

Examiners will scan and authenticate documents using Web Enrollment. At transaction end, it will upload the record to the back office server. Issuance 360 Back Office will extract scanned document images and their metadata and will forward them to the OnBase ECM for storage via the OnBase API.

Document Capture and Authentication: Speeding Up One of the Slowest Parts of the Workflow

Web Enrollment provides a flexible, quick, and efficient way to capture important identity documents needed to meet State and Federal compliance requirements for REAL ID (see Figure 56). Recognizing that document scanning can be one of the slowest parts of the applicant process, we sought to make it as painless as possible by giving the DMV examiner options for how to accomplish the task at hand. Our solution incorporates an intuitive, easy-to-use document scanning function that fully integrates with Web Enrollment and our Issuance 360 Back Office storage and retrieval system. With an intuitive drag-and-drop interface, it provides efficient document scanning while our image retrieval application displays emails or prints documents that are associated with an applicant record. It makes manipulating and categorizing REAL ID documents simple.

Figure 56: Web Enrollment Document Scanning

A high-speed scanner and easy-to-use software increases scanning efficiency and speed.

Document Capture Workflow

Detailed below are the steps in our document capture (scanning) process:

Step 1: The DMV examiner places document(s) in the State-supplied Panasonic KV-S1027C-NT scanner.

Step 2: The DMV examiner elects to scan each page in as a separate document or to scan all pages into a single document, allowing the scanner to operate at its maximum speed. This selection is designed to maximize flexibility for the DMV examiner. Figure 57 shows the results of selecting scan only and selecting merge to compile all pages into a single file before scanning.

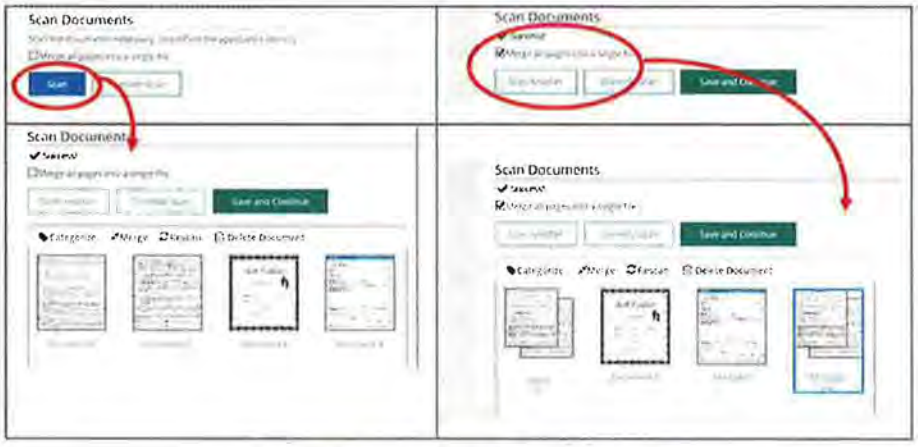


Figure 57: Document Scanning Choices

As shown in the left side, a multi-page scan results in multiple documents. On the right side, all pages are scanned into a single document.

Step 3: Upon finishing a successful scan, the scanned document(s) are added to the scanned document gallery automatically. The DMV examiner can click on Scan Another to scan additional documents or Save and Continue to proceed to the next step of the workflow.

In case of a poor scan, the DMV examiner can choose to either click Rescan to scan the document(s) or Override Scan to bypass the scan quality check, if required.

Step 4: After scanning in all the documents, the DMV examiner can advance to the next step to perform further document management such as merging two documents together or separating pages from a multi-page document into its own document.

The best way to identify the type of scanned documents is for DMV examiners to categorize them upon successful scanning. Using a pull-down menu of configurable document types (shown in Figure 58), the DMV examiner can classify the scanned documents using the Categorize option.

Figure 58: Categorize Document

Pull-down menus make it easy for DMV examiners to categorize documents

Step 5: Once the required number of documents are scanned, the Save and Continue button will be enabled, allowing the DMV examiner to save the documents to the Issuance 360 Back Office record.

At the end of the enrollment transaction, Web Enrollment uploads the record to Issuance 360 Back Office for storage. Issuance 360 Back Office will extract scanned document images and their metadata and, via the OnBase API, will forward them to OnBase for storage. The documents will not be stored at all in the Issuance 360 Back Office database.

As detailed above, our new scanning solution has been redesigned to improve the scanning workflow and efficiency for DMV examiners. This brings a new standard to scanning in the DMV market.

I. Storage and Interfaces

c. Hyland certification

55. Describe your experience with and plans for providing evidence of API certifications by Hyland Software for the purpose of integrating with OnBase Enterprise Content Manager. Also provide applicable certifications for Modules and Administration where certifications can be obtained to be used to configure/develop and support the proposed solution. The Bidder may provide the certifications as part of the proposed solution, but must provide prior to the Contract start date.

✓ **IDEMIA USA complies.**

IDEMIA USA has engineers working on our Mainframe modernization team who are OnBase API-certified. We will add to this number by training two additional developers over the course of the CATS program for initial development and ongoing support, with the expectation that they will share best practices and leverage experience across the organization. All of these engineers have extensive experience with writing interfaces to external systems.

These engineers will participate in the three certification steps:

- Pre-Installation eLearning
- Pre-Course Evaluation
- API Training Course

Initial certification lasts two years, with re-certification required every two years thereafter. To understand the best approach to meeting this requirement, we have been working with Databank, the supplier of your OnBase software. They have worked out an agreement with OCIO that allows Nebraska contractors to leverage the State's premium subscription services, which includes OnBase API re-certification at no additional cost. Assuming the State maintains this level of support, we will manage certification and re-certification of our engineers as part of the overall project plan.

I. Storage and Interfaces
d. Re-enrollment

56. Describe your process for re-enrolling the current library of facial images into your library, including into your preferred algorithm.

✓+ **IDEMIA USA complies and exceeds.**

As the provider of your current DL solution, we are uniquely qualified to deal with your legacy data because the images were captured with our solutions. This greater understanding that we have of your data will have a direct impact on our ability to upload all existing legacy images prior to testing and again before going into production while retaining image quality. We follow a structured, repeatable process to make sure that no data is missed, and rather than a conversion—which typically involves a complete reformatting of existing data and conversion of images—we foresee a data migration and transformation activity that more closely resembles a restore from backup with minor data transformation tweaks.

The process of migrating data from your current Image Server database to the Issuance 360 Back Office database **automatically enrolls the images into the facial recognition function of Issuance 360 Back Office**. No separate process or data conversion is required.

"IDEMIA is the only known contractor with the demonstrated experience and integrated software" and is "the most accurate non-Russian or Chinese software according to the ... National Institute of Standards and Technology's Face Recognition Vendor Test."

—U.S. Department of State's Consular Affairs office in June 2018

We bring to the DMV four decades of experience in biometrics, having the longest history of top-tier performance in independent tests than any other vendor on the market. Our software is regularly ranked in the top three National Institute of Standards and Technology (NIST) benchmarks on accuracy, and we have maintained this leading position as testing databases increase in size.

With each new software release, our facial algorithms grow more and more accurate. Our experience has shown that every year, we decrease the number of misses on the datasets by half. Based on Convolutional Neural Network—or deep learning—algorithms, the latest release of Issuance 360 Back Office has proven to match 100% of the Feret color dataset. To take advantage of new algorithms, our solution requires a re-enrollment of all images.

I. Storage and Interfaces
e. Interfaces

57. Describe how the solution seamlessly interfaces with the Mainframe for driver license issuance.

Function: *The Contractor polls a web service application to get data from the Mainframe and to return confirmation to the Mainframe. They are: the photo, temporary receipt, and the final release to the factory for printing of the permanent document. The Contractor also sends confirmation to the Mainframe when the document has been mailed.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

As we do today, IDEMIA USA will interface with the Mainframe seamlessly. Because Issuance 360 Back Office has native functionality that eliminates the need for the current middleware server, it will poll your Web service application, iChain server, directly. Just as Image Server does today, Issuance 360 Back Office will retrieve data from the Mainframe and return photo and information regarding the final release to the factory for printing of the permanent document. It also will provide confirmation on when the document was mailed.

All of this functionality uses the same technology that supports investigators in the FBI, Department of State (DoS), and 30 other U.S. MVAs/DMVs to quickly and reliably prevent and identify attempts of fraud through potential matches of applicant biometrics and the Central Image Database records.

Back Office supports United States Postal Service (USPS) Intelligent Mail Barcode (IMb) for participation in Postal Service programs such as tracking mail and secure destruction of undeliverable mail. For each print request, Back Office generates a unique USPS-compliant IMb, stores it in the issuance transaction, and then inserts it into the issuance folio sent to the factory. The IMb is printed on the card carrier so it can be seen through the address window. Our pre-sort vendor, Pitney Bowes, scans each piece of mail and records the IMb before packaging it for delivery to the USPS facility. Pitney Bowes uploads the barcode information to USPS to register every mail piece entering its workflow. Issuance Back Office daily retrieves IMb status information from USPS to report on its acceptance by USPS and then uploads the status of the document to the Mainframe. This provides the DMV with a clear picture of every card from receipt of print request to delivery to USPS.

Because printing of the temporary document is outside the scope of this RFP, it is not clear what, if any, role we have in providing the temporary receipt. As with all interfaces, we will work with the DMV during the design phase to be sure all required data is handled appropriately.

I. Storage and Interfaces

e. Interfaces

58. Describe how the solution seamlessly interfaces with the Mainframe for Knowledge Testing.

Function: *The Contractor polls a web service connected to the Mainframe test result table to get open tests by location and sends the results back to the Mainframe when the tests are completed.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

The IDEMIA AutoTest solution only has two points of communication with the DMV's backend system. AutoTest will receive applicant and test information from the DMV by calling the DMV Web Service and will use this information to create a new applicant in the AutoTest system or update the applicant's record if it already exists in the AutoTest database. The test(s) for the applicant will be created on the server and then will be placed on the Test Station for the applicant to take the test. After the applicant completes a test, the results will be sent to the DMV.

As is done today, communication will be secured by certificates provided by the DMV. Every call to the DMV service will have a LookupAuthenticator parameter to provide additional security. Where possible, data types used within messages will be standard XML data types. If additional augmented or non-standard data types are required, they will be based on (or inherited from) standard XML data types.

I. Storage and Interfaces

e. Interfaces

59. Describe how the solution seamlessly interfaces with the Mainframe for Skills Testing.

Function: *The Contractor polls a web service connected to the Mainframe test result table to get open tests by location and sends the results back to the Mainframe when the tests are completed.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

As it does for the DMV today, RoadTest will communicate with the back end system (NDLIS) for DMV tests using Web services. The RoadTest server will poll applicant and test information from NDLIS and will use this information to create a new applicant in the RoadTest database or update the applicant records if it already exists in the RoadTest database. After the applicant completes a test, the results will be sent to NDLIS. The DMV will procure certificates and use them to secure data being transmitted by URL.

I. Storage and Interfaces

e. Interfaces

60. Describe how the solution seamlessly interfaces with the Secretary of State/Voter Registration.

Function: *Secretary of State retrieves signatures only for purposes of voter registration.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

As we do today, we will make a Web service available to retrieve the most recent applicant record containing the signature required by the Secretary of State for Voter Registration.

I. Storage and Interfaces

e. Interfaces

61. Describe how the solution seamlessly interfaces with NLETS.

Function: *Nebraska State Patrol retrieves facial images and signatures.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

As done today, we will make a Web service available to retrieve the most recent applicant record that contains the facial images and signature required by the Nebraska State Patrol.

I. Storage and Interfaces

e. Interfaces

62. Describe how the solution seamlessly interfaces with NCJIS.

Function: *Nebraska Crime Commission retrieve facial images and signatures.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

IDEMIA will expose a Web service to the Nebraska Criminal Justice Information Services (NCJIS) Image Access. The Web service allows NCJIS to retrieve portrait and signature images from the back office server. The connection will be Transport Layer Security (TLS)-encrypted.

The Request XML will allow NCJIS to pass in either a DL number or transaction ID—NCJIS should not pass both in the same Web service call. The response XML will include the following:

- All portrait and signature images that are valid and were issued on a permanent document

- Timestamp of each portrait photo
- Transaction ID for each set of signature/portrait images

I. Storage and Interfaces

e. Interfaces

63. Describe how the solution seamlessly interfaces with Digital Image Exchange.

Function: *Retrieve facial images via AAMVA's Digital Exchange Program.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓+ IDEMIA USA complies and exceeds.

As we do today, we will provide a Web services interface to AAMVA's Digital Exchange Program (DIEP), now called Digital Image Access (DIA). Given an applicant's identifying information, the DIA will retrieve and send photos via AAMVANet from and to states that participate in this program. These images will be stored in a segregated manner in the back office database for a configurable period of time, after which they will be deleted. Native functionality for DIEP/DIA integration is built into Issuance 360 Back Office, as shown in Figure 59, **eliminating the need for the current DIEP Server.**

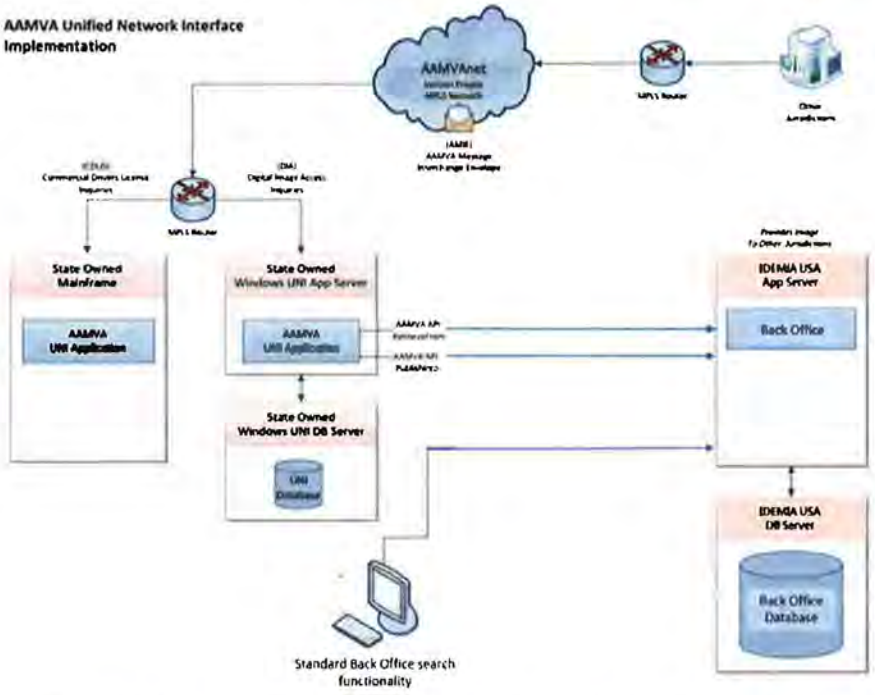


Figure 59: Native DIEP/DIA Functionality in Issuance 360 Back Office Reduces Solution Complexity

In the Front Office

When the Mainframe passes a DIEP/DIA transaction to Web Enrollment, Web Enrollment will launch the DIEP/DIA workflow. As is done today, the DMV examiner will compare the DIEP/DIA image to the face of the applicant to determine if the photo matches the person standing in front of him/her.

In the Back Office

Today, DIEP-authorized DMV users run the DIEP Image Retrieval utility to view demographic and image information that has been retrieved from other states. Because DIEP is native to Issuance 360 Back Office, authorized DMV staff will simply use Issuance 360 Back Office search capabilities to retrieve the desired information, thus eliminating the need for additional training.

I. Storage and Interfaces

e. Interfaces

64. Describe how the solution seamlessly interfaces with Enterprise Content Management (ECM).

Function: *This is the State's enterprise content management service for storing and managing documents.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

DMV examiners will scan documents directly from Web Enrollment as part of the complete capture workflow or, alternatively, as a standalone workflow. Once the transaction complete, Web Enrollment will upload the record to the back office server. Issuance 360 Back Office will extract the documents and associated metadata and send them to OnBase ECM via standard API calls. No documents will be stored in the Issuance 360 Back Office database.

I. Storage and Interfaces

e. Interfaces

65. Describe how the solution seamlessly interfaces with Nebraska's state e-government portal contractor for Skills Test.

Function: *The Contractor polls a web service connected to Nebraska's state e-government portal contractor by third party tester to open tests and send results back to Nebraska's state e-government portal contractor.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

As it does today, RoadTest will communicate with the Nebraska interactive third-party system for third-party tests using Web services. The RoadTest Server will poll applicant and test information from the third-party system and use this information to create a new applicant or update the applicant's record if it already exists in the RoadTest database. After the applicant completes a test, the test result will be sent to the third-party system. Certificates for third-party servers will be procured by the DMV and used to secure data being transmitted by URL.

I. Storage and Interfaces

e. Interfaces

66. Describe how the solution seamlessly interfaces with Multi-Jurisdiction CDL Collaboration.

Function: *Electronically share images with other jurisdictions, perform facial recognition comparisons for images from participating jurisdictions, send daily images to other jurisdictions for facial recognition comparison, and receive facial recognition comparison results from participating jurisdictions.*
Method of Transmission*: To Be Determined*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓+ **IDEMIA USA complies and exceeds.**

As the provider of your current Multi-Jurisdiction CDL Collaboration solution, we will continue to provide this functionality and interface going forward. **Our Fabric architecture is designed to seamlessly integrate with Issuance 360 Back Office, and you can continue to use the functionality you enjoy today.**

I. Storage and Interfaces

e. Interfaces

67. Describe how the solution seamlessly interfaces with Nebraska's state e-government portal contractor for Conceal Carry Permit.

Function: *Nebraska State Patrol retrieves facial images via a state e-government portal contractor-provided service to issue Conceal Carry Permits.*
Method of Transmission*: Web Services*
Existing Interface: *Exists*
Responsible to Build: *Contractor*

✓ **IDEMIA USA complies.**

As done today, we will make a Web service available to retrieve the most recent applicant record that contains the facial images and signature required by the Nebraska State Patrol.

CAPTURE IMAGES

We have completely redesigned and re-architected our capture application, streamlining the workflow, improving configurability, and updating the user experience based on our lessons learned over decades of serving DMV environments. We've applied technological advances in software development and design and married it with what we know best serves the DMV's needs.

Even though the software is new, DMV examiners will recognize a familiar pattern to the workflow and data flow. They also will notice the increased speed of transactions. Implementing an exception-based workflow means that the DMV examiner moves quickly through applicant processing, pausing only under error conditions. Because most transactions proceed without error, the overall transaction time drops dramatically. We believe your examiners will like the look and feel and behavior of our new capture software, Web Enrollment.

Capture by the Numbers

Our redesigned capture solution reduces customer wait times and streamlines the job of DMV staff, eliminating confusion and need for detailed training. Our solution reduces click rate by 40% to as little as **two clicks** to capture a quality photo and signature. What's more is that image capture takes less than **two seconds**!

J. Capture Images (Signature and Facial) and Compare to Historical Images

a. Integration

68. Describe how image capture is integrated with your entire solution, including all interfaces. That is, how does the data flow seamlessly between functions/modules and how does the user move between functions/modules in this area to and from other functions/modules?

✓ **IDEMIA USA complies.**

Web Enrollment, our front office capture application, tightly integrates with Issuance 360 Back Office, which acts as the hub of our solution. Issuance 360 Back Office directs the data it receives from Web Enrollment to the appropriate system. Allowing DMV examiners to service customers more efficiently and effectively, image capture data flows seamlessly from the DMV examiner station, to the back office server, to card production, and ultimately to the Mainframe for final card status. Figure 60 shows this data flow.

Figure 60: Seamless Flow of Data from the Front Office Capture through Card Production

The DMV examiner initiates a capture request from the Mainframe application. The Issuance 360 Back Office server polls the Mainframe to retrieve a transaction. Back Office determines that the transaction is an image capture request and sends it to the capture station or queue (depending on your configuration) for front office processing. Web Enrollment employs a guided workflow that seamlessly moves the user through the transaction to completion, and image capture records are uploaded automatically to the back office server when the DMV examiner completes the transaction.

The examiner workflow can vary depending on user roles or transaction type. For example, the Digital Image Exchange facial comparison screen would be part of the workflow for a new issuance for an applicant who originates from a participating state. That screen would only appear for that type of transaction.

Using a status bar at the top of the screen (shown in Figure 61), the DMV examiner easily can see where he/she is in the workflow. During the design phase of the project, we will work with you to configure the workflows that best suits the DMV's business needs.

Figure 61: Web Enrollment Status Bar

Examiners easily see the current step of the workflow.

J. Capture Images (Signature and Facial) and Compare to Historical Images

b. User experience

69. Describe the end user experience in capturing facial images and signatures.

✓+ IDEMIA USA complies and exceeds.

We have completely redesigned our capture application. Taking advantage of technology advances associated with modern software platforms, we have streamlined the workflow, improved configurability, and updated the user experience. You will notice two major improvements:

1. Logically related transactions are on the same screen
2. Exception-based workflow – no need to confirm each step; software only stops for error correction

Logically Related Transactions

We have combined photo and signature capture onto one screen and document scanning and authentication on another screen, but we still use a guided workflow to guide the examiner through those distinct parts of the application. For example, after a DMV examiner captures the photo, the workflow automatically places the cursor at the signature box and provides instructions to the examiner. Once the examiner accepts the applicant signature as valid, Web Enrollment automatically advances to the document scanning and authentication screens. The speed and simplicity of this workflow will allow DMV examiners to process applicants more quickly and efficiently.

Exception-Based Workflow

Steps of the workflow automatically advance if no error occurs. For example, in a renewal transaction, photo capture and signature capture display on the same screen, as shown in Figure 62. When a DMV examiner takes a photo, the software automatically performs an ICAO quality check and a 1:1 photo comparison. If there are no errors with the photo—as is the case most of the time—the workflow automatically advances to signature capture *without any need for the examiner to click a button.* Our studies have shown that this new design **reduces the click rate by 40% to as little as two clicks to capture a photo and signature** for the majority of renewal transactions, helping the examiner focus on the customer, not the computer. The beauty of this design is that

through simple configuration changes, the sequence can be separated easily, thus eliminating the confusion (and need for detailed training) that sometimes occurs in other "all-in-one" screens.

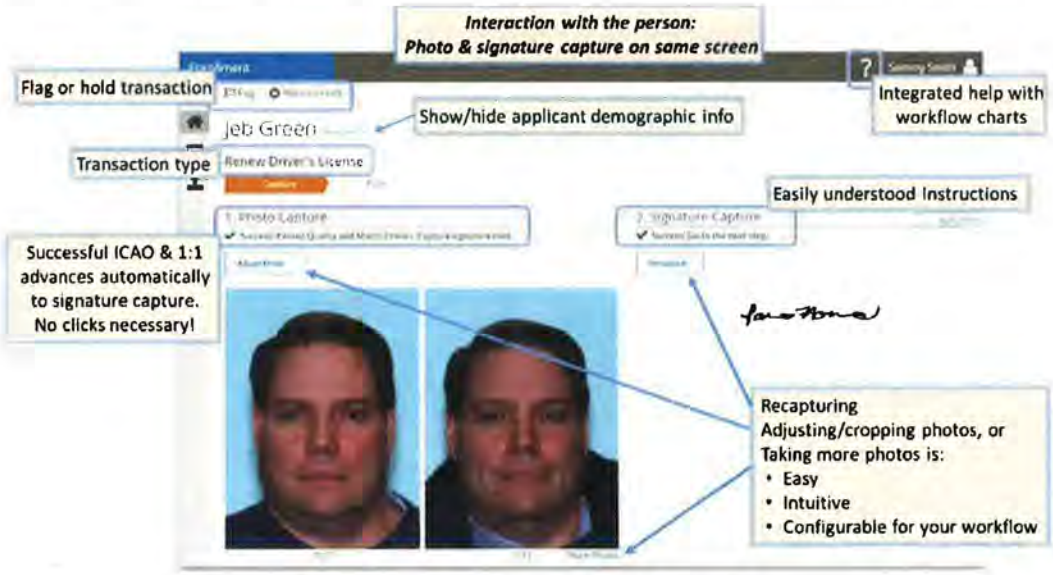


Figure 62: Web Enrollment User Interface

This new modern, intuitive interface improves and accelerates applicant processing.

In the event of an error, Web Enrollment displays an error message to the DMV examiner and highlights the default action in the workflow. Shown in Figure 63, in the event of an error, Web Enrollment uses a red triangular flag symbol and provides easily understood error messages and instructions to inform the examiner of problems found during this step of the workflow (the 1:1 photo comparison check in this example) along with corrective actions on how to bring the photo into compliance.

Figure 63: Color-Coded, Plain Language Error Messages

J. Capture Images (Signature and Facial) and Compare to Historical Images

b. User experience

70. How does the solution support examining staff's ability to view historical, voided, not issued, and valid facial images and signatures, particularly where more than one exist?

✓ **IDEMIA USA complies.**

Our solution supports the examining staff's ability to view historical, voided, not issued, and valid facial images and signatures, particularly where more than one exists. In the front office, Web Enrollment is configurable to support multiple historical images.

When searching for an individual's record, the application presents historical issuances. By clicking on those issuances, DMV staff can see the status, including whether it was voided or not issued. DMV staffers also can see the valid facial image and signature on the history page, as shown in Figure 64.

Figure 64: Person History

The person history page shows historical details about a person in the database.

J. Capture Images (Signature and Facial) and Compare to Historical Images

b. User experience

71. Describe how your solution provides real time image comparison, acceptance, and storage.

✓ **IDEMIA USA complies.**

As part of the front office image capture process, Web Enrollment automatically performs a near real-time 1:1 image comparison to compare new applicant images with the most recent historical image on file, detecting and preventing duplicate records and fraudulent issuances. Most of the time, the image comparison passes and the photo will be uploaded and stored in the customer's record in the Issuance 360 Back Office database. In the few cases where the 1:1 check does not pass, an alert error (seen in Figure 65) is displayed to the DMV examiner with these possible next steps:

- Click Adjust Photo to readjust the image
- Click More Photos to compare additional historical images
- Click Capture Another to retake the applicant's photo
- Click Override Match Check to request a supervisory override of the mismatch
- Click the Flag icon to flag the record for investigation and proceed in the workflow—this action prevents issuing the credential until a facial recognition check is done but allows the DMV staffer to continue his/her work without an altercation with the applicant.

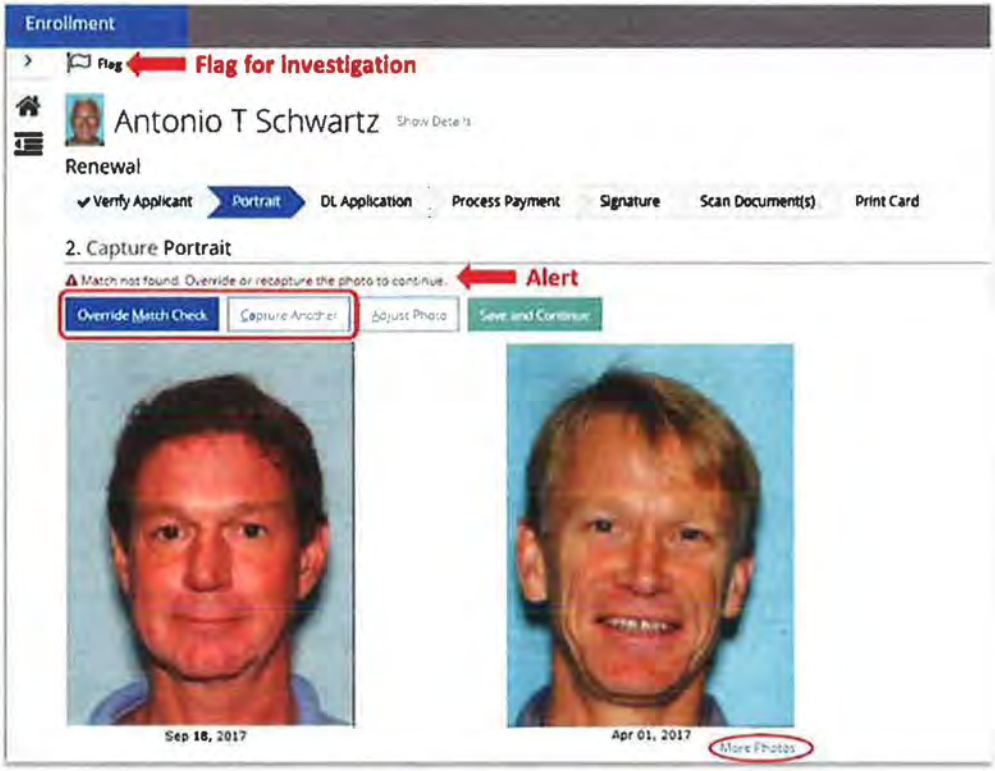


Figure 65: Flag for Investigation

In this case, the new applicant image does not match with the previous image already associated with the customer record, and the DMV examiner has been notified of the failed match.

When a DMV examiner flags a record for investigation, the transaction will not proceed to card production. Instead, it will be placed in the Flag For Investigation (FFI) review queue, indicating that the suspicion of fraud occurred at the counter, and will remain there until it is cleared by a DMV investigator. This queue can be displayed on the dashboard to identify a potential security risk alert, as shown in the red Flag for Investigation box highlighted in Figure 66.

Figure 66: My Tasks Dashboard

The dashboard layout helps to organize a DMV examiner's alerts.

If an investigator determines that fraud has been committed, he/she can choose to deny issuance permanently, as shown in Figure 67.

Figure 67: Permanently denying issuance reduces fraud

J. Capture Images (Signature and Facial) and Compare to Historical Images

c. Signature capture

72. Describe how your signature capture solution meets the requirements in V. Project Description and Scope of Work, J. Capture Images (Signature and facial) and Compare Historical Images, 3. Signature Capture Device.

✓ **IDEMIA USA complies.**

For signature capture, we propose the same Topaz SignatureGem LCD 4x5 pad you use today (or its functional equivalent available at the time of deployment) along with its fine-point tethered stylus, as shown in Figure 68. Situated on the counter, it will act as the point of interaction with the capture application for all of your signature capture needs.

Figure 68: Topaz SignatureGem LCD 4x5

The LCD interactive display features "electronic ink" to allow the applicant to produce a true representation of a written signature when signing that meets the AAMVA DL/ID Card Design Standard for signatures.

This Topaz SignatureGem scanner supports right- or left-handed applicants with its tethered pen. It offers a lightweight body with a generous screen area for signatures. Table 19 lists the Topaz SignatureGem's specifications.

Table 19: Topaz Signature Gem LCD 4x5 Tablet Specifications

Height	1.56"
Width	7.25"
Depth	6.1"
Signing Area	4.6" x 3.4"
Sensor Type	Active electromagnetic

Below are our responses to the specific requirements described in Section V. Project Description and Scope of Work, J. Capture Images (Signature and facial) and Compare Historical Images, 3. Signature Capture Device.

a. *The signature device must provide adequate space to display all disclaimers. Applicants must acknowledge aggregated into a single acknowledgment step and presented in a readable format and font. The Contractor shall make changes to disclaimer language at no cost to the DMV.*

The Topaz SignatureGem includes a screen that is 4.6" x 3.4", which is adequate space to display disclaimers in a readable format and font. Applicant acknowledgments will be aggregated into a single step in the same readable format and font. We assume this will be accomplished in a single display page on the signature pad and will make changes to the disclaimer's language at no cost to the DMV.

b. *The signature device must provide adequate space for a person to write a normal sized signature.*

The Topaz SignatureGem provides adequate space for a person to write a high-quality, AAMVA-compliant, normal-sized signature.

c. *The signature stylus must have a fine point stylus.*

The proposed signature device comes with a tethered fine-point stylus that will be used to capture an accurate representation of the applicant's true signature.

d. *The interface for the signature device must allow an individual to view the signature while writing.*

The LCD interactive display on the Topaz SignatureGem features "electronic ink" showing the applicant's signature as it is being written.

e. *The DMV requires the signature capture device spatial dimension footprint of no larger than 5.5" x 8.5".*

The Topaz SignatureGem has a total spatial dimension footprint of 44.25 square inches, which is smaller than that of a signature pad with dimensions of 5.5" x 8.5" (46.75 sq. in.).

f. *The signature capture device must support both left- and right-handed persons and people in wheelchairs.*

The Topaz SignatureGem supports both left- and right-handed persons as well as people in wheelchairs. Due to its lightweight nature and portability, the signature pad can be picked up and physically moved to an individual who cannot reach the signature pad on his or her own. The tethered fine-point stylus supports both left- and right-handed use for signature capture as well.

In the event that the applicant is unable to provide a valid signature, the DMV examiner is able to click a checkbox on the signature capture screen (Figure 69) indicating that the applicant is unable to sign and the workflow continues.

Figure 69: Applicant unable to sign indicated in signature area when checkbox is checked

g. *The signature capture device must consistently produce an excellent signature image and must meet the requirements as identified by AAMVA DL/ID Card Design Standards.*

Using a fine-point stylus, the Topaz SignatureGem consistently produces an excellent signature image and meets the requirements as identified by the AAMVA DL/ID Card Design Standards.

h. *The signature capture device must have the same degree of smooth flow as a handwritten signature.*

The LCD interactive display on the Topaz SignatureGem features "electronic ink" to allow the applicant to produce a signature with the same degree of smooth flow as a written signature that consistently meets the AAMVA DL/ID Card Design Standard for signatures.

i. *The signature device must show applicant signature on the computer screen for Examining Staff to view when the applicant writes signature.*

Web Enrollment displays a live signature on the workstation as the applicant is signing on the signature pad. Web Enrollment also provides a signature status message to Examining Staff, shown circled in Figure 70.

Figure 70: Live Signature Capture

j. The signature capture device must allow the Examining Staff to view, reject, and recapture another signature as necessary to obtain an acceptable signature.

Web Enrollment allows the Examining Staff to either view, reject, or recapture another signature as necessary to obtain an acceptable signature. On the signature capture screen, the Examining Staff is able to view the applicant's signature on the screen. The Examining Staff then has the option to Accept the signature. When accepted, the signature is saved and the signature pad is cleared. At this point, the examiner has the option to save the signature or recapture. The applicant will not be able to do anything on the signature pad unless the examiner selects to recapture. When either the applicant or the DMV examiner presses Accept, the signature is run through our smoothing algorithms, producing a card-ready, AAMVA-compliant signature.

J. Capture Images (Signature and Facial) and Compare to Historical Images

c. Signature capture

73. Describe the process for making changes to applicant specific information (such as affirmations and disclaimers) that show on the signature capture device.

✓ **IDEMIA USA complies.**

Making changes to text on the signature pad can be relatively simple or complex; we assume the changes that happen in a single screen and are fairly simple. The process for making changes to text require a straightforward configuration build. As with any change, it should undergo QA and UAT before deployment. Once testing is completed, the build can be pushed out via the Web Enrollment Management Server automatically to update all capture workstations. The update is scheduled to be completed so as not to interfere with normal DMV operations.

J. Capture Images (Signature and Facial) and Compare to Historical Images

c. Signature capture

74. How does your signature capture device accommodate applicants in wheelchairs, persons who are left-handed, persons with physical limitations, and other non-typical users?

✓ **IDEMIA USA complies.**

The Topaz SignatureGem 4x5 signature pad supports both left- and right-handed persons as well as people in wheelchairs, persons with physical limitations, and other non-typical users. Due to its lightweight nature and portability, the signature pad can be picked up and physically moved to an individual who cannot reach the signature pad on his or her own. The tethered fine-point stylus also supports both left- and right-handed use for signature capture.

In the event that the applicant is unable to provide a valid signature, DMV Examining Staff can click a checkbox on the signature capture screen (Figure 71) indicating that the applicant is unable to sign and the workflow continues.

Figure 71: Examining Staff can help an applicant who is unable to sign

J. Capture Images (Signature and Facial) and Compare to Historical Images

d. Facial image capture

75. What automatic facial capture adjustments are made for focusing, centering, image clipping, skin color ranges and combinations, hair color, and height (including standing that are taller or shorter, or seated as for those using wheelchairs), eyeglass glare, persons with physically-manifesting medical conditions, and lighting level of driver license office?

✓ **IDEMIA USA complies.**

IDEMIA USA's Find-a-Face® software allows our solution to focus, center, and crop around the face of the applicant quickly and automatically, regardless of hair color, skin color ranges, height, or physically-manifesting medical conditions. Combining this software with our Camera Tower, our solution captures the applicant's photo, and executes ICAO compliance checks. During this process, the following image processing functions are performed:

- Quickly focus the image
- Quickly locate and center the applicant's face
- Properly crop the image for fast ICAO compliance
- Carefully scale the image for consistency in size
- Perform the ICAO quality check to ensure a quality image that will enroll successfully in facial recognition. Quality metrics checked include:
  - The applicant is facing forward.
  - The applicant's face is centered horizontally in the frame and the eyes are approximately 55% of the vertical distance up from the bottom of the image.
  - The face is scaled to a standard size.
  - The eyes are clearly visible.
  - The portrait is correctly sized so there are at least 60 pixels between the centers of the eyes to ensure minimal resolution for facial recognition.
  - An imaginary vertical straight line positioned at the horizontal center of the image will pass through the middle of the subject's mouth and the bridge of the nose.
  - The applicant's face is in focus from nose to ears and from chin to crown.
  - The applicant's eyes are aligned within five degrees of horizontal.
  - The image is correctly exposed.

Our automated workflows require no adjustments or actions by the examiner providing quick, quality image capture **(less than 2 seconds)**, keeping customer lines moving.

- Precisely apply gamma and color correction for consistent skin-tone equalization to represent a full range of skin complexions accurately
- Performs a 1:1 facial comparison for applicants that have a historical image (e.g., renewals and duplicates)

Table 20 details how our Camera Tower and Find-a-Face software will benefit the DMV.

Table 20: Camera Tower Features and Benefits

Features	Benefits
Automatic cropping of digital photo and signature images	• Provides immediate self-adjustment to compensate for red eye and varying skin tones • Complies with AAMVA card design standards, meaning your card image and signature will appear flawless • Has less than a one-second delay from the time of the image file request to the time that this file is transmitted from the capture center
Unique Find-a-Face functionality of Web Enrollment	• Focuses, captures, centers, and crops automatically • Separates flash from the lens by six inches from center-to-center, virtually eliminates any chance for red eye • Provides automatic color correction for applicants with varying skin tones • Adjusts images automatically to correct for angular distortion to ensure all photos have a true "square on" appearance regardless of the height of the applicant • Ensures correct head size and location meets international standards for identification cards; ICAO and International Organization for Standardization (ISO)-compatible for portrait capture/printing and biometric interchange)
Automatic image quality check and photo configuration	• Includes diffused lighting over the full face to eliminate shadows and "hotspots" • Provides automatic portrait evaluation to ensure portrait quality compliance • Confirms image quality, orientation, and color immediately
Automatically and continuously focus and adjust the illumination of each digital image capture component	• Includes diffused lighting over the full face to eliminate shadows and "hotspots"
Lighting includes a high-quality professional strobe	• Overcomes ambient lighting conditions, creating consistent portraits regardless of the environment • Provides bright yet diffused light that evenly distributed with minimal glare, hot spots, or shadows • Ensures the highest quality, ISO-compliant portraits to provide investigators with the best defense against possible identity theft and fraud when used in combination with a facial recognition system • Allows depth of field to be adequate to ensure uniformly well focused, crisp images with high definition and good contrast • Eliminates the need for service with lifetime of camera and strobe replacements (>250,000 flashes)

Without any manual adjustments required, the Camera Tower system will capture applicants ranging in height from 28" to 81" when the subject is 60" from the camera lens (about 72" to the backdrop). Applicants can be standing or sitting (such as in a wheelchair) without affecting the quality of the image or requiring any intervention

by the DMV. Figure 72 shows a representation of the extreme flexibility of the Camera Tower in taking applicant photos depending on distance to the backdrop, counter heights, and Camera Tower height adjustments.

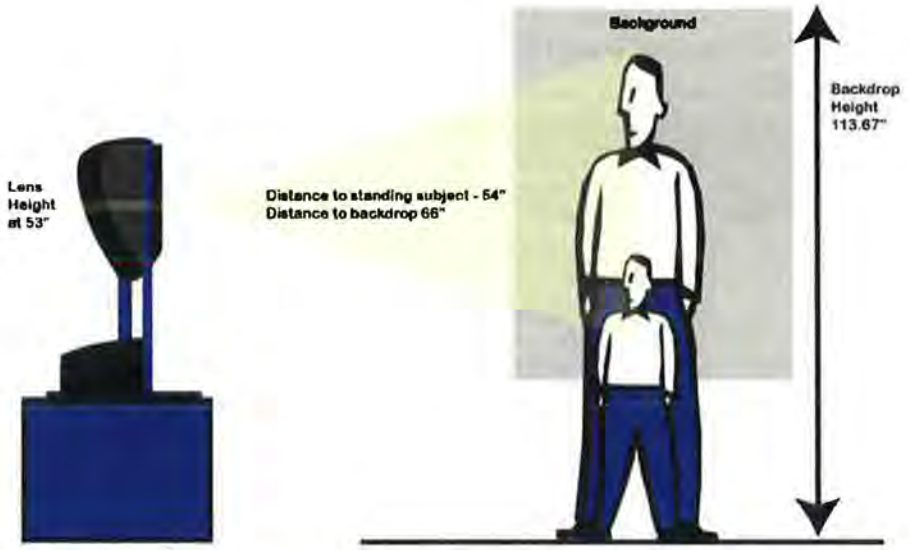


Figure 72: Flexibility for those standing or sitting without a need to adjust the camera

J. Capture Images (Signature and Facial) and Compare to Historical Images

d. Facial image capture

76. How may examining staff manually adjust for focusing, centering, image clipping, skin color ranges and combinations, hair color, and height (including standing that are taller or shorter, or seated as for those using wheelchairs), eyeglass glare, persons with physically-manifesting medical conditions, and lighting level of driver license office?

✓ **IDEMIA USA complies.**

As previously stated, the combination of the Camera Tower and the Find-a-Face Software takes the applicant's photo and automatically adjusts for focusing, centering, image clipping, skin color ranges and combinations, hair color, and height, eyeglass glare, persons with physically manifesting medical conditions and lighting level of driver's license offices. Therefore, there is no need for Examining Staff to make manual adjustments for any of those metrics.

J. Capture Images (Signature and Facial) and Compare to Historical Images

d. Facial image capture

77. Does the solution automatically edit/override sneezes, head tilts, or closed eyes? Does it make other adjustments?

✓ **IDEMIA USA complies.**

Web Enrollment automatically checks more than 20 quality metrics—including compliance errors such as sneezes, head tilts, and closed eyes—on each photo. This ensures that every photo captured meets ICAO standards, is suitable for an AAMVA-compliant DL/ID, and is usable within the facial recognition system. Once the photo is captured (Figure 73), Web Enrollment automatically advances to the next step of the workflow unless an error occurs. If, for example, a photo does not pass the ICAO quality metrics checked for each image (as shown in Figure 74), Web Enrollment interrupts the workflow, alerts the Examining Staff of the error using color-coded error messages, and provides instructions on how to continue.

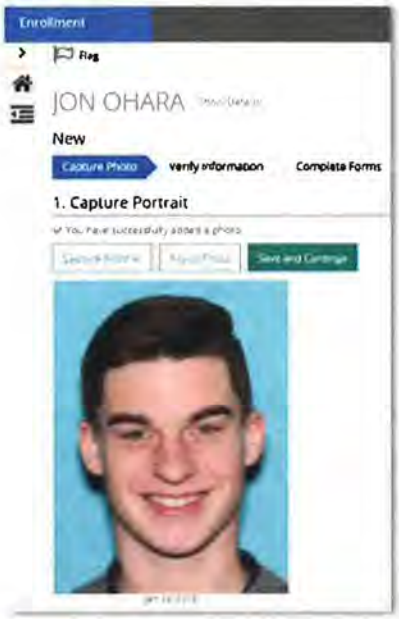


Figure 73: Green text indicates successful portrait capture

Web Enrollment automatically advances to the next step in the workflow if an ICAO-compliant photo is taken.

If the image quality check fails, it will interrupt the workflow and provide color-coded messages to the DMV examiner, as shown in Figure 74.

Figure 74: Failed ICAO Quality Check

Color-coded messages improve productivity by quickly drawing a DMV examiner's eyes to the error.

In the occasional instance where capturing a compliant portrait proves impossible, Web Enrollment provides override capability along with the option to detail the reason for the non-compliant image, as shown in Figure 75. In our experience, many jurisdictions choose to implement controls around overrides by requiring supervisor approval

in addition to an optional reason for the override. All override events are logged as an Audit History entry in the applicant's record.

Figure 75: Override Camera Quality Check

Overrides provide flexibility to address the applicant's unique needs while maintaining an audit trail of the activity.

Manual Adjustments

DMV examiners can elect to readjust an image as deemed appropriate, even when the image meets all quality checks. Selecting Adjust Photo provides the DMV examiner with a new pop-up screen showing the current cropping on the left side and the final image on the right. Adjusting the highlighted box fine-tunes the final cropping of the image in real-time, providing immediate compliance feedback to Examining Staff. Every time the Examining Staff moves the crop box on the image, Web Enrollment automatically performs an additional ICAO compliance check. Figure 76 depicts manual image cropping in which Examining Staff has chosen to adjust the image.

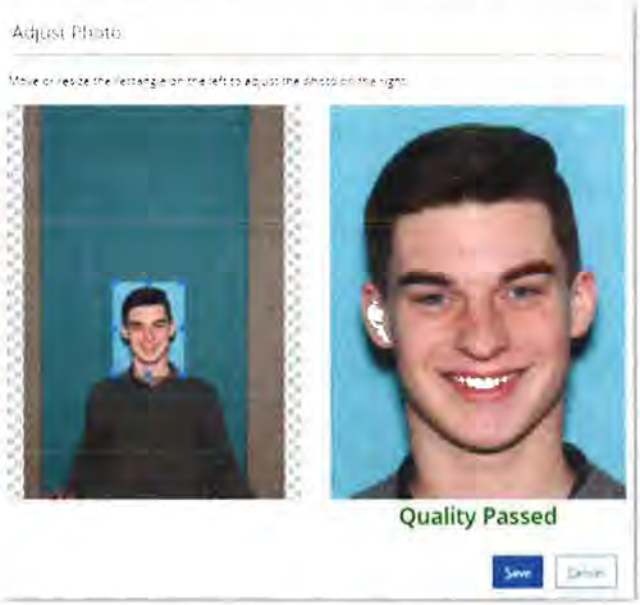


Figure 76: Manual Image Cropping

Examining Staff can recapture, crop, or override photos independently as needed.

J. Capture Images (Signature and Facial) and Compare to Historical Images

d. Facial Image capture

78. Cite data describing the life expectancy and reliability of the camera and flash.

✓ **IDEMIA USA complies.**

The IDEMIA USA Camera Tower is rated for over 250,000 images, which covers the camera and flash as well as all other subcomponents and practically eliminates the need for service. The Camera Tower (shown in Figure 77) is a high-quality, professional-grade, solid-state digital color camera in attractive packaging that assures clear, consistent portrait colors. Featuring an image capture of 18 megapixels, autofocus, and standard red, green, and blue (sRGB) color system, applicant photos will exceed all requirements for accurate reproduction of a digital image and credential production.

The camera's high-quality professional strobe flash overcomes ambient lighting conditions, creating consistent portraits regardless of environment. Other benefits of the high-quality strobe include a bright, yet diffused light, evenly distributed with minimal glare, hot spots, or shadows. The strobe ensures the highest quality, ICAO-compliant portraits to provide investigators with the best defense against possible identity theft and fraud when used in combination with a facial recognition system. It allows the depth of field to be adequate to ensure uniformly well focused, crisp images with high definition and good contrast.

Figure 77: IDEMIA USA Camera Tower

The Camera Tower's highly reliable flash is rated for over 250,000 images, reducing downtime for maintenance.

J. Capture Images (Signature and Facial) and Compare to Historical Images

d. Facial image capture

79. a) Does the solution offer a quality check to ensure the image meets ICAO standards? and b) How does the solution indicate what correction must be made to meet the standards?

✓ **IDEMIA USA complies.**

Our Web Enrollment solution automatically checks more than 20 quality metrics within two to three (2-3) seconds on each photo to ensure that every photo captured meets ICAO standards, is suitable for an AAMVA-compliant driver's license, and is usable with a facial recognition system. Once the photo is captured, Web Enrollment automatically advances to the next step of the workflow unless an error occurs. If a photo does not pass the ICAO quality metrics checked for each image, Web Enrollment interrupts the workflow, alerts Examining Staff of the error using color-coded error messages (shown in Figure 78), and provides instructions on how to meet the standards and continue the workflow.

Figure 78: Color-coded messages improve productivity

Red ICAO failure codes quickly draw an examiner's eyes to the error.

J. Capture Images (Signature and Facial) and Compare to Historical Images

d. Facial image capture

80. Does the solution prevent the examiner from accepting an image that does not meet ICAO standards? If yes,

a. What are the override procedures?
b. In what cases will the examiner be able to override a non-compliant digital image and what is the process for overriding?
c. What tracking will enable reporting on these overrides and how will this information be made available to management?

✓ **IDEMIA USA complies.**

The guided workflow of Web Enrollment prevents Examining Staff from continuing if the photo does not meet ICAO standards. If the image quality check fails, it will interrupt the workflow and provide color-coded messages to the DMV examiner, as shown in Figure 79.

Figure 79: Color-coded messages improve productivity

Red ICAO failure codes quickly draw DMV examiner's eye to the error.

In the occasional instance where capturing a compliant portrait proves impossible, Web Enrollment provides an override capability along with the option to detail the reason for the non-compliant image, as shown in the dialogue box in Figure 80. In our experience, many states choose to implement controls around overrides by requiring supervisor approval in addition to an optional reason for the override.

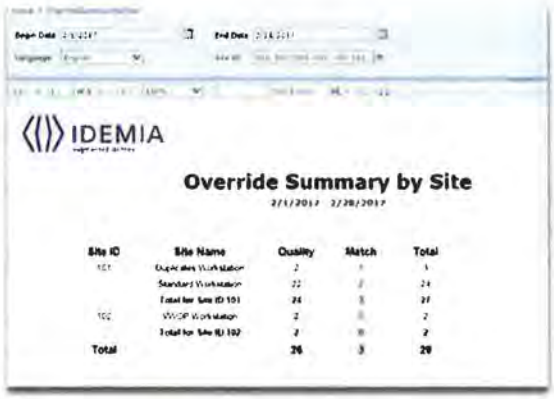
Figure 80: Override Camera Quality Check

Overrides provide flexibility to address customer's unique needs while maintaining an audit trail of its activity.

All override events are logged as an Audit History entry in the applicant's record. Standard reports detailed below are available to inquire on and track override activity.

Override Summary

Summarizes image overrides on a per office basis during a user specified date range. The reason for the override is listed for each license upon which an image was overridden.



Override Summary by Site

Summarizes image overrides on a per-facility basis during a user-specified date range. The summary is broken out by kind of override (Quality or Match) and total overrides.

Override Summary by User

Summarizes image overrides on a per facility basis during a user specified date range. The summary is broken out by kind of override (Quality or Match) and total overrides.

Override Detail

Provides detailed information on a per-card basis as to why a particular image was of insufficient quality. The reason, as well as the facility and location at which the image was captured, is returned in this report.

J. Capture Images (Signature and Facial) and Compare to Historical Images

e. Backdrop

81. Identify the size and weight of the backdrop and how it is transported when necessary. Include measurement of the backdrop's height from the ground to the backdrop's bottom edge. Describe how the physical backdrop operates (e.g., wall-hung, freestanding). If the backdrops are wall-hung describe how it must be mounted to the wall to appropriately stabilize.

✓ **IDEMIA USA complies.**

Included in the solution are IDEMIA USA's standard ceiling-hung and freestanding backdrops. We will work with the DMV during the design phase of the contract to deliver a mix of different types of backdrops that will best suit the various office layouts.

Ceiling-Hung Backdrop

The color of the standard ceiling-hung backdrops are in accordance with the AAMVA DL/ID Card Design Standards. The backdrop measures 63.07" from the ground to the backdrop's bottom edge and weighs less than five (5) lbs. The backdrop will attach directly to the ceiling of the DMV office and hang downwards freely, preventing anything from accidentally bumping into it and potentially knocking it over. The hanging backdrop provides great flexibility as it saves the DMV valuable space on the floor. The hanging backdrops rarely need to be transported once they are installed, although if necessary, this can be done easily by rolling it up and safely moving it wherever it needs to go.

Freestanding Backdrop

As part of the portable solution, we will provide portable freestanding backdrops (seen in Figure 81) of the appropriate color that meet all 2016 AAMVA standards. The proposed backdrop will be a consistent color throughout, with no need for calibration strips or any special considerations. All backdrops provided will accommodate seated applicants. These backdrops mount easily and quickly to the collapsible poles and stand, and all components are stored in a nylon bag similar to an arrow quiver.

Figure 81: IDEMIA USA Backdrop

The freestanding, portable backdrop rolls up and fits into a handy carrying case; assembly requires less than two minutes.

J. Capture Images (Signature and Facial) and Compare to Historical Images

e. Backdrop

82. Do you have a virtual backdrop? What are limitations in using the virtual backdrop? What is its correct capture rate?

✓ **IDEMIA USA complies.**

As we do today, IDEMIA USA will provide physical backdrops to the DMV as the primary backdrop for photo capture. We have made a significant investment in virtual backdrop technology (VBD). Currently, we have two patents and one pending application covering technology to eliminate the physical backdrop. VBD capability has the potential to provide significant benefits to the DMV, including:

- Eliminating the cost and space associated with physical backdrops and allowing office layout flexibility
- Offering flexibility to place different background images behind the subject
- Eliminating potential inconsistencies in the backdrop image due to rare camera and flash setting differences used in varying environments

Figure 82 shows an actual virtual backdrop capture.

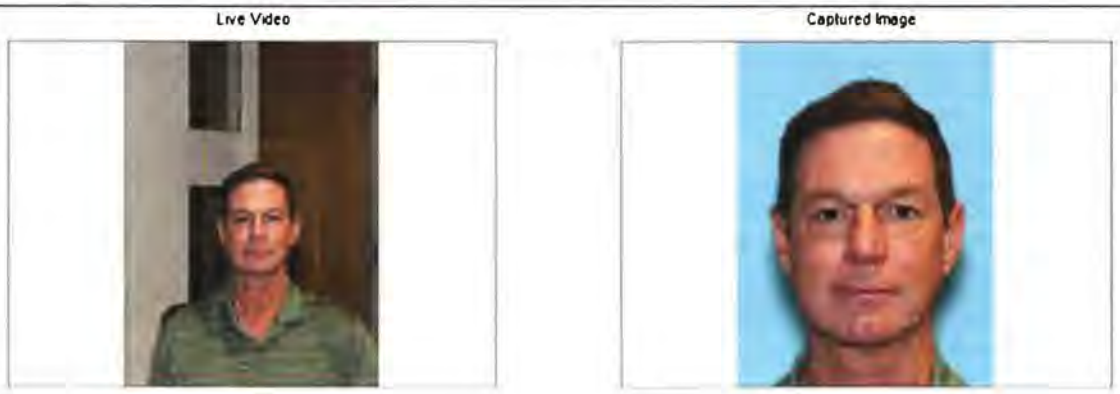


Figure 82: Virtual Backdrop

Actual capture of a compliant photo even in the most inconsistent of backgrounds.

Although VBD promises to provide great flexibility to the DMV, we have found that the appropriateness of using virtual backdrop depends on many factors, including on lighting conditions within the offices, movement in the background images, and feature characteristics of applicants. Care must be taken when applying it to the capture environment. VBD operates by using edge detection algorithms, which require contrast for detection. Finding the edge of a person's black hair against a black background, for example, often proves challenging. Therefore, at this point in its technological development, we recommend using physical backdrops for high-volume offices. For low-volume transactions and places where an applicant's ability to get in front of a physical backdrop is impaired, say in a home or nursing care facility, a standalone pilot would be recommended to assess feasibility. In any case, best practices are to use a capture setup (camera and flash) in order to get a quality image. Error rates vary from 1-5% depending upon the environment in which the photo is taken.

K. Document Capture

a. Integration

83. Describe how source document capture is integrated with your entire solution, including all interfaces. That is, how does the data flow seamlessly between functions/modules and how does the user move between functions/modules in this area to and from other functions/modules?

✓+ IDEMIA USA complies and exceeds.

We propose two methods of document capture—one that is integrated into the front office workflow, and another as an optional standalone scanning function for times when a scanning interface is required outside of the enrollment process.

Scanning within the Enrollment Workflow

Figure 83 shows a new workflow in which document scanning takes place within the context of an enrollment transaction. All steps of this workflow are enforced, and the DMV examiner will enter the scanning part of the workflow automatically after signature capture, moving seamlessly between functions necessary for REAL ID issuance.

Figure 83: Document Capture Integration

Chevrons at the top of the screen show that scanning takes place after Capture and Sign completes.

Standalone Scanning Workflow

We also will configure a "Scan Only" workflow for times when a scanning interface is required outside of the enrollment process. This will allow the DMV to use the slick features of Web Enrollment's scanning capabilities independent of DL/ID issuance. Once scanning completes, Web Enrollment will upload the transaction to the back office server, where it will be forwarded to OnBase ECM immediately for permanent storage.

K. Document Capture

b. Steps

84. Describe the steps examining staff must take to capture source documents.

✓ IDEMIA USA complies.

Document Scanning and Authentication: Speeding up one of the slowest parts of the workflow

Web Enrollment provides a flexible, quick, and efficient way to capture important identity documents needed to meet State and federal compliance requirements for REAL ID. Recognizing that document scanning can be one of the slowest parts of the applicant process, we set out to make it as painless as possible by giving the DMV Examining Staff options for how to accomplish the task at hand. Our solution incorporates an intuitive, easy-to-use, drag-and-drop interface for efficient document scanning. It makes manipulating and categorizing REAL ID documents simple. Figure 84 shows our Web Enrollment document scanning solution.

Figure 84: Web Enrollment Document Scanning

Our solution incorporates an intuitive, easy-to-use, drag-and-drop interface for efficient document scanning.

Document Scanning Workflow

Step 1: Examining Staff places documents in the State-provided Panasonic KV-S1027C-NT automatic document feeder; up to 100 sheets of paper or three plastic DL/IDs can be placed in the feeder at one time.

Step 2: Examining Staff elects to scan each page in as a separate document or to scan all pages into a single document, allowing the scanner to operate at its maximum speed. This selection is designed to maximize flexibility for Examining Staff so she/he can select the best option based on the documents presented by the applicant. Figure 85 shows the results of selecting scan only and selecting Merge all pages into a single file before scanning.

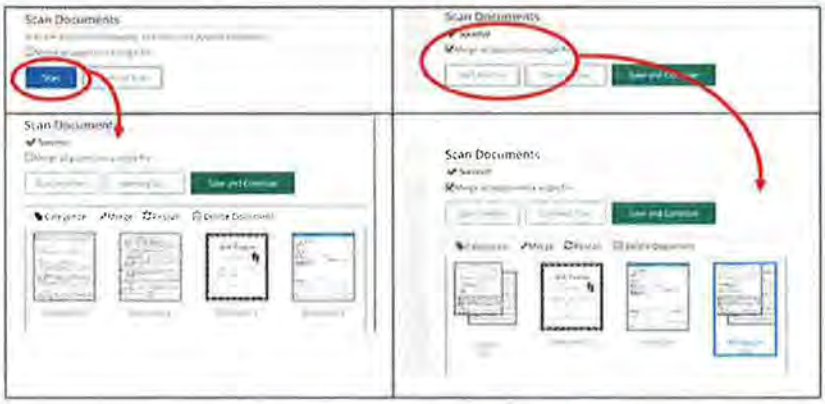


Figure 85. Document Scanning Choices

As shown in the left side, a multi-page scan results in multiple documents. On the right side, all pages are scanned into a single document.

Step 3: Upon finishing a successful scan, the scanned document(s) are added to the scanned document gallery. Examining Staff can then click on Scan Another to scan additional documents or Save and Continue to proceed to the next step of the workflow.

In case of a poor scan, Examining Staff can choose to either click on Rescan to scan the document(s) again or Override Scan to override the scan quality check.

Step 4: After scanning in all the documents, Examining Staff can advance to the next step to perform further document management such as merging two documents together or separating pages from a multi-page document into its own document.

The best way to identify the type of scanned documents is for Examining Staff to categorize them upon successful scanning. Using a pull-down menu of configurable document types (shown in Figure 86) when Examining Staff completes scanning, the scanned documents can be categorized using the Categorize option.

Figure 86: Categorize Document

As detailed above, our new scanning solution has been redesigned to improve the scanning workflow and efficiency for your examiners. This brings a new standard to scanning in the MVA/DMV market.

Step 5: Once the required number of documents are scanned, the Save and Continue button will be enabled, allowing Examining Staff to save the documents to the Issuance 360 Back Office record.

At the end of the enrollment transaction, Web Enrollment uploads the record to Issuance 360 Back Office. Issuance 360 Back Office will extract scanned document images and their metadata and, via the OnBase ECM API, will forward them to OnBase for storage. No documents will be stored in the Issuance 360 Back Office database.

K. Document Capture

c. Description

85. Describe how your solution meets the requirements described in Section V. Project Description and Scope of Work, K. Document Capture.

✓+ IDEMIA USA complies and exceeds.

Below are our responses to meet the requirements described in Section V. Project Description and Scope of Work, K. Document Capture:

1. *Document capture is required at various points during the enrollment process, depending on the type of applicant and credential. The DMV will collaborate with the Contractor to ensure an integrated workflow is developed that meets user and applicant needs.*

Web Enrollment's configurable workflow structures the enrollment process according to your business rules. We can configure document scanning into the workflow based on the transaction type, (e.g., for REAL ID issuances or for someone new to the State). We will collaborate with the DMV to meet your needs for an integrated workflow.

2. *The document capture process will:*
   a. *Be initiated within the CATS and within the enrollment application.*
   b. *Have the ability to accept the image scanned by hardware owned by the DMV. The DMV currently uses Panasonic DV1027C.*
   c. *Submit the document image to ECM.*

Web Enrollment's document scanning process meets these needs. Document scanning is initiated as a step within the Web Enrollment workflow. Our document scanning software is fully qualified to work with your Panasonic KV-S1027C-NT scanners.

After the image is scanned successfully and categorized according to document type, the document becomes part of the customer record. Once Examining Staff completes the enrollment, Web Enrollment uploads the record to the back office server for storage. The documents are stripped out of the applicant record and forwarded via API to OnBase ECM for permanent storage.

3. *The user must be able to identify document type (a pick list established by the DMV), prior to initiating the scanning process.*

Using a configurable list of documents selected by the DMV, Examining Staff can categorize a document easily and quickly by choosing a document type from a pull-down list (shown in Figure 87). This categorization becomes the metadata associated with the document.

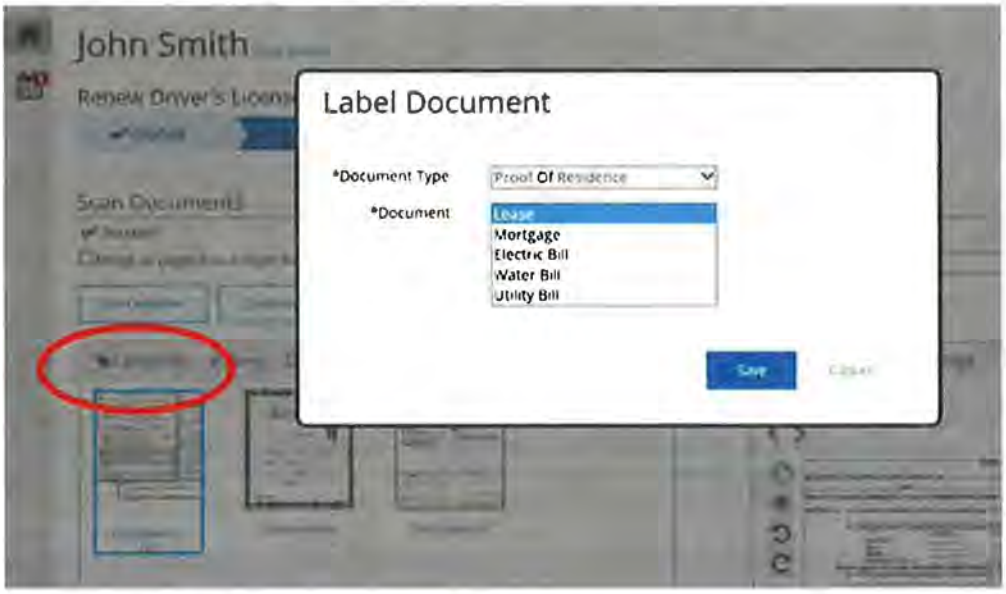


Figure 87: Easy Categorization of Scanned Documents

Clicking Categorize allows the DMV Examining Staff to define the document type for the selected document. Document types are configurable and defined by the DMV.

If a DMV examiner wishes to combine pages in to a single document, a simple drag-and-drop will combine the pages into one merged document. Using a two-page lease as an example, the DMV examiner would categorize the first page and simply drag the second page and drop it on the first, thus merging all pages together to form a complete document, as shown in Figure 88. Multiple pages can be dragged and dropped at the same time by highlighting multiple pages and dragging them at the same time.

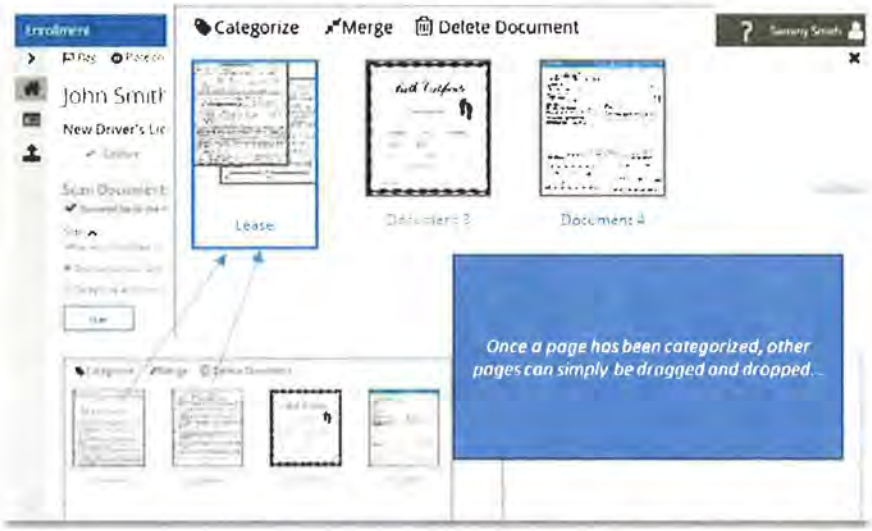


Figure 88: Document Merge—a Simple, Intuitive Technique

Once the first page of an identity document has been properly categorized, dragging and dropping other pages quickly merges them into a single document.

4. *The user must be able to view, on their screen and within the solution application, the document as it is scanned. This view may be presented as a pop up window.*

As soon as a document is scanned, it is displayed automatically in the document gallery on the left side of the screen, as shown in Figure 89.

Figure 89: Document Gallery

5. *The user must be able to view and approve the scanned image prior to approving its submission to the ECM.*

Figure 90 shows document scanning using the scan only workflow. Whether scanning in standalone mode or within an enrollment transaction, the DMV examiner simply clicks on the document in the gallery on the left of the screen to enlarge it for display in the viewing area on the right of the screen. **Icons on the toolbar of the display area allow the DMV examiner to zoom in and out and to rotate the document for a finer view.**

Figure 90: Looking closer at a document is a click away

6. *The date of the scan should be automatically captured and incorporated as part of submission to the ECM.*

A timestamp of the transaction is included in the record and can be uploaded automatically as part of the submission to the ECM (OnBase).

K. Document Capture

d. Multiple documents

86. During a single interaction with an applicant, multiple documents will be scanned as a group and indexed at different points during the enrollment process. Describe how your solution will support this.

✓ **IDEMIA USA complies.**

Web Enrollment allows DMV Examining Staff to separate multiple pages from a single scan and then categorize the individual document. This is particularly useful when scanning multiple short documents. It allows Examining Staff to take advantage of the speed of the scanner while still having the flexibility to categorize the document. If the DMV examiner scans the documents before categorizing them, all pages display with a generic document number, as shown in Figure 91.

Figure 91: Document Gallery Thumbnails of scanned documents make identification easy

Examining Staff can categorize a document easily by clicking on the document name and choosing a label from a customizable list of documents in a pull-down menu, as shown in Figure 92.

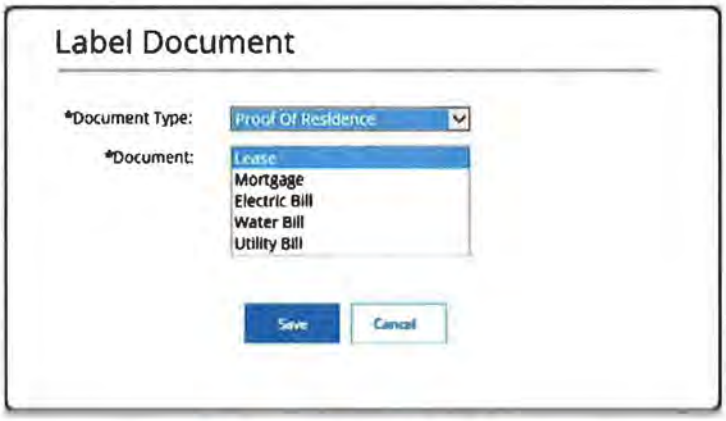


Figure 92: Accuracy Leads to Compliance

A quick and easy pull-down menu allows the DMV examiner to select the proper document type to tag each identity document.

DOCUMENT AUTHENTICATION

By choosing to partner with IDEMIA USA, the DMV and the citizens of Nebraska will benefit from our experience and continued leadership in the document authentication field. Fraudsters go to places where it is easiest to obtain a credential. Our knowledge and experience authenticating credentials increases the security and integrity of Nebraska residents' credentials and identities and keeps fraudsters away.

IDEMIA was the first to offer a highly automated, technically advanced document authentication system. We have led all major advancements in the document authentication industry and have maintained our leadership position by providing new advancements in authentication test capabilities. More than 30 states use Digital Watermark (DWM) today, and the TSA now considers this the best and fastest process for credential authentication at airport security checkpoints. Our document authentication software will examine over 600,000,000 documents per year in the U.S. alone, giving us the unique ability to recognize new and fraudulent documents trends faster than others. **The DMV will directly benefit from this experience by using our solution and its library breadth.**

Reading Digital Watermark

One very unique IDEMIA USA feature is our ability to authenticate our Digital Watermark (DWM)—also known as our Enhanced Security Feature (ESF)—and use it for fast filtering. This provides a highly reliable authentication test that **takes only a few seconds and guarantees a document's authenticity.** As the leading issuer of identity documents, IDEMIA USA is uniquely positioned to provide the most effective document authentication solution that exists.

L. Document Authentication a. Description	
87.	Describe how your solution meets the requirements described in Section V. Project Description and Scope of Work, L. Document Authentication.

✓+ IDEMIA USA complies and exceeds.

Below are our responses to meet the requirements described in Section V. Project Description and Scope of Work, L. Document Authentication:

1. *The solution must include document authentication.*

IDEMIA USA's document authentication and scanning solution (shown in Figure 93) features integrated hardware and software that automatically authenticate more than 4,000 types of documents from across the globe, including passports, visas, immigration cards, driver's license, and military identification cards. Using patented processes of scanning, image processing, and data analysis, **our solution allows DMV staffers to image all documents presented by your customers and perform security checks in just seconds—accurately and automatically.**

Components of the IDEMIA Document Authentication Solution

Web Enrollment Software

Document Libraries

Document	Type	# In Library
ID-License	ID-1 and U.S. DL	1800+
Global-ID	Non-ICAO International	500+
ID-Passport	US & ICAO International	900+

Ongoing hardware & software support; quarterly library updates

Document Scanners

E-Seek M-500 ID-1 Card Authenticator

B5000® Passport Authenticator

Support

Ongoing hardware, software, and quarterly library updates

Figure 93: Document Authentication and Scanning

Powerful tools that work together to protect the integrity of Nebraska credentials.

Used by the TSA for airport passenger screening, our document authentication solution examines over 600,000,000 documents per year in the U.S. alone, giving us the ability to recognize new and fraudulent documents trends faster than others. Because of the TSA relationship along with our worldwide leadership in border control and management, we have led all major advancements in the document authentication industry and have maintained our leadership position. The DMV will directly benefit from this experience by using our solution and its library breadth.

Our scanning solution makes use of three authentication and scanning devices:

- The E-Seek M-500 Card Authenticator reads both sides of ID-1 sized documents simultaneously, reading and interpreting a Digital Watermark (DWM), and magnetic stripe (magstripe) or barcode on the back of the document and cross-checking the security features on both sides under multi-spectral illumination. It efficiently authenticates the most common credentials presented to Examining Staff—all in one pass and in a few seconds!
- The B5000 Passport Authenticator scans and authenticates passports or larger ID-2 or ID-3 travel documents, including reading any embedded smart chip.
- Other proofing documents for meeting identity or residency requirements that are too large, or incapable of being authenticated, are scanned using the same section of the Web Enrollment application in conjunction with State scanners.

One very unique IDEMIA USA feature is our ability to authenticate our DWM, also known as our Enhanced Security Feature (ESF), and use it for fast filtering. This provides a highly reliable authentication test that **takes only a few seconds and guarantees a document's authenticity**. As the leading issuer of identity documents, IDEMIA USA is uniquely positioned to provide the most effective document authentication solution that exists.

2. *The solution must identify, extract, and verify covert security features of any driver license or other acceptable identity document (e.g., passport) for authentication purposes.*

Our document authentication solution easily identifies, extracts, and verifies covert security features and characteristics of any DL/ID or other identity document under various light sources. Because of our worldwide experience and particularly our experience at U.S. airports, where we authenticate hundreds of thousands of DL/IDs daily, we detect and identify early patterns by the creators of fraudulent documents.

IDEMIA was the first to offer a highly automated, technically advanced document authentication system. **We have led all major advancements in the document authentication industry and have maintained our leadership position** by providing:

- New advancements in authentication test capabilities
- Broadened installation base (over 14,000 units deployed globally) of document authentication users
- Established training to user groups on methods for auditing and tracking authentication business practices
- Successful implementation and participation in a variety of proof-of-identity programs around the world, including:
    - U.S.MVAs/DMVs (14 Jurisdictions) proof-of-identity and document scanning and archiving solutions
    - Customs and Border Patrol solutions for entry and exit
    - Immigration solutions
    - ePassport initiatives

By choosing to continue partnering with IDEMIA USA, the DMV and the citizens of Nebraska will directly benefit from this experience and continued leadership. Fraudsters go to places where it is easiest to obtain a credential. Combining our knowledge with the authentication of the credentials that come through your offices increases the security and integrity of your customers' credential and identity and keeps fraudsters away.

3. *The solution must capture both sides of the credential with a high resolution imager during a single card insertion.*

IDEMIA USA's M-500 document scanner captures both sides simultaneously in one pass and in high resolution without having to insert the document more than once. It reads the payload of the primary and secondary DWMs on the front of the card and cross references it to the contents of the 2D barcode or magstripe on the back of the card—**all in about 2 seconds**. For documents from jurisdictions that do not have the DWM, it uses our patented techniques to examine the security characteristics of the document under multiple light sources and determine document validity.

4. *The Contractor must supply document authentication hardware.*

IDEMIA USA will supply the following hardware to scan and authenticate documents:

- The M-500 (top of Figure 94) reads both sides of ID-1 sized documents at the same time, reading and interpreting a magstripe or barcode on the back of the document and cross checking the security features on both sides. It efficiently authenticates the most common credential present to Examining Staff—all in one pass and in a few seconds!
- The B5000 (bottom of Figure 94) scans and authenticates passports or larger ID-2 or ID-3 travel, including reading the embedded smart chip.

Because we know that real estate on the desktop is at a premium, we also propose a specially designed table to stack both devices. Operation of the devices is unimpeded and valuable counter space is preserved.

Figure 94: Stackable E-Seek M-500 and B5000 minimizes space usage on the desk

The B5000 Document Authentication Scanner (shown in Figure 95) provides high-quality images from documents in the white, infrared, and ultraviolet light spectrums. It is used primarily to authenticate passports and similar types of travel and identity documents.

Figure 95: B5000 Document Authentication Scanner

Our B5000 Document Authentication Scanner captures all types of documents including passports, visas, social security cards, or other ID-1 to ID-3 size documents.

Table 21 details the technical specifications of the B5000.

Table 21: B5000 Document Authentication Scanner Specifications

Type	Specification
Image Resolution	400 DPI
Document Reading	ICAO document 9303/ISO 14443 (type A and B chips) Reads: • Data groups DG 1, DG 2, EF.COM, EF.SOD, including the Document Signer Certificate by the ICAO standard LDS v 1.7 • Country Signer Certificate Types ID-1, ID-2, and ID-3 MRZ Optical Character Recognition Supports access to DG 3 to 16 by the ICAO standard LDS v 1.7 Supports the following FIPS 180-2 hash algorithms, as described in the ICAO NTWG PKI Technical Requirements: SHA-1, SHA-256, SHA-224,

	SHA-384, SHA-512 Performs machine readable zone (MRZ) scan in less than two seconds
Size and Weight	Height: 6.07" Width: 7.5" Depth: 10" Weight: 4.015 lbs.
Power Supply	100-240 VAC 47-63 Hz 40W, 12 Volt
Light Bands	White, Infrared, Ultraviolet
Temperature Range	Operating (0°C to +50°C) Non-Operating (-30°C to +60°C) Operating Humidity (80% non-condensing) Non-Operating Humidity (95% non-condensing)
Compliance	FCC Part 15, Class A, SITA, ARINC, CSA/NRTL

Figure 96 shows the compact structure of the E-Seek M-500 Identity Card Authenticator, which is designed for counter top ID verification applications.

Figure 96: E-Seek M-500 Identity Card Authenticator

The E-Seek M-500 Identity Card Authenticator provides very fast, accurate authentication of DL/IDs, leveraging IDEMIA USA's ESF security feature and cross checking.

Table 22 provides the technical specifications for the E-Seek M-500 Identity Card Authenticator.

Table 22: E-Seek M-500 Identity Card Authenticator Specifications

Item	Description
Dimension	Length: 8.5" Width: 5.7" Height: 4.8"
Barcode Reader	2D: PDF417 Linear: CODE 39 & CODE 128
Magnetic Reader	Three-track magnetic reader (ANSI, IS, CDL, AAMVA)
Scanning Method	CCD color type, 600 DPI, duplex
Indicator	Three-color status LEDs
Communication	High-speed USB 2.0 to PC
CPU	Freescale ARM9 applications processor

Illumination	White, Ultraviolet, Infrared
Memory	Flash 1MB, DDR SDRAM 128MB
Output format	Bitmaps
Output Size	30MB includes images, barcode, and magnetic data
Audio	Built-in beeper for power on and status indicator
Weight	Scanner: 4.25 lbs. (without power supply)
Power Supply	Output 15V DC 2.7A / Input 100-240V / 50-60 Hz

5. *The solution shall refer to a current library of document security features used in driver licenses in states and for other documents used for establishing identity (e.g., passports).*

IDEMIA USA's document authentication solution automatically authenticates more than 4,000 types of identification documents from across the globe, including passports, visas, immigration cards, driver's licenses, and military identification cards. Using patented processes of scanning, image processing, and data analysis, our solution allows DMV Examining Staff to image most documents presented by customers and perform security checks in just seconds—accurately and automatically. No other vendor can offer even close to the breadth and depth of our document libraries and authentication solution. Besides being the producer of 80% of the DL/IDs in the U.S., IDEMIA USA also is the worldwide leader in document authentication, which means **you will benefit directly from our access to most of the world's identity documents that help us create the largest and most accurate document libraries available.** The document libraries supported by our solution are listed in Figure 97.

Document Libraries

Document	Type	# in Library
ID-License	ID-1 and U.S. DL	1800+
Global-ID	Non-ICAO International	500+
ID-Passport	US & ICAO International	900+

Ongoing hardware & software support; quarterly library updates

Figure 97: Unsurpassed Document Libraries Improve Document Authentication

6. *The solution must be able to read a digital watermark.*

Integral to our document authentication solution is the exclusive ability to read the specialized DWM on U.S. DL/ID credentials. Known now as the Enhanced Security Feature (ESF), this hidden security feature puts encrypted personalized information about the card holder in special "payloads" within the document artwork and photo areas. Our document authentication solution is able to decrypt and read the ESF and guarantee the DMV whether a credential is authentic.

7. *The results of the authentication must be clearly described in the information provided to Examining Staff.*

Authentication results are displayed clearly so Examining Staff can read and understand them easily. Figure 98 shows the results of a DL/ID authentication of an out-of-state DL/ID. The green checkmarks next to each of the tests show that it authenticates as valid.

Figure 98: Authentication Results

It is easy for DMV examiners to see if a credential is authentic.

By clicking on the image of the credential, Examining Staff can get a closer look at the document, shown in Figure 99. By default, it shows the credential under visible light sources. Clicking through the numbers on the left will show the same credential, back and front, under ultraviolet and infrared light.

Figure 99: DL Image Review

Examining Staff can click the image and view it under different conditions to understand more about a credential.

L. Document Authentication

b. Authentication types

88. What types of authentication are provided (e.g., infrared, greenlight, UV, other) and what are the accuracy rates for each?

✓+ **IDEMIA USA complies and exceeds.**

IDEMIA USA analyzes the security characteristics of the documents under the primary visible light sources (white light, UV, and infrared). A credential can be authenticated by the presence or absence of information or a DWM under these light sources. This authentication is performed not just through pattern tests (i.e., looking for particular artifacts), but also through a search of particular areas of brightness or darkness. Additionally, we cross-check multiple parts of the document for data consistency, checksums, fonts, and inaccurate rendering of artwork or features.

Accuracy of any particular light source is not really a statistic that is calculable, as it is the combination of all the document authentication techniques that determine accuracy. For example, documents in good condition with a well-defined but hidden DWM authenticate with 100% accuracy. In our studies and those of our customers with a wide distribution of these devices and corresponding software/libraries, we estimate that we have a 2% false reject rate and a 10% false acceptance rate. These rates in real-life production situations—where credentials are scanned in various conditions—show the accuracy of our software and the robustness of our document libraries. **For the DMV, this means that you won't have to deal with inaccurate scans and Examining Staff guesswork about document validity.**

L. Document Authentication

c. Documents

89. Specify the types of documents capable of being authenticated by your solution.

✓+ **IDEMIA USA complies and exceeds.**

We validate virtually any identity document. In addition to all U.S. state-issued DL/IDs, **we also validate nearly all of the documents included on the federal Tier 1 and Tier 2 document lists.** These lists include U.S. and foreign passports, military ID cards, social security cards with their limited security features, U.S. citizenship, immigrant and travel documents, and many other AAMVA-recognized documents capable of machine authentication. If a document scanned on the authentication devices is not available in our libraries, Examining Staff will be notified that it cannot identify the document. Documents that are scanned but not recognized by these devices still have all images available for operator viewing, classification/categorization, and storage.

L. Document Authentication

d. Technology

90. What technology do you use to read contents of documents that populate the Mainframe?

✓ **IDEMIA USA complies.**

To read contents of documents that populate the Mainframe, our document authentication solution uses two authentication and scanning devices: the B5000 Document Authentication Scanner and the E-Seek M-500 Identity Card Authenticator. Generally, ID-1 card sized documents (e.g., a driver's license) are scanned on the M-500, which can scan both sides of the card simultaneously while also reading and interpreting a magnetic stripe or barcode on the back of the document. In addition, if the document contains an ESF (digital watermark), that personalized data is decoded and read as well. ID-2 or ID-3 travel documents (e.g., passports or larger documents) are scanned and authenticated on the B5000. The parsing algorithms incorporated into the software for reading and interpreting features such as ESFs and machine-readable zones on the various documents is entirely the intellectual property IDEMIA USA. This information can be used to populate the Mainframe with data.

Both of our authentication devices use multiple light sources (white, infrared, and UV) and advanced authentication techniques to determine if a document is authentic. Besides data, all images can be displayed in the enrollment software along with the test results, and images and test results can be stored permanently. IDEMIA USA works with various state motor vehicle agencies to configure our software to store only the white (visible) light image on the front of a document for documents that pass authentication, but all the images (including the infrared and UV images of both sides of a document) for documents that fail authentication. If implemented by the DMV, this method will save document management storage space on the State's Mainframe while still tracking all documents presented by an applicant.

L. Document Authentication

e. Library

91. What library or gallery is used to validate documents? How frequently is it updated and how are updates pushed? Describe how you will remain current.

✓+ **IDEMIA USA complies and exceeds.**

Our solution uses libraries that we have created and continue to maintain and grow. Libraries are published quarterly, and we have various mechanisms available for their deployment within your CATS installation.

We have deployed more than 14,000 systems and maintain a library exceeding 4,000 credentials from over 200 countries. Beyond the more than 1,300 MVA installations using our document authentication technology, the TSA recently chose IDEMIA USA to expedite the screening of 1.8 million passengers traveling every day in over 450 U.S. airports.

By partnering again with IDEMIA USA, the DMV can leverage this expertise and investment to stay at the forefront of changes in authentication algorithms, accuracy, and completeness of the libraries—all designed to circumvent potential fraudsters.

The Importance of Regularly Updated Document Libraries

Our experience has taught us that the best way fight fraud and detect it early, is to maintain an accurate, up-to-date library of documents. **We regularly provide quarterly updates of the libraries to our customers, providing detailed release notes that describe the included updates.**

In order for any document authentication solution to achieve highly accurate results, it is critical that document libraries remain up-to-date by:

- Maintaining constant awareness of trends invented by fraudsters
- Compensating for real-world document wear and tear

IDEMIA USA tunes our libraries by having our team of document experts review performance data. Since our TSA deployment will be the largest document authentication deployment in the world—touching over 600 million U.S. domestic airline passengers and their credentials per year—our library tuning provides unparalleled, industry-leading authentication accuracy. These efforts, combined with our position as the leading issuer of North American DLs and our worldwide deployments for border control and other uses such as financial institutions, broadens our exposure to new documents and authentication techniques. **Nebraska will benefit directly from these relationships in the form of more timely, complete, and accurate document authentication libraries.**

The vast majority of breeder documents that will be submitted to the DMV for document authentication will be driver's licenses, U.S. and state IDs, and passports—distinct areas in which IDEMIA USA excels. We design and produce approximately 80 percent of the North American DLs (over 62 million issued annually), and we have been the leader in international document authentication for over 20 years. It isn't just about the number of documents in the library: no other vendor comes close to the breadth of our worldwide and DMV experience or the true depth and quality of our library content's ability to determine fraud.

L. Document Authentication

f. Reading capability

92. Does your solution read chips? Can it read watermarks appearing on Nebraska and other State credentials?

✓ **IDEMIA USA complies.**

Our proposed solution does not read chips. The B5000 scans and authenticates passports or larger ID-2 or ID-3 travel documents. It reads the DWM on the passport and authenticates its contents by cross referencing it to the contents of the embedded smart chip.

While the B5000 also has the ability to scan and read a DL/ID-sized document (including the DWM on all such equipped documents), we recommend using the M-500 DL/ID scanner for its faster speed and higher accuracy in reading the digital watermark on Nebraska's card and other state DL/ID documents.

L. Document Authentication

g. User experience

93. How is failure of authentication indicated to the examiner or examiners? How does the indication meet requirements for clarity in understanding why a document fails?

✓ **IDEMIA USA complies.**

Consistent with the user experience of Web Enrollment, our document authentication solution follows the same pattern: green lettering indicates acceptable results, and red lettering indicates an exception condition. Authentication results are clearly described so DMV Examining Staff can read and understand them easily. Figure 100 shows that the scanned DL failed two authentication tests. Images of the document also are available to Examining Staff under the different light sources (white, UV, and infrared), should they choose to view them to look for the source of the alerting condition.

Figure 100: Authentication Results

DMV examiners can see problems with a credential easily and clearly.

Business rules determine how Examining Staff will handle these exceptions. If a DMV examiner suspects fraud, she/he can click the Flag icon to mark the record for further investigation (FFI) and proceed in the workflow. This action prevents the credential from being issued until a facial recognition check is done, but it allows the DMV examiner to continue his/her work without an altercation with the applicant.

Please note that there are cases when a document might fail authentication but is considered a valid document by DMV business rules. For example, an expired license may fail authentication, but it may be acceptable to demonstrate date of birth, address, citizenship, etc., as it was originally a valid government-issued identity document. This is a DMV-configurable function.

L. Document Authentication

h. Speed

94. Estimate the speed of document capture. Estimate the speed of authentication.

✓ **IDEMIA USA complies.**

The digital watermark (DWM) is a key factor in the speed with which we authenticate. We authenticate these credentials **in approximately two (2) seconds**. When the DWM is not present, authentication takes longer and varies depending upon the state or government issuer—in general, less than five (5) seconds. IDEMIA USA

produces 80% of the DL/IDs in circulation today, and most of them have a DWM; therefore, most of the credentials we authenticate meet the two-second threshold.

Passport authentication varies significantly, largely because the speed of the chip in the passport, the payload of data it holds (data, facial image, fingerprints in many foreign passports), as well as the type of chip authentication required (i.e., basic authentication vs. extended). For example, the U.S. passport, which contains data and a photograph, is one of the slowest documents to authenticate in the world, and we authenticate it in about 5 to 9 seconds, depending on the issuance date.

KNOWLEDGE TESTING

Our AutoTest knowledge testing and RoadTest skills testing solutions have been selected by North American and international jurisdictions to modernize their driver testing programs. IDEMIA USA has the solution, experience, and specific knowledge of your environment that will ensure a successful project. Many of our AutoTest and RoadTest implementation and support personnel have been installing and supporting our product since its inception well over a decade ago. This history has enabled our team to build extensive domain knowledge of driver testing, adding value to every project we undertake.

No Third Party Needed

Most suppliers depend on third parties to provide knowledge and skills testing. They do not completely understand the issues that may occur during a knowledge and skills test, and time is lost during problem solving regarding root cause. We are confident, accountable and ready now to provide a low risk, high-quality approach. IDEMIA USA is accountable.

While other testing companies use third-party subcontractors who have no knowledge of either your DMV facilities or the testing software itself, **our team has grown and learned alongside DMV and is best equipped to provide better, lasting testing software solution.** This eliminates the risk of finger-pointing when things go wrong and ensures that your testing system is running. IDEMIA USA already has experienced technical personnel who know the DMV and can support the testing system in your environment. Our partnership with the DMV to produce driver's licenses and knowledge and skills testing solutions gives us extensive knowledge of your systems, personnel, processes, and field offices. AutoTest and RoadTest have their own dedicated team of IDEMIA USA professionals to manage, install, and support the system. Additional IDEMIA USA resources also will be available as necessary, thus ensuring successful system delivery, maintenance, and support of your testing systems.

M. Knowledge Testing

a. Integration

95. Describe how Knowledge Testing is integrated with your entire solution, including all interfaces. How does the data flow seamlessly between functions/modules and how does the user move between functions/modules in this area to and from other functions/modules?

✓ **IDEMIA USA complies.**

Integration with entire solution

Based on our experience in the more than 20 North American and international jurisdictions in which our knowledge testing solution, AutoTest, is in use today (including Nebraska), we have developed a flexible, scalable architecture that integrates seamlessly into the DMV's current environment in either a vendor-hosted or DMV-hosted solution. We do not use any propriety standards in our development, making it easy to integrate our application with your Mainframe. All of our source code is scanned for software vulnerabilities, including cross-site scripting and SQL injection using HP Fortify. We check against the SANS/CWE TOP 25 list and remediate issues before deployment. AutoTest employs a standard SQL database—in conjunction with Simple Object Access Protocol (SOAP)/ Representational State Transfer (REST)-based .NET Windows Communication Foundation (WCF) Web services framework—to support push/pull data exchange mechanisms that facilitate easy interfaces with the DMV's legacy systems.

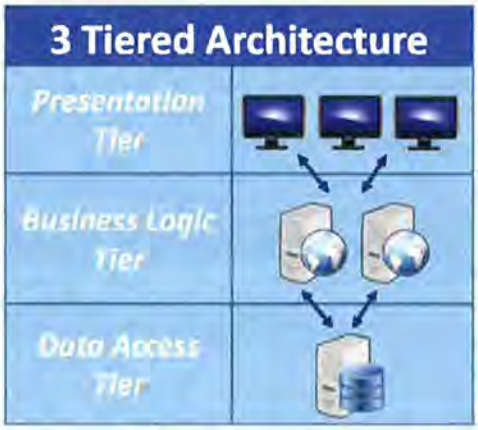


Figure 101: Three-Tiered Architecture

This three-tiered architecture provides scalability, high performance, and high availability, securing your data and ensuring smooth operations.

AutoTest's backend solution can be broken up into three separate tiers: Web Server, Application Server, and Database. Each of these lives on an independent virtual machine (VM), normally on a virtual local area network

(VLAN) dedicated to that respective tier of our architecture. This three-tiered architecture (pictured in Figure 101) ensures we can integrate with the entire solution.

Each tier of this architecture is described below.

- Web Server Tier – Serves as the access point for DMV users. It sits behind a firewall that only allows in connections from expected servers and clients with shared SSL certificates. The certificates validate that the source of the connection is trusted and the data sent is not corrupted, ensuring no other source is sending erroneous data or trying to connect to the websites with malicious intent. The certificates are used to encrypt the transmission so no one listening on the network can read the transmissions. This tier is the only layer accessible from outside of the Firewall. The Firewall ensures that no data comes through on any ports other than those agreed upon with DMV, limiting attacks to heavily monitored and inspected inbound paths.
- Application Server Tier – Runs on a separate VM. All traffic goes through the Firewall and is encrypted using a different set of certificates than those in the Web Server Tier, ensuring all communications are encrypted differently than on the first tier. If a fraudster manages to compromise the Web Server VM, he/she only will have access to that layer.
- Database Tier – Runs on its own VM with a Firewall between it and the application server. Yet another set of SSL certificates is used for connections between the other tiers, so fraudsters will not be able to access this tier even if they breach another tier. This is important for the Database Tier especially because this tier is where all the personal data is stored. All unused ports are closed and open ones are monitored, allowing only predefined traffic. This makes the Database layer the most secure.

Data Flow Between Interfaces

Data flows seamlessly between AutoTest's three interfaces: Administrator, Examiner, and Test Station. AutoTest solution supports a centralized configuration with one central database being accessed by all service centers. The central database contains all of the test questions and answers as well as safety messages and other testing data. Test pages are served locally by Test Station via Internet Information Services (IIS) using components (questions, answers, and messages) downloaded from the centralized database. Images, audio, and videos are pre-installed on each Test Station to optimize performance and network bandwidth.

User Movement Between Modules

It's easy for DMV users to move between AutoTest modules—it's as simple as clicking from one function to another. In the example shown in Figure 102, the DMV examiner is currently on the "Manage Test" tab of Examiner, on which users can manage all current tests based on their login privileges. By simply clicking one of the other tabs in the interface, the DMV examiner can register an applicant (if the data hasn't been pulled from the system of record already), check the applicants in queue, review completed tests, or produce test histories.

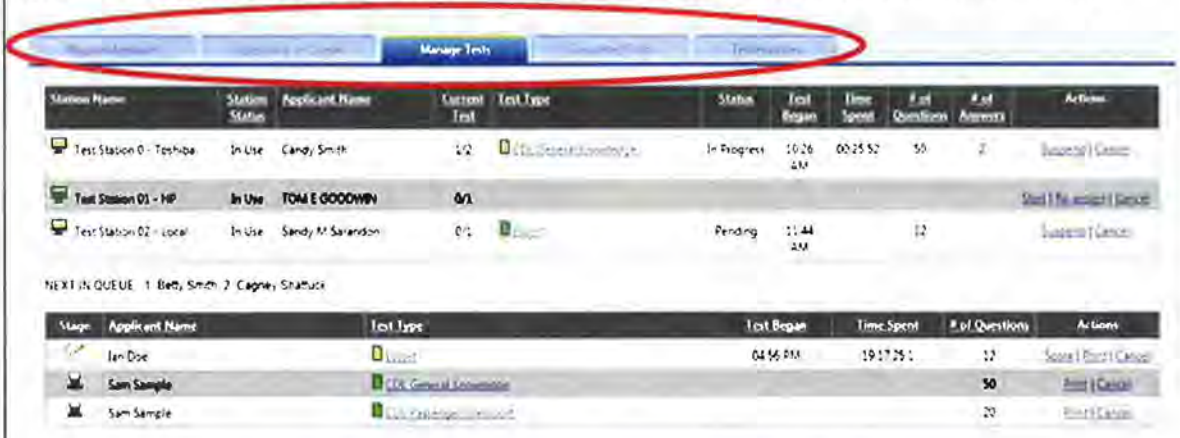


Figure 102: AutoTest Examiner Interface Provides Easy Navigation

M. Knowledge Testing

b. General requirements

96.	Describe how your solution meets the Knowledge Testing requirements in terms of ease of use, flexibility, expansion capability, database management, test content and question randomization, and the ability to print tests, detailed further in Project Description and Scope of Work, M. Knowledge Testing, in Sections 3, 4, 5, 9, 10, 13.

✓ **IDEMIA USA complies.**

Ease of Use

AutoTest provides DMV's staff and customers with a convenient and straightforward process for taking the necessary DL knowledge testing. Using an intuitive interface and high-quality graphics, AutoTest provides a non-threatening testing solution that is easy to use, even for first-time or novice PC users.

Flexibility and Expansion Capability

We know how important it is that the supplied system be capable of adaption or expansion to meet the current and future needs of DMV and its customers. Our ability to add new language capability to the system at any time is just one example of how we meet this need. Since all modules of AutoTest are Unicode-compliant, new languages (we already have over 40 languages in our AutoTest, including American Sign Language—ASL) with both text and audio support can easily be added at any time by either DMV staff using the tools provided with the system or by IDEMIA USA support staff.

AutoTest's Web-based architecture makes it easy to add new testing locations and new authorized system users. Several jurisdictions, including New York, Illinois, Iowa, and Virginia, have taken advantage of this flexibility to allow testing via the Internet in non-traditional locations such as high school computer labs or from applicants' own PCs. Our Web testing capability will allow authorized third-party locations (if applicable) to use the same secure software to provide knowledge testing services to the public and reduce the risk of fraud.

IDEMIA USA also provides the DMV with the option of hosting our testing systems in-house on their own servers or in our secure, North American Security Products Organization (NASPO)-certified hosting facility with full disaster recovery. Large states such as Texas have elected the IDEMIA USA-hosted option with excellent results.

Database Management

The AutoTest solution supports a centralized configuration with one central database being accessed by all service centers. The central database contains all of the test questions and answers as well as safety messages and other testing data. Test pages are served locally by Test Station via IIS using components (questions, answers, and messages) downloaded from the centralized database. Images, audio, and videos are pre-installed on each Test Station to optimize performance and network bandwidth.

Our AutoTest database meets all DMV requirements:

- Allows the DMV to record, electronically store, and manage at least 6,000 multiple-choice test items to be maintained in each of the required languages
- Stores the test item bank (all stems, choices, photographic images, and audio components associated with individual test items)
- Categorizes questions based on knowledge being tested
- Stores more questions electronically for each test type than will be required for any single test version;

AutoTest is capable of generating several versions of an examination without repeating all of the items used on any one test through our randomization process, which is described below.

Test Content and Question Randomization

AutoTest incorporates multiple randomization processes, selecting questions and answers from a pool of test questions assigned to various knowledge domains, to ensure a unique test is generated for each applicant. These processes are listed below:

- Questions are randomly selected from DMV-designated knowledge domains (subcategories) to appear on a test and are randomly distributed throughout the test, not grouped together

- If two (or more) questions that exist in the same subcategory are similar to each other and should not appear on the same test, AutoTest will ensure that only one of those particular questions will appear on any randomly generated test
- Question sequence is randomized
- Correct answer and distracters are randomized (unless "all of the above" is an answer option)

Figure 103 illustrates AutoTest's randomization process.

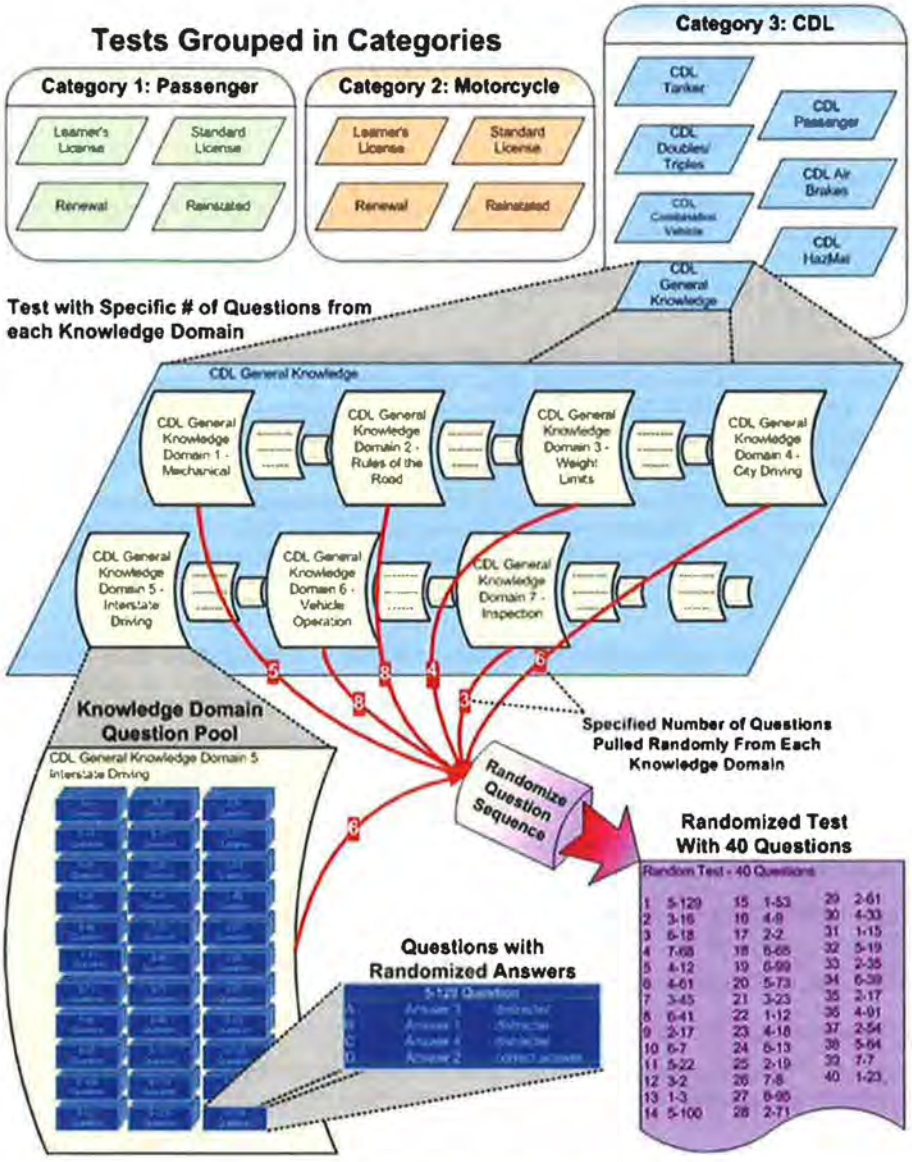


Figure 103: AutoTest's Randomization Process

Regardless of the knowledge domains or the number of question used for a test, AutoTest always presents test questions in a random order.

AutoTest will randomly choose questions from one or more select pools of questions—knowledge domains—within the central item bank to appear on a test. Test administrators establish business rules that dictate which

knowledge domains comprise each test and how many questions from each knowledge domain will appear on the test. Then, when a test is chosen, the questions are randomly selected.

For example, as shown in Figure 104, the DMV test administrator has chosen five knowledge domains to comprise the 30-question CDL Hazardous Materials Knowledge Test. The test administrator's business rules reflect that the test will contain 13 questions from Domain 1, six questions from Domain 2, three questions from Domain 3, and so on. Even though the Domain 1 includes 45 questions, only 13 will be selected (randomly) to appear on the test.

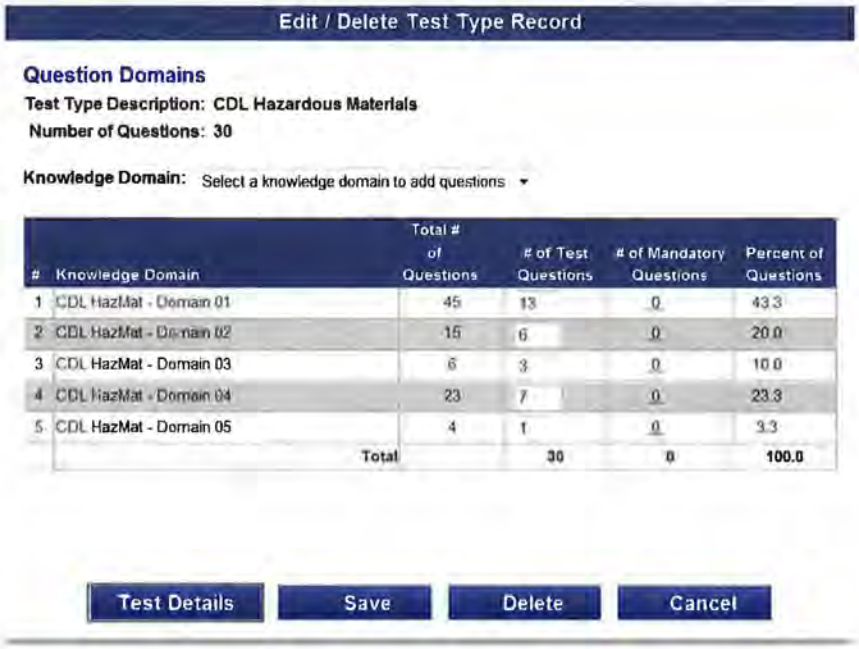


Figure 104: Create Test Screen with Knowledge Domains

Authorized DMV test administrators establish business rules that dictate which knowledge domains comprise each test and how many questions from each domain will appear on the test

The numerical order of the questions appearing on a test is randomized automatically. Regardless of which knowledge domains or the number of question used for a test, **AutoTest always will present test questions in a random order.**

In addition, when creating a question, DMV administrators and examiners can dictate whether answer choices will be randomized, as shown in Figure 105. This ensures that the correct answer for each question will appear in a different position each time that the question is selected and used on a test. For example, on one applicant's test, the correct answer to the question may appear in the "A" position. Later in the day, if the question appears on another applicant's test, the correct answer may appear in the "C" position.

If the DMV administrator wants the answers to any question to always display in a static order (e.g., a question in which one of the answer choices is "All of the above"), then he/she may leave the answer randomization box unchecked. This will allow the answer and distracters to display in the same order for every test.

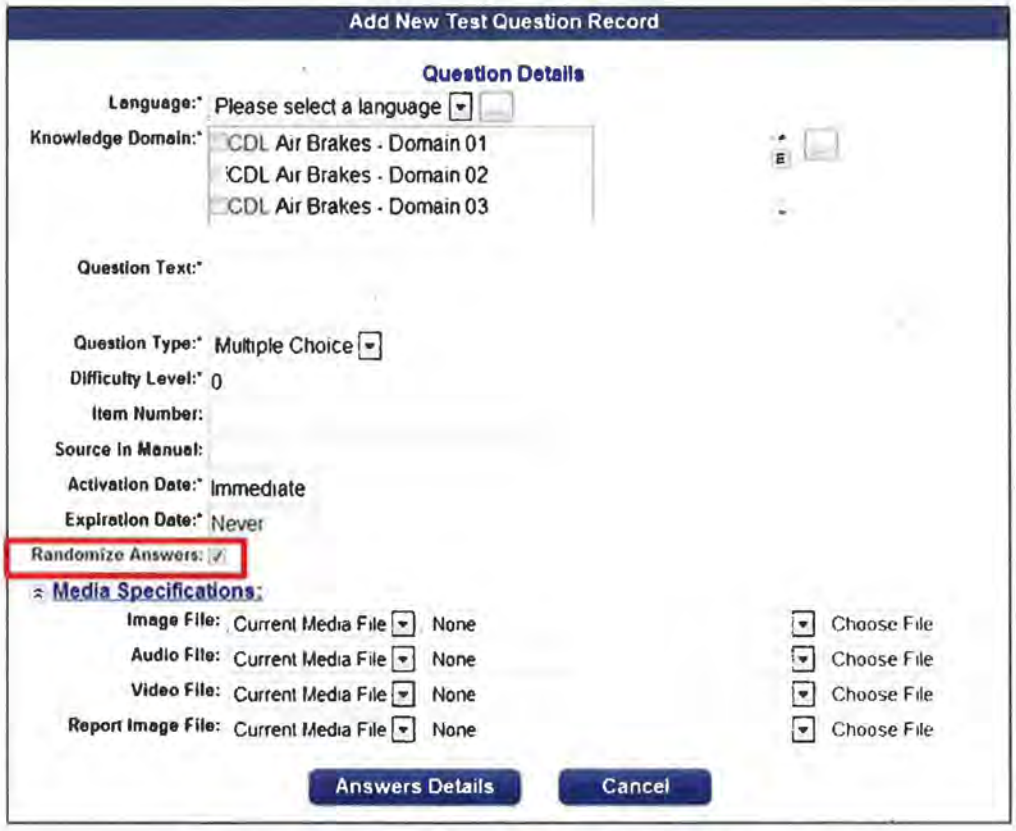


Figure 105: AutoTest Administrator – Randomize Answers

DMV administrators can choose to randomize answers when creating a new test question by simply clicking the checkbox in the Add New Test Question Record screen.

Through AutoTest Administrator, authorized DMV administrators can create tests of varying lengths. This functionality includes the ability to set the number of questions from each category, select the category for the test itself, and set mandatory questions on a test. The Add New Test Type screen (shown in Figure 106) displays the necessary fields of information.

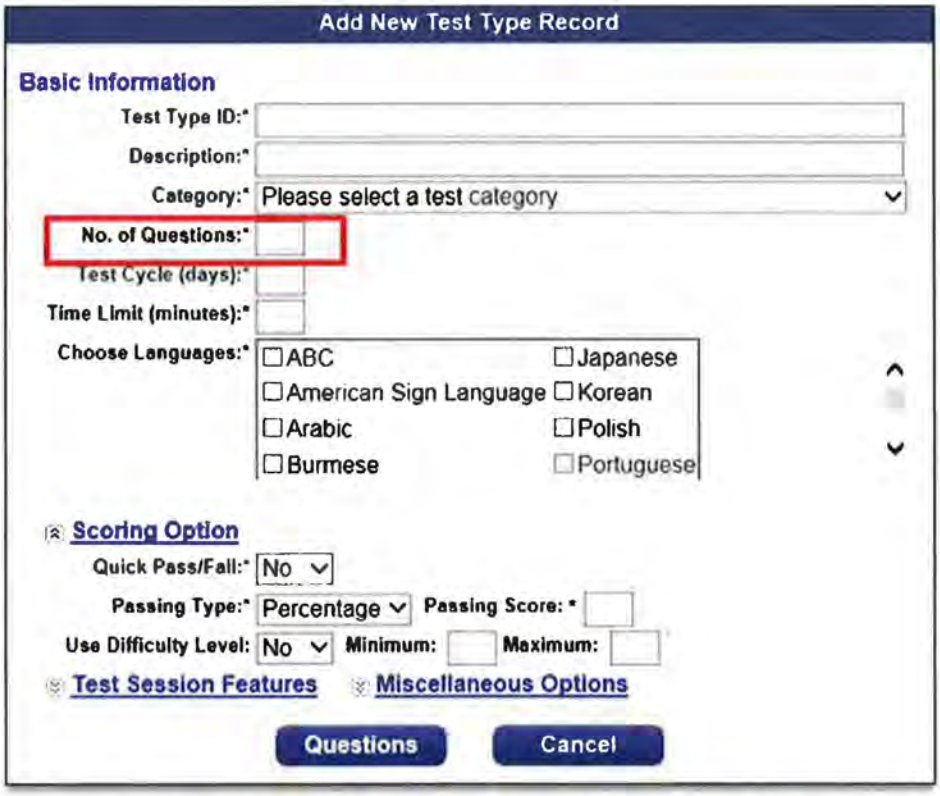


Figure 106: Add New Test Type Record—Number of Questions

DMV administrators can set a desired number of test questions for a given test type.

In addition, if the DMV would like to specify one or more questions to always appear on each instance of any test type, this is done easily through the Administrator console.

From the "Add New Test" or "Edit Test" screens, DMV administrators may select "Mandatory Questions" that will appear every time an instance of this test type is randomized. Upon clicking the number under the "Mandatory Questions" field (highlighted in Figure 107), the dialog box shown in Figure 108 appears that allows you to select the questions to be designated as mandatory on each test type.

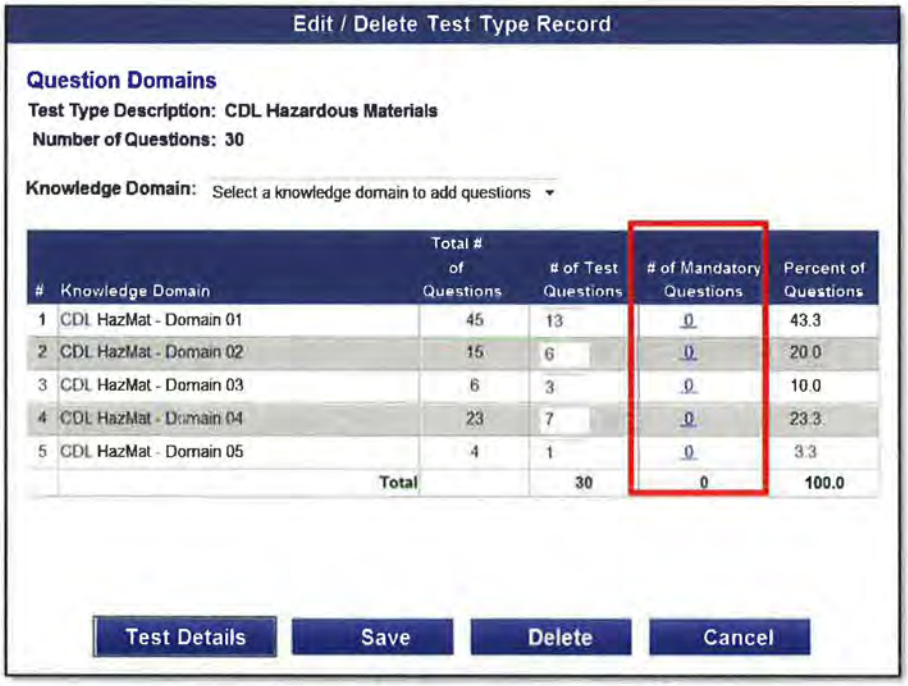


Figure 107: Create Test Screen with Knowledge Domains

DMV administrators establish business rules that dictate which knowledge domains comprise each test and how many questions from each domain will appear on the test.

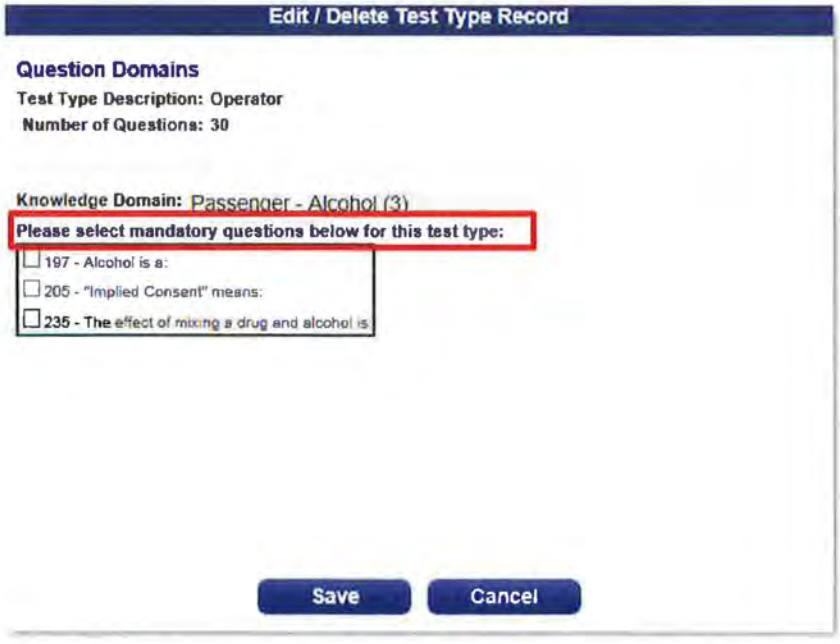


Figure 108: AutoTest Administrator – Mandatory Questions Capability

Administrations can determine which questions are mandatory for a given test type.

Ability to Print Tests

AutoTest provides a number of printing capabilities from printing all reports to any attached printer to printing a paper test that can be used for those unable to operate a test station. DMV examiners can print and score paper tests easily at any time, as shown in Figure 109. The system automatically tracks the staff member who is administering the test and even accommodates translators.

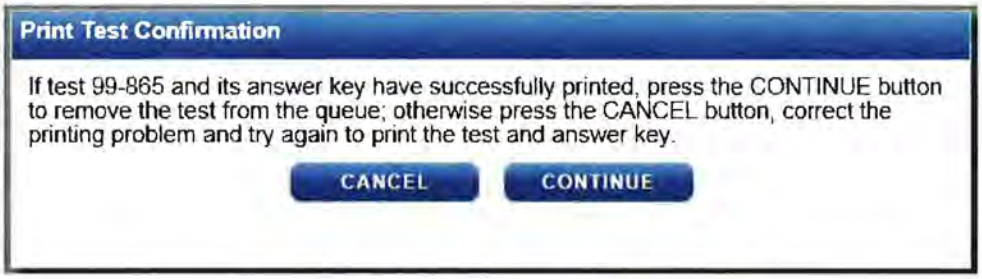


Figure 109: AutoTest Paper Test Management

DMV examiners can print, scan, and score paper tests from the Examiner application.

Currently, there are three options for recording and scoring the results of paper tests:

1. The DMV examiner enters applicant-selected test answers into the Examiner application, which automatically grades the test and sends results to the central database (upon restoration of communications, in the unlikely event of a communications failure). This scoring method is shown in Figure 110.
2. The DMV examiner manually grades the test against a scoring key that is printed at the time the test is printed. Later, the DMV examiner enters the test answers into the Examiner console using the provided user-friendly interface, which automatically sends test results to the central database.
3. Optionally, automated scanners and bubble sheets for applicants to record their answers may be used. The completed bubble sheets can be fed into the scanners and answer data automatically populated into the central database.

Figure 110: Scoring a Printed Test

In this method of grading, the DMV examiner enters applicant selected test answers into the Examiner application, which automatically grades the test and sends results to the central database.

M. Knowledge Testing

c. Test types and languages

97. Describe your plan to support all required test types and languages, including sign language, and how updates and test questions are added and deactivated. Also address how audio changes will be accomplished.

✓ **IDEMIA USA complies.**

Test Types

AutoTest is a true testing engine and will accommodate all knowledge tests administered by the DMV, including:

- Class O Basic Knowledge Test
- Motorcycle
- CDL General Knowledge
- CDL Combination Vehicle
- CDL Air Brakes
- CDL Passenger
- School Bus
- CDL Doubles/Triples
- CDL Tanker
- CDL Hazardous Materials
- Special Restricted
- Non-Verbal (Picture)
- Tractor Safety Quiz

The system in place in Nebraska today is pre-configured for all test types required in the RFP. **Going forward, AutoTest will allow the DMV to develop new test types, rules, and content, all without additional cost or need for intervention by IDEMIA USA.** Our Administrator application provides a full set of test-building tools for our customers' use in expanding and modifying their testing services over time. In addition, should the DMV desire, IDEMIA USA also can perform these functions.

AutoTest can deliver all types of multiple choice or true/false domain knowledge test, making it appropriate for other applications, such as civil service testing. All test and applicant data is fully integrated and retained in a central SQL Server database and is easily accessible if custom reporting tools for new test types are required. Reports can be developed by IDEMIA USA or by the DMV, if desired, using standard report writing packages.

Updates and Changes to Test Questions

AutoTest allows DMV administrators to easily create or modify test types, questions and answers, multi-media, safety messages, supported languages, and available testing options. Our Administrative interface is easy to use and helps guide the administrator through any changes. There are no technical programming skills necessary to perform any of these functions. Figure 111 illustrates how a test question can be edited easily.

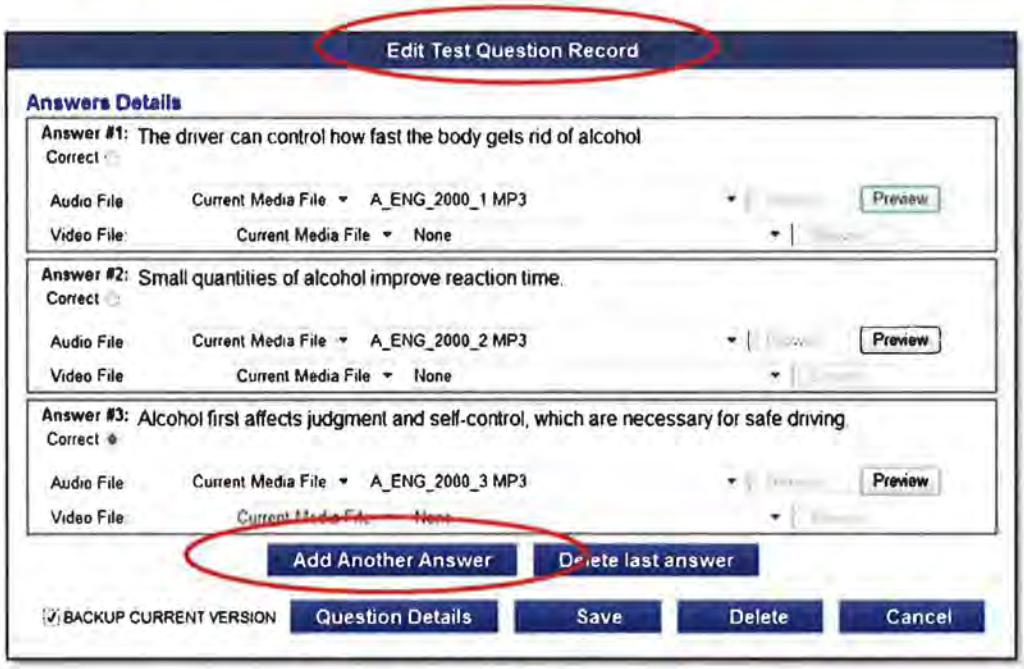


Figure 111: Edit Test Question Record – Answer Details

Multiple-choice questions will require one designated correct answer and multiple distracters.

Audio

Figure 111 also shows how audio files can be added or removed when making changes to test questions records in AutoTest Administrator; the DMV administrator simply clicks Browse and selects an audio file to add.

Languages

AutoTest allows a DMV examiner to choose the preferred languages for a test from all languages loaded in the system. This selection is made at the time of the test assignment and is accomplished simply by clicking on the desired language option from the language dropdown list, as shown in Figure 112. This includes American Sign Language (ASL).

Figure 112: AutoTest Examiner Multi-Language Capability

DMV examiners can choose any test language requested by the applicant that is configured in the system.

Test Station allows the applicant to toggle back and forth between the language he or she has chosen and English. This feature also helps DMV examiners when they are assisting a tester whose chosen language is one other than English (Figure 113).

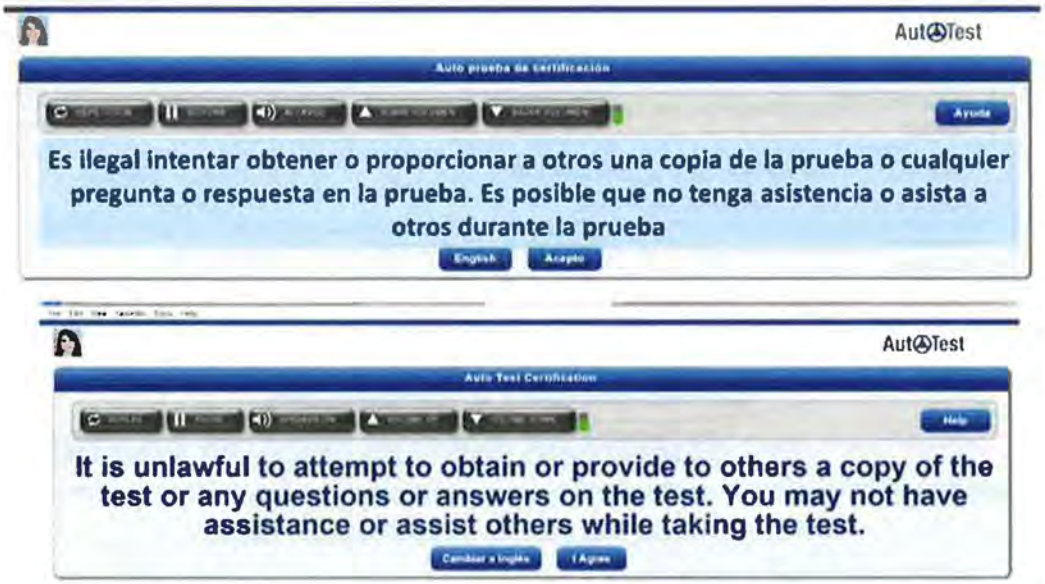


Figure 113: Language Toggle Capability

The screen capture above shows example of how applicant can switch from their language of choice (Spanish in this case) to English by simply pressing a button.

Test takers also have the ability to select their language of choice at the beginning of the test, as shown in Figure 114. In this instance, only Spanish and English are available, but for the DMV's application, this would show all languages available.

Figure 114: Applicant Test Language Selection

Since all modules of AutoTest are Unicode-compliant, new languages with both text and audio support for any language can be added easily at any time by either the DMV using the administrative tools provided with the system for adding languages (Figure 115) or by IDEMIA USA support staff. We already have more than 40 languages in our AutoTest system, including ASL.

Figure 115: Administrator Tool for Adding Languages

M. Knowledge Testing

d. Content

98. Describe how you will meet the Knowledge Test Content requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 10. Knowledge Test Content.

✓ **IDEMIA USA complies.**

Below are our responses to meet the Knowledge Test Content requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 10. Knowledge Test Content:

a. *One of the strongest features of the Knowledge Test must be the presentation of high quality tests. Citizens from diverse backgrounds will depend upon this Knowledge Testing system.*
b. *Test presentation must be explicit, purposeful, interesting, and straightforward.*
c. *Driver license Knowledge Tests must be delivered in a manner that leaves no room for applicant confusion.*

AutoTest provides a convenient and straightforward process for undertaking the necessary knowledge testing. Using an intuitive interface and high-quality graphics, AutoTest provides a non-threatening testing solution that is easy to use, even for first-time or novice PC users. AutoTest is the only system that offers a database of driving situation simulations based on AAMVA-approved diagrams that can accompany test question content at the DMV's discretion. This enhances the applicant's ability to understand test questions before answering.

Additionally, since all modules of AutoTest are Unicode-compliant, new languages with both text and audio support for any language can be added easily at any time. We already have more than 40 languages in our AutoTest system, including ASL. Applicants will feel comfortable with the test in his/her primary language.

d. Test items shall:

i. Include a question (stem) and up to four potential answers (choices). The text for these multiple choice or true/false test items will be developed or approved by the DMV. The text for all finalized test items will reside on a Central Test Database that is utilized and supported by the automated system itself.

AutoTest will provide a question and up to five possible answers for each of the system's multiple-choice test questions. True/false questions will have two possible answers with only one correct answer. Figure 116 shows how this can be configured. The DMV may add or remove text for all finalized test items, which will reside on the central test database.

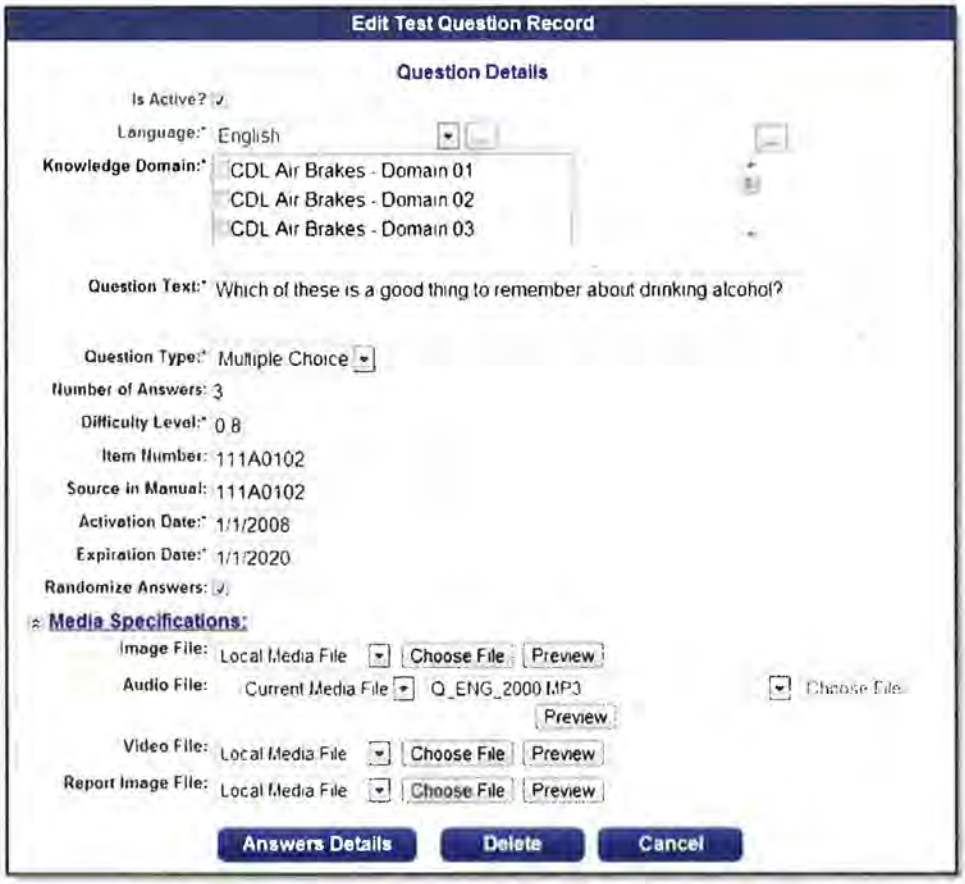


Figure 116: Edit Test Question Record—Question Type

AutoTest supports the creation of both multiple choice and true/false questions.

ii. Conform to the actual number determined by the DMV. Test length may vary between and among various test types.

Through the AutoTest Administrator console, DMV administrators can create tests of varying lengths. This functionality includes the ability to set the number of questions from each category, select the category for the test itself, and set mandatory questions on a test. The Add New Test Type screen (shown in Figure 117) displays the necessary fields of information.

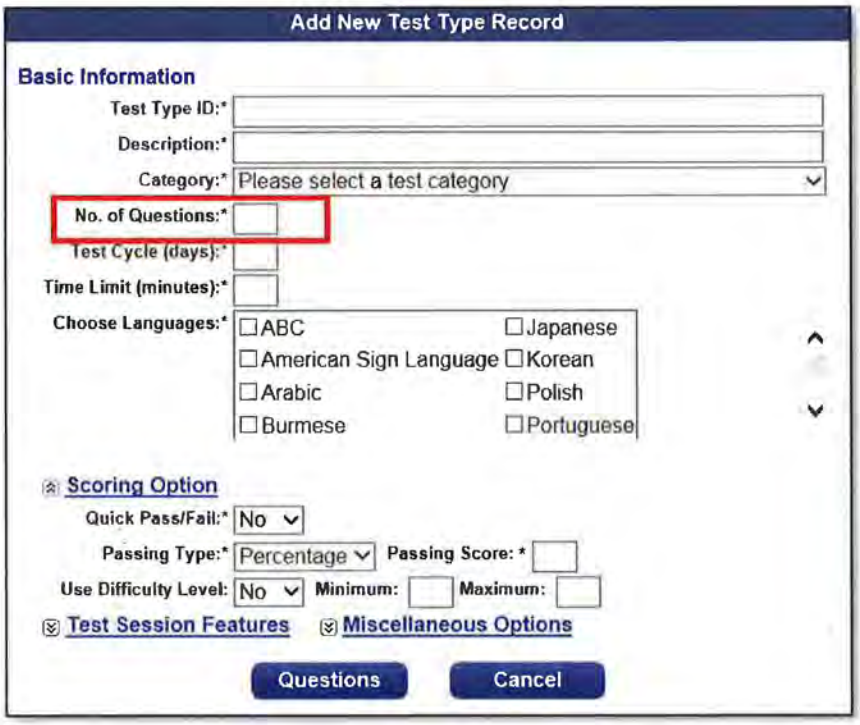


Figure 117: Add New Test Type Record—Number of Questions

AutoTest Administrator allows authorized users to set a desired number of test questions for a given test type.

iii. Have up to four (4) choices with one choice that is the correct answer and up to three (3) others included as distracters.

AutoTest allows the DMV to provide four (and even up to five) answers to a multiple choice—three distracters and one correct answer. Figure 118 illustrates how a test question can be edited easily to include a given number of answers.

Figure 118: Edit Test Question Record – Answer Details

Multiple-choice questions will require one designated correct answer and multiple distracters.

iv. Have the Knowledge Test present all test items, including stems, choices, and associated photographs or audio tracks in a consistent format and location on the Test Station monitor. The text of the test item must be presented so that it does not disturb a photographic presentation, i.e. the applicant must be able to clearly view an accompanying picture while reading the question and making a choice.

AutoTest's Test Station interface uses a consistent layout from screen to screen with touchable buttons and clear instructions. All tests are presented to the applicant in a clear consistent format through all testing channels. Figure 119 shows this format for a CDL General Knowledge Exam, but the format is the same for all other exams as well.

Figure 119: AutoTest Test Station Screen Shots

AutoTest uses consistent, clean, and clear structure to layout our questions for easy understanding of the material.

Applicants can view any accompanying picture while reading the question and making a choice. They even have an option to enlarge the picture for better viewing without disturbing the test questions and answers.

v. *Have a "field" for each stem allowing for at least 300 characters of text.*
vi. *Have a field for each of the choices (answer or distracter) allowing for at least 154 characters. Therefore, if there are four choices, the choice field will be 4 X 154 or a total of 616 characters. The total field for each test item (stem + choices) must be at least 916 characters.*
vii. *Have a character size no smaller than 14 characters per inch. Character size, type, and font must be approved in advance by the DMV.*

AutoTest is adaptable and flexible to meet the particular needs of the DMV, including all the field and character size requirements detailed in the RFP.

M. Knowledge Testing

e. Media

99. Describe how you will meet the Knowledge Test Media requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 11. Knowledge Test Media.

✓+ **IDEMIA USA complies and exceeds.**

Below are our responses to meet the Knowledge Test Media requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 11. Knowledge Test Media.

a. *Each test item may include a corresponding graphic relevant to the question.*
b. *Test items must utilize photographic depictions of actual driving/traffic situations, including road signs, intersections, traffic lights, roadways, and other visual representations associated with rules of the road, driving skills, or safe vehicle operations. The photograph shall appear visually on the Test Station monitor in conjunction with the associated test item.*
c. *Pictures included as a component of a test item shall be presented as a photograph accompanying text. No graphics or stick-figure type diagrammatic representations are acceptable. The DMV will work with the Contractor to select the actual picture to be utilized for each test item. The DMV reserves the right to refuse to allow any picture to be used within any aspect of the automated system.*
d. *Pictures supplementing test items shall be still digital photographs.*
e. *No graphics or pictures shall include any references to any states or areas other than Nebraska.*
f. *The addition of new or replacement pictures must be possible without upgrades to hardware or software.*
g. *Any picture included as a component of a test item shall be at least 20%, but no larger than 25%, of the size of the Test Station monitor screen. The system must have the capability of enlarging the picture to full screen and then reducing the image to the original size as prompted by the Test Station and selected by the applicant.*
h. *The picture shall appear in the same place on the screen for all test items on all tests.*

AutoTest comes pre-loaded with the FMCSA pre-approved pool of over 600 test questions to develop knowledge tests for each CDL vehicle group and endorsement. The FMCSA item bank has a complete set of picture graphics for all test items that have been vetted and approved by multiple jurisdictions. **As standard practice, we monitor all new requirements and question content published by FMCSA and provide free updates to these items to all customers with current software support agreements.** The DMV may elect to turn on new content at any time during the support period.

The images provided with this test question item bank are still photographs that depict actual driving/traffic situations. Photographs appear consistently on the right side of the Test Station monitor (seen in Figure 120) in conjunction with the associated test item, which will appear on the left. As many of these questions are used for multiple districts, the photographs do not contain references to any particular state. However, the DMV may make changes to any images on their system, including adding Nebraska-specific photographs. Applicants may enlarge picture on a given test questions if desired by pressing the Enlarge Picture button under the given photograph. The photographs before enlargement meet the RFP size requirements.

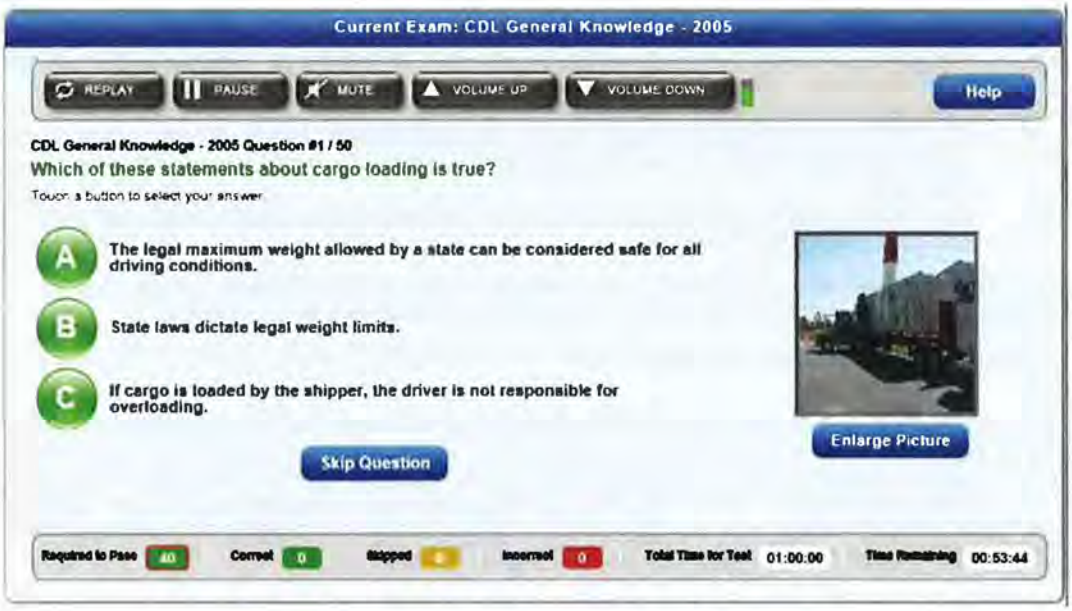


Figure 120: AutoTest Test Station – Digital Photograph

Example of digital photograph for supplementing test item.

M. Knowledge Testing

f. Modes

100. Describe your test presentation modes and your compliance with the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 12. Test Presentation and 13. Initiating Printed Tests and explain the process for examining staff to produce paper tests.

✓ **IDEMIA USA complies.**

Below are our responses to the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 12. Test Presentation and 13. Initiating Printed Tests and explain the process for examining staff to produce paper tests.

12. Test Presentation

a. On-Screen - via touchscreen test monitors.
b. Oral (audio) - through a listening device attached to the Test Station which must:
  i. Be available on all Test Stations.
  ii. Be conducted with the use of secure listening devices to ensure privacy during tests.
  iii. Include a volume control feature to enable an applicant taking an oral test to change the volume to a comfortable level.
  iv. Be presented in clear and understandable audio.
  v. Correspond word for word with the on-screen test answers and questions displayed on the Test Station monitors.
  vi. Provide the test question and all answer choices.
  vii. Permit the applicant to repeat the question and answer choices by touching a specific touch zone, e.g., "Repeat Question."
  viii. Be available in all languages in which an on-screen test is available.
c. Written - paper and pen tests produced by a printer.
  i. The system must print paper copies of examinations containing questions with answer choices for an applicant.
  ii. The written (printed) paper tests shall correspond word for word with on-screen tests.

iii. *The system must be capable of printing a paper copy of the visual image (photograph) associated with each particular test item for all test types.*

iv. *The system must print an answer key for the examiner corresponding with each printed test for all test types. The system must be able to do this for all test types and test languages.*

v. *Paper copies of tests shall be printed on 8 ½" X 11" paper.*

vi. *The printing for paper copies of tests shall be near letter quality. Letter/symbol size must be large enough (no smaller than 14 characters per inch) to permit applicants to easily read the paper copies of the tests.*

vii. *Paper tests must be generated using the same randomizing process used to formulate and present tests displayed on the test tablets.*

Tests can be presented in all three required modes: on screen via touchscreen monitors, orally through headphones attached to the Test Stations, and in written paper format produced by a printer.

a. On-Screen Exams—On-Screen exams are available on all Test Station tablets through the Test Station interface.

b. Oral Exams—Oral exams are available on all Test Station tablets through secure headphones. Every question has audio narration available in all provided languages for test questions and messages, which are controlled easily by the applicant allowing them to repeat, pause, or adjust volume at any time, as shown in Figure 121. The audio corresponds word-for-word with the on-screen test answers and questions displayed on the Test Station monitor. Additionally, if the applicant is taking the test in a language other than English they also have the ability to switch the audio between the language of the test and English at any time.

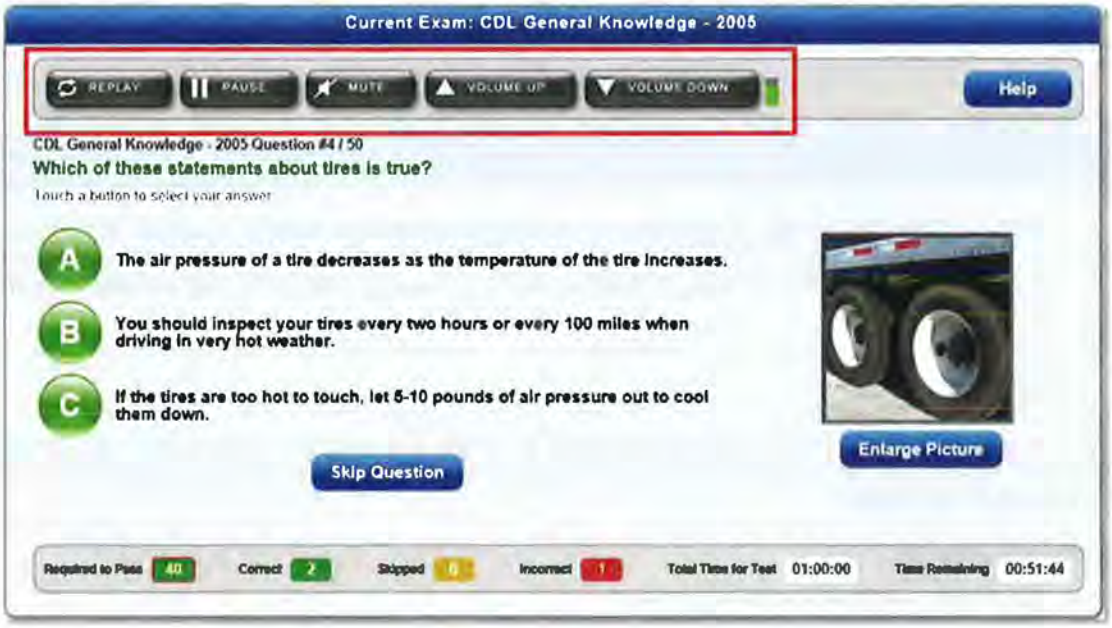


Figure 121: AutoTest Station Audio Controls

c. Written Exams—DMV examiners can print randomized written tests and answers, including associated graphics, in all languages whenever required. Written tests correspond word for word with the on-screen test answers and questions, as they are drawn from the same item bank. Paper tests are generated using the same randomizing process used to formulate and present tests displayed on Test Station screens. Figure 122 is an example of an AutoTest paper test.

Test Date: 03/31/2016 02:19 PM **Test ID: 99-1685**
Applicant ID: 999-118 **Test Type: Operator**
Applicant Name: Joyce, James **Test Category: Non Commercial Driver License**

Please circle the letter next to the correct answer.

1. If your right wheels get off the pavement on the rough shoulder of the road, you should:

A. Make an Emergency Stop
B. Stay on the shoulder, slow your speed, then return to the pavement
C. Turn the steering wheel quickly to get back on the pavement

2. This sign means:

A. Slippery when wet
B. Divided highway ends
C. Winding road ahead

3. What is your FIRST obligation in case you are involved in an accident?

A. Stop at once and aid all injured persons
B. Report to the State Troopers
C. Get the names of the witnesses

Figure 122: Paper Test

Paper tests can be printed in numerical order with all possible answers displayed with graphics.

With any written test, AutoTest also prints an answer sheet for the DMV examiner. If an applicant requests a paper test in a foreign language, the English version of the test is printed as well for the DMV examiner to be able to assist if needed. Paper tests print in readable font type and size on standard letter-size paper.

13. Initiating Printed Tests

a. *Examiners shall be able to initiate printing not only from tablets, but also through a web-based portal. This is necessary, for example, in instances where tablets have become inoperable.*
b. *Examiners shall be able to create and send printed tests to any printer in any examining office throughout the State. This is necessary, for example, when an examining office has lost connectivity but must continue to serve applicants.*

DMV examiners will be able to print randomized paper tests and answer sheets, including associated graphics, in all languages from any Examiner station to any attached network printer in the local office. The AutoTest software provides the ability to create offline paper tests as HTML formatted files saved to a network-shared folder. Individual DMV examiners can display and print the HTML formatted test files from a Web browser using a link located on the DMV staff's desktop. This not only ensures that DMV staff will be able to print a test if the application is down but also that everyone is using the appropriate and updated paper exam.

M. Knowledge Testing

g. Tablet functionality

101. Describe the functionality of the test unit and how it meets the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 14. Knowledge Test Tablet Software Functions.

✓ **IDEMIA USA complies.**

Below are our responses to the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 14. Knowledge Test Tablet Software Functions.

Because AutoTest is a Web-based solution and not software installed on given tablets, the knowledge test presents the same on a portable tablet as it does on a static Test Station.

a. *Tablet software must be capable of simultaneously displaying both text and picture, if applicable, for each test item.*

AutoTest comes pre-loaded with the FMCSA pre-approved pool of over 600 test questions to develop knowledge tests for each CDL vehicle group and endorsement. The FMCSA item bank is complete with a complete set of picture graphics for all test items that have been vetted and approved by multiple jurisdictions. As standard practice, we monitor all new requirements and question content published by FMCSA and provide free updates to these items to all customers with current software support agreements. The DMV may elect to turn on new content at any time during the support period.

b. *In collaboration with the DMV, the Contractor must develop straightforward on-screen instructional procedures providing the applicant with a clear understanding of how to proceed with the test.*

AutoTest Test Station provides simple on-screen instructions (available in multiple languages) for all test takers. Figure 123 shows an example of Test Station's simple, easy-to-understand instructions. We will work with the DMV to customize on-screen instructional procedures for the applicant.

Figure 123: AutoTest Test Station – On-Screen Instructions

c. *The tablet shall have a feature alerting Examining Staff that the applicant needs assistance. Currently, there is an audio cue. Bidder may propose an easily heard audio and/or an easily viewed visual cue (e.g., pop-up window on examiner screen, light over applicant carrel).*

AutoTest allows applicants to request help via a "Help" key, located in the upper right corner of the Test Station screen, during the exam. After the pressing it, the timed exam is suspended, and the applicant sees a screen such as the one shown in Figure 124 that tells him/her to "Please Wait" until the DMV test examiner can assist.

Figure 124: Test Station Help Button

Applicant has pressed the "Help" key in the upper right corner, causing the test to pause until an examiner provides assistance.

When the applicant presses the "Help" key, Examiner notifies all DMV examiners at that location immediately that the applicant on a given testing station needs assistance, as shown in Figure 125. After a DMV examiner resolves the issue, he/she then can release the test so the applicant can continue or cancel the test entirely by choosing an option in the Action column on the Examiner screen.

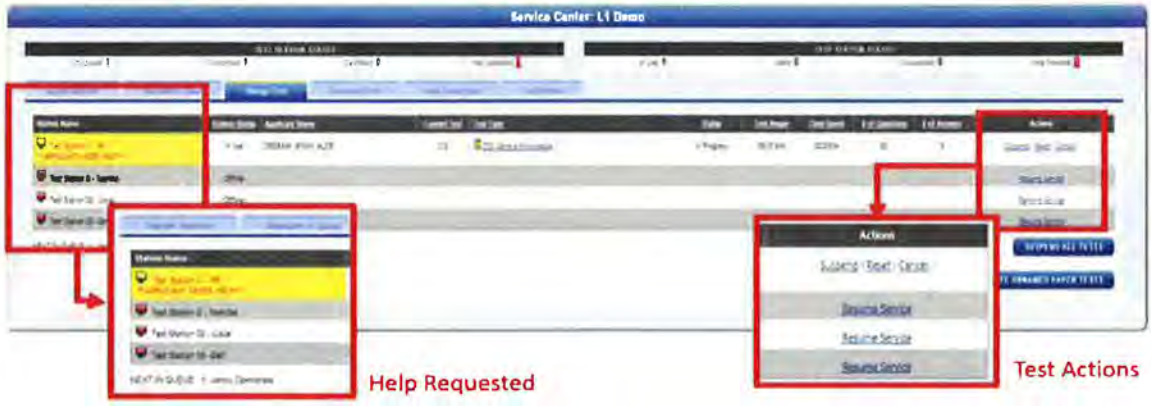


Figure 125: Examiner Screen Showing Applicant Needs Assistance

d. *Tablet software must allow results data from individual tablets to be electronically stamped with unique identifiers. The DMV and Contractor will determine the applicant identifier.*

AutoTest allows results data from individual tablets/applicants to be electronically stamped with a unique identifier, which can be chosen in collaboration between IDEMIA USA and the DMV.

e. *The tablet must automatically ask at least two (2) multiple-choice questions specific to the applicant as a means of establishing that the applicant actually is the person taking the test. The DMV will determine the verification questions. The applicant's name would not be displayed on the tablet until after the applicant correctly answers the two identifying questions. If the verification questions are answered incorrectly, the test-taker may not proceed with the test without the examiner's permission.*

From the moment an applicant sits down at the testing station, AutoTest helps the DMV maintain security and prevent fraud. When an applicant arrives at a testing station, he/she is prompted immediately after the welcome screen to answer multiple-choice authentication questions such as first and last name, age, and date of birth specific to the applicant as a means of establishing that the applicant actually is the person taking the test. These type and number of questions are customizable by the DMV. Figure 126 displays an example of an applicant authentication question.

Figure 126: Applicant Authentication

Before beginning a test, an applicant must answer verification questions such as their date of birth in order to prevent identity fraud.

The applicant's name would not be displayed on the tablet until after the applicant correctly answers the two identifying questions. If the verification questions are answered incorrectly, the applicant may not proceed with the test without the DMV examiner's permission.

f. *Tablet software must permit applicants to answer questions by simply touching the screen using touch screen technology.*

AutoTest Test Station uses touchscreen technology for test takers to answer questions.

g. *Tablet must provide the applicant with options to answer the question, skip the question, or have the question repeated. If the applicant skips a question, the system shall repeat the question at the end of the test (but only if additional questions are necessary to pass or fail the applicant via a "Quick Test Option").*

AutoTest Test Station allows the applicant to answer the question, repeating (or replaying) the question, or skip the question to be answered later. The DMV can customize tests using AutoTest Administrator so the system repeats the question at the end of the test if additional questions are necessary to pass or fail the applicant via a "Quick Test Option." Figure 127 highlights these functions.

Figure 127: Test Station Controls

Test takers can have the option of answering a question, replaying a question, or skipping a question.

h. *Applicants must have the capability to review the test results upon conclusion of the test.*

AutoTest stores all test results and displays messages that an applicant has completed the test. The results of the test are then displayed to the applicant, who can click the Review Wrong Answers button to review the test. Figure 128 shows one example of this.

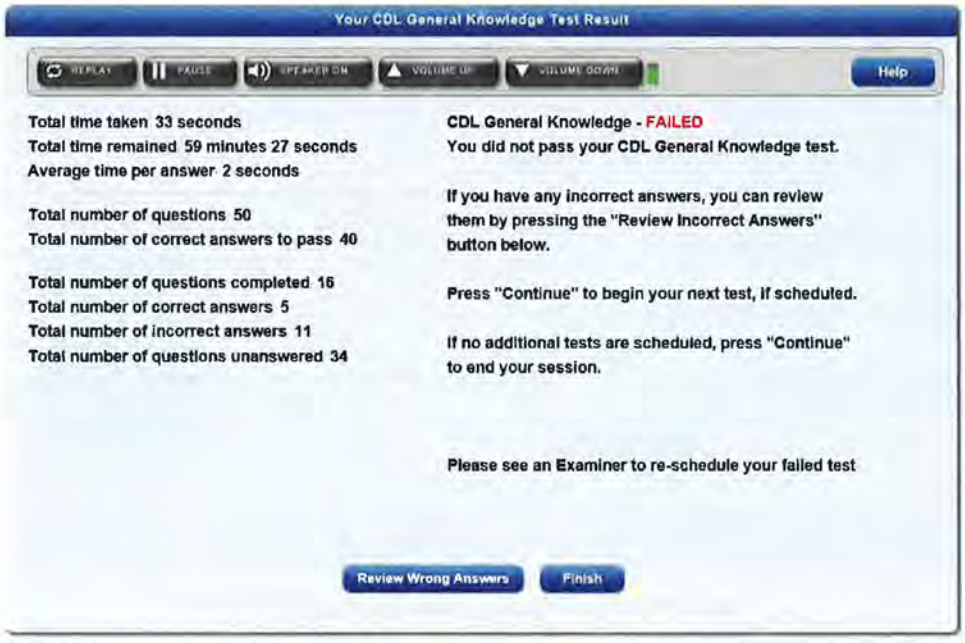


Figure 128: Customer Test Data

All customer test data is stored in a report communicating which tests the customer has completed.

i. *Tablet software must allow applicant to enlarge the graphic image to full screen size by touching an on-screen control. Once the image is enlarged to full screen, it may be returned automatically to normal size by timer function after five seconds, or by touching the screen again.*

Applicants may enlarge a picture on a given test questions by pressing the Enlarge Picture button under the given photograph, as shown in Figure 129. The photographs before enlargement meet the RFP size requirements. The DMV can select to implement one of the alternatives below after the applicant has enlarged the picture:

- The image on the page selected will remain as a large picture once enlarged
- The image will automatically be returned to normal size during the next screen refresh after enlarging the picture (about 15 seconds)

Figure 129: AutoTest Test Station – Enlarge Picture

Applicants can enlarge graphics or videos while taking a test by pressing Enlarge Picture (highlighted in red).

j. Tablet must display to the applicant whether the test has been passed or failed. This display shall also depict the total number of answers correct or incorrect at the end of the test.

AutoTest stores all test results and displays messages that an applicant has completed the test. The pass/fail results of the test are then displayed to the customer, including the total number of answers correct or incorrect. Figure 130 shows one example of this.

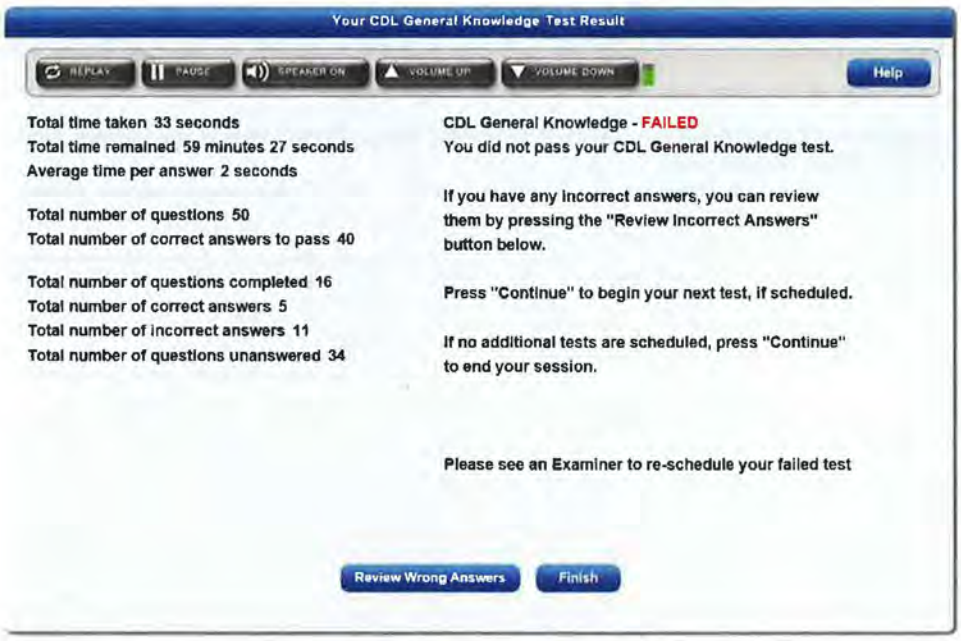


Figure 130: Customer Test Data

All customer test data is stored in a report communicating which tests the customer has completed.

k. *Tablet software must deny applicants, or other unauthorized persons, the ability to print out any aspect of the testing information contained within a tablet.*

The DMV may configure AutoTest to deny applicants or other unauthorized persons from printing any aspect of testing information contained within a tablet. Test Station tablets operate with a secure browser that disables the ability for applicants or any other unauthorized persons to access or print any testing information contained within a test unit. In addition, the Test Station application locks out when not used for a DMV-configurable amount of time.

l. *Tablet and applicant information must be automatically transferred to the Central Statistical Database and immediately accessible via Server.*

The applicant information and test results are transferred from the Test Station to the Central Statistical Database automatically following test completion and are accessible immediately via the Server. In fact, the answers are updated after every question and can be viewed by the Examiner in real time as the test is being completed.

m. *Tablet must be capable of retaining all scoring, statistical, and audit data in the event of a power failure or a system hardware failure. No information shall be lost, including information for tests in-progress, if any.*

AutoTest is capable of retaining all scoring, statistical, and audit data in the event of a power failure or a system hardware failure with no loss of information, including information for tests in-progress, if any. In the event of a power failure, the test on the Test Station resumes at the last unanswered question. If the system hardware fails at the Test Station, the test can be moved to another Test Station and resumed in progress.

n. *In the event of a system outage due to a power failure, the tablet must be capable of restarting all tests within five (5) minutes of the restoration of power.*

In the event of a system outage due to a power failure, AutoTest is capable of restarting all tests within five (5) minutes of the restoration of power.

M. Knowledge Testing

h. Staff functionality

102. Describe the staff functionality and how it meets the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 15. Examining Staff Requirements.

✓ **IDEMIA USA complies.**

Below are our responses to the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 15. Examining Staff Requirements:

a. *The staff must have the capability to monitor test progress, display test results (including what the correct answers are and a source reference for that answer), review tests, print test results, and print statistical reports.*

DMV examiners can monitor the progress of any applicant remotely through the Examiner interface, including monitoring each question and answer as the test is being taken (shown in Figure 131). On this screen, DMV examiners can see the question ID (which links to the test question details, such as its knowledge base origin), the question number as given to the applicant, the correct answer, the answer given by the applicant, and the time spent on that question.

Figure 131: Monitoring Test Progress in AutoTest Examiner

DMV examiners can monitor the test progress of any applicant taking any test, including the test results as they are answered by the applicant.

After the applicant completes the test, DMV examiners can review the test, print the results, and print statistical reports. To review a given test, the DMV examiner would click on the desired test ID (shown in Figure 132). The DMV examiner may click Review Test to display the details of that test on screen (shown in Figure 133) or click Print to print the test to a configured printer for review.

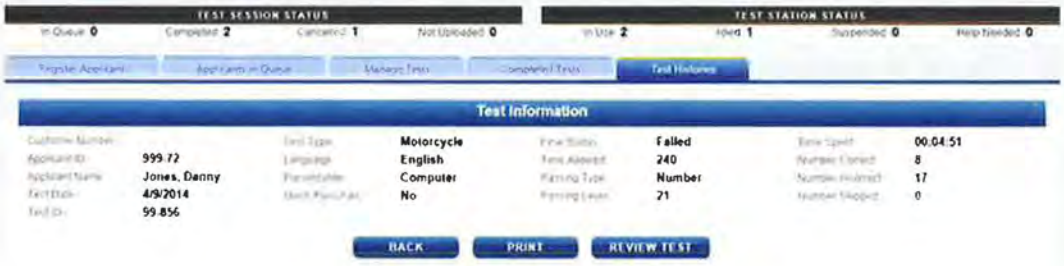


Figure 132: AutoTest Examiner – Test Information

To review a test, the examiner chooses Review Tests and can view data on screen or print.

Figure 133: AutoTest Examiner – Test Details

The Test Information button takes the user back to the Test Information screen, while the Close button takes the user to the Review Test Report screen.

AutoTest provides the ability to generate and then print a variety of standard statistical reports in both Examiner and Administrator.

b. Monitor the sites and report hardware or software failures.

Our system monitoring goal is to find potential problems before an impact to customer service occurs. We use best-in-class tools to scrutinize our solutions' servers, network, and workstation hardware and software to ensure we meet and even exceed your availability service level objectives.

Information from the systems that are monitored by our support staff is collected and uploaded to a central regional support server owned and operated by IDEMIA USA. This server consolidates observations and reports them in a meaningful way. The color-coded dashboard, shown in Figure 134, is an example of our reporting on the health of systems across the region. Color-coded highlighting immediately provides our support staff with visual indicators of a system's health. In the event that a warning or critical event has occurred, the monitoring solution will notify Tier 3 support staff via email, which goes right to their phones. Notification for outages, failures, and significant events also are be sent to designated DMV and IDEMIA USA personnel. Tier 3 support reviews the dashboard regularly for any items found in yellow or red during daily checklist tasks.

Figure 134: Proactive monitoring of network and servers

Maximizing customer service allows us to fix potential problems before they occur.

c. Be able to generate select reports including information extracted from the Central Statistical Database (number of tests taken, test language, test type, test version, test mode, etc.).

AutoTest can generate select reports, including information extracted from the Central Statistical Database. Each report can be customized by adding and removing query fields such as tests taken, test language, test type, test version, and test mode. Table 23 lists all of the current standard reports available through the Examiner interface.

Table 23: Examiner Standard Reports

Report	Information in Report	Query Fields
Applicant History	Applicant data and information about each test taken, including date and time of the test, test type, language, location, and examiner name	Applicant ID, First Name, Last Name
Cancelled Test Report	All cancelled tests, including date, applicant information, test information, service center, and reason for cancellation	Start and End Dates of test activity, Service Center, Language, Test Type, Test Category
Test Activity Report	Test activity sorted by test type, including number of tests, average time, and test results	Start and End Dates of test activity, Service Center, Language, Test Type, Test Category
Test Review	Tests sorted by date including test date, ID number, test type, applicant ID, applicant name, test status, transmit status, and transmit date	Start and End Dates of test activity, Service Center, examiner ID, applicant name, applicant date of birth, applicant DL number, test mode
Test Log	Tests sorted by date including test date, start time, end time, test ID number, service center, examiner, test type, applicant ID, applicant name, test category, test status, score, cancel reason, language, and test mode	Start and End Dates of test activity, Service Center, Language, Test Type, Test Category, Test Status, Test Mode, Examiner ID

d. *Perform a system configuration check any time that the system is initially powered-up.*

Testing station computers will use the OAS Agent secure Web browser application to prevent customers from gaining access to the network or any other local applications on the computers. The OAS Agent application will be configured to log on to the testing station automatically after start up or reboot and direct the browser to the AutoTest application attract loop. The OAS Agent application also will be configured to automatically reboot each testing station every morning and run standard maintenance and clean up jobs as needed by the testing computer.

e. *Require no more than ten (10) minutes per day per examination site to perform routine system management tasks, e.g., those tasks to be completed daily in order for the system to operate (log-on, log-off, etc.).*

AutoTest requires no more than 10 minutes per day per examination site to perform routine system maintenance tasks.

f. *Include a "ready" status indicator notifying the examiner that a specific Test Unit is online and available.*

AutoTest alerts DMV examiners of the status of all Test Station locations in a given office. The other Test Station icons are yellow, indicating that they are in use by an applicant. If a Test Station is not in use and is idle or "ready," the Test Station icon will be green. Figure 135 shows test stations with all three statuses.

Figure 135: Test Station Status

Test Station icons are color-coded to report their status.

g. *Require a combination of screen name (or user number) and secure password that will grant examiners access to pre-defined user rights for various levels of system access. Utilize automated procedures guaranteeing password protection but allow authorized users to change their personal passwords quickly and easily. This requirement must be achieved by use of Active Directory.*

AutoTest uses Active Directory for establishing and maintaining system security. Role-based authentication for examiners, supervisors, and administrators is integrated with the DMV's existing Active Directory implementation. Configurable user roles defined within Active Directory control access to system features and visibility of access-controlled data, thereby allowing different and separate functions for DMV administrators and examiners. This allows the DMV to manage access easily across the breadth of the solution.

h. *Provide the ability to assign an applicant to a specific test at any tablet.*

Examiner allows DMV examiners to assign tests in one of two ways:

- Assign the applicant to a Test Station manually (push method) (seen in Figure 136)
- Instruct the applicant to proceed to any open Test Station, input a unique identifier assigned to the applicant by the DMV, as determined by the DMV), and begin the test (pull method)

Figure 136: Assign Applicant to Test Station—Push Method

DMV examiners can assign an applicant to a Test Station manually using the push method in AutoTest Examiner.

i. *Provide the ability to enter a unique identifier for each applicant.*

Under the Search Applicant screen (depicted in Figure 137), the DMV examiner enters the applicant's driver's license number (or other unique identifier) in order to retrieve the task that must be conducted; this task order includes request ID, applicant data with photo, and test type to be conducted.

Figure 137: AutoTest Applicant Search Screen

Entering an applicant's DL number (or other unique identifier) allows the test to be queued/configured and the applicant assigned to a Test Station.

j. Provide a continually updated display of the status and test progress for each tablet. The data displayed must include at least the following:

i. Tablet number
ii. Applicant identifier
iii. Start time
iv. Elapsed time
v. Number of questions answered correctly and incorrectly for test in-progress
vi. Number of questions answered correctly and incorrectly, and a pass/fail indicator, for completed tests
vii. The names of other tests assigned but not started

From the AutoTest Examiner Manage Tests tab (seen in Figure 138), DMV examiners can view a continually updated display of the status and test progress for all Test Station locations—static and mobile—for a given service center. When the DMV examiner clicks on an applicant's name, AutoTest will open that applicant's Test Details page (seen in Figure 139). On this page, the DMV examiner can see all details of test progress, including the Test Station (tablet) number, applicant identifier, test start time, elapsed time, number of questions answered correctly and incorrectly for test in-progress, number of questions answered correctly and incorrectly, and a pass/fail indicator, for completed tests, and the names of other tests assigned but not started.

Figure 138: AutoTest Examiner – Manage Tests

DMV examiners can manage all aspects of tests in their office.

Figure 139: AutoTest Examiner – Applicant Test Details

DMV examiners can view all details of an applicant's test as it is in progress.

k. *Be capable of displaying the "Test Progress Monitoring Display" while other functions are being performed.*

As shown in Figure 140, the DMV examiner is capable of displaying the Test Progress Monitoring Display (Manage Tests tab) by simply clicking on that tab from any other function. The DMV examiner would then be taken to the Manage Tests tab and could click on any test in progress to see more detailed information.

Figure 140: Test Progress Monitoring Display

DMV examiners can manage monitor test progress through the Manage Tests tab.

l. *Have the ability to retrieve, review, and print test results currently in progress and previously completed. A menu-driven search utility must be in place to allow for rapid retrieval of test result data.*

DMV examiners can search, view, and print tests from the Examiner application at any time, whether the test is in progress or completed months before. Examiners only need to click a test in the Manage Tests tab (if the test is in progress), the Completed Tests tab (if the test was completed recently), or search the applicant in the Register Applicant tab (for tests completed on other days).

m. *Provide the ability for the examiner to review all questions and answers for any test. The review must display the questions and answers in the order presented in the test, including graphics, the answer selected by the applicant, and the correct answer when different from the selected answer. The examiner must have the ability to have the test displayed.*

The Examiner interface allows DMV examiners to review all questions that appeared on any applicant's test along with any associated graphic images. Each question shows the answer selected by the applicant, as well as the correct answer if it is different from the one selected. Test reviews also may display the Source in Manual information for each question, listing the page and/or section in the driver manual from which the question was drawn. This assists both the DMV examiner and the applicant in understanding what to study for any retest attempts. This process is depicted in Figure 141 and Figure 142.

Figure 141: Sample Test Information

When a DMV examiner searches for a test, the Examiner application displays a summary and allows the DMV examiner to review the actual test with answers.

Figure 142: Test Details

DMV examiners can view all details of a given test, including the test questions, answers, graphics, correct answer, and answer given by applicant.

n. *Allow the choice of:*
   i. *Terminating a test after a preset percentage or number of the questions have been answered correct or incorrectly (e.g., "quick pass" or "quick fail").*
   ii. *Requiring the applicant to take the entire test regardless of whether the applicant passes or fails.*
   iii. *Allowing the applicant to continue the test after being notified that the test has been passed or failed.*

AutoTest provides for optional Quick Pass/Fail capability, as shown in Figure 143. This feature is configurable and may be turned on or off for each individual test type at the discretion of authorized DMV administrators. If this function is turned off, applicants will be required to take the entire test regardless of whether they pass or fail. As each test (for example, CDL General Knowledge, Motorcycle, and so on) is created on the Administrator console, the author of the test may set Quick Pass/Fail status as a global parameter for all tests of that type delivered through the system.

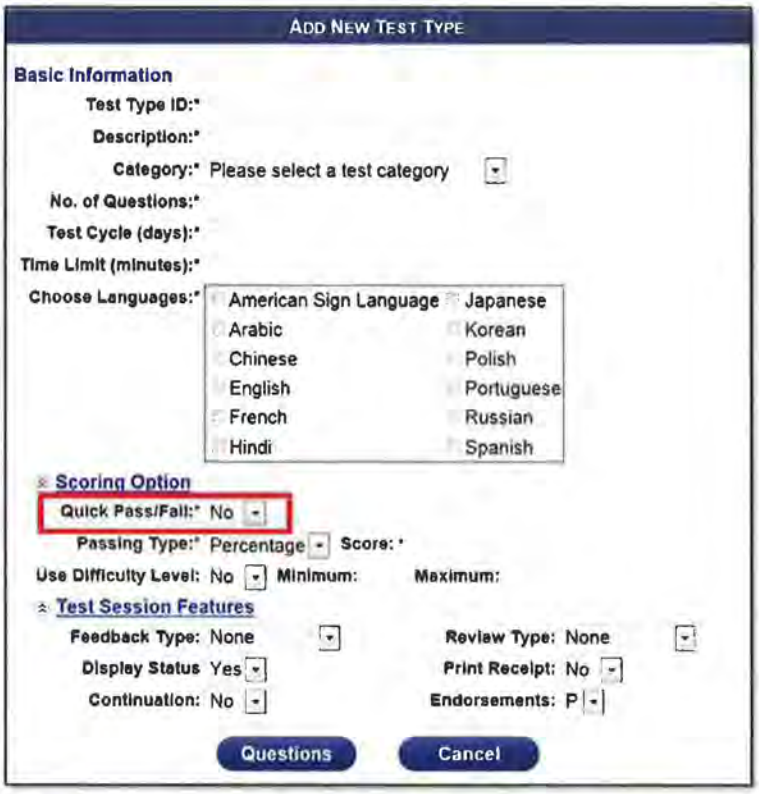


Figure 143: Setting Quick Pass/Fail as a Test Type Parameter

The area highlighted in red is a pull down box that activates the Quick Pass/Fail feature for each test type.

o. *Enable the examiner to cancel any test in progress at any time and include notation for reason of cancellation. All normal statistical data shall be captured for the cancelled tests. In addition, a notation in the data will be made to show the test was cancelled before completion.*

AutoTest allows DMV examiners to intervene and suspend or cancel any test or all tests from the Examiner application. Figure 144 shows how DMV examiners can easily cancel or suspend tests at any time. When a test is cancelled, the DMV examiner is required to enter a reason (seen in Figure 145), which is captured and stored in the database. A message then will be displayed on the Test Station screen that the test in progress has been cancelled. Using the system's customer messages feature, the applicant also can be told what to do next.

Figure 144: Suspending and Cancelling Test in Progress

The DMV examiner can suspend or cancel a test in progress easily at any time by clicking the option highlighted in the image above.

Figure 145: Reason for Cancelling Test in Progress

Examiner requires DMV examiners to select a reason to suspend or cancel a test.

M. Knowledge Testing

i. Administrator functionality

103. Describe the administrator functionality and how it meets the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 16. Administer Functionality Requirements.

✓ **IDEMIA USA complies.**

Below are our responses to the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 16. Administrator Functionality

a. *The solution must:*
   i. *Be user friendly and menu driven allowing DMV employees with basic computer skills and minimal training to use the software.*
   ii. *Operate in a manner consistent and compatible with other software aspects of the Knowledge Test system and should reflect the format, characteristics, and requirements previously described for other aspects.*

AutoTest Administrator allows DMV administrators to manage the complete knowledge testing system though a simple and intuitive user interface with clear menus that requires minimal training or computer skills. This interface allows DMV administrators to manage multiple aspects of the testing environment by clicking clearly marked sections for each function (e.g., management of users, tests, service centers, management, reports), as seen in the Administrator home page pictured in Figure 146. It operates a compatible manner with other software aspects of AutoTest.

Figure 146: AutoTest Administrator User Interface

From the home screen, DMV administrators can manage the many aspects of the AutoTest system.

b. *The Administrator must be able to:*
   i. *Add users, set user rights, and deactivate users and user rights; set parameters for the construction of tests; create and maintain test items; consolidate, review, format and display test results; print test results; print the pool of test questions with answers and pictures; and print statistical and audit reports.*

Through the Administrator home screen shown in Figure 146 above, DMV administrators can perform any of the tasks required through one of the menu buttons. If the DMV administrator clicks "Manage Users," the menu in Figure 147 will appear, allowing the administrator to manage individual and group user rights and roles.

Figure 147: Manage Users

DMV administrators can add users, set user rights, and deactivate users and user rights from this menu.

From the Manage Tests button on the Administrator home screen, DMV administrators can:

- Set parameters for the construction of tests
- Create and maintain test items
- Consolidate, review, format, and display test results
- Print test results
- Print a pool of test questions with answers and pictures

Figure 148 shows the menu that appears after clicking Manage Tests on the Administrator home page.

Figure 148: Manage Tests

DMV administrators can manage all functions related to tests from this menu.

From the Reports button on the Administrator home screen, DMV administrators can generate and print statistical and audit reports. Each report also can be exported to Excel for further analysis using tools such as pivot tables, etc. Table 24 lists and describes the standard AutoTest Administrator reports and lists the query fields for each report that DMV administrators can use to create customized reports.

Table 24: Standard AutoTest Administrator Reports

Report	Information in Report	Query Fields
Service Centers Report	Location, manager, contact information, and create date of all service centers in the AutoTest system	N/A
Questions Report	Question ID, revision, and text of each question	Language, Knowledge Domain
Custom Messages Report	Message ID, language, and text of each message	Service Center Name, Language
Applicant History Report	Applicant data and information about each test taken, including date and time of the test, test type, language, location, and examiner name	Applicant ID, First Name, Last Name
Audit Trail Report	Complete details of the AutoTest user account	User ID, Start and End Dates of the audit period
Test Activity Summary Report	Applicant number and test information including date, type of test, results, service center, and examiner name	Start and End Dates of test activity

Test Log Report	All test activity, including date, applicant information, test information, service center, and test results	Start and End Dates of test activity, Service Center, Language, Test Type, Test Category, Test Status
Cancelled Test Report	All cancelled tests, including date, applicant information, test information, service center, and reason for cancellation	Start and End Dates of test activity, Service Center, Language, Test Type, Test Category
Test Activity Report	Test activity sorted by test type, including number of tests, average time, and test results	Start and End Dates of test activity, Service Center, Language, Test Type, Test Category
Examiner Activity Report	All test activity for an examiner sorted by test type, including number of tests, average time, and test results	Start and End Dates of Examiner activity, User ID, Language, Test Type, Test Category
Item Bank Analysis Report	Test response results for specific questions, including the percent correct, incorrect, or skipped	Knowledge Domain, Question ID, Test ID

ii. *Create, delete, and modify test questions and answers to all tests, including on-screen, oral, and written tests. These capabilities must include the ability to:*
   a) *Create new test question types and categories.*
   b) *Create new test questions and answers.*
   c) *Modify test questions and answers.*
   d) *Delete prior test questions and answers.*
   e) *Define/revise the number of questions for a test.*
   f) *Define the questions to be used to generate a test.*
   g) *Define/revise the passing grade for each test by either percentage or number of questions answered correctly.*
   h) *Change a graphic associated with a question.*
   i) *Set effective starting and expiration dates for questions and/or answers.*

From the Manage Tests menu, DMV administrators can create, delete, and modify test questions and answers to all tests, including on-screen, oral, and written tests.

Add New Test Question Types and Categories: Clicking the Test Types button on the Manage Tests menu opens the Test Type Maintenance screen shown in Figure 149. DMV administrators can modify current test types by searching for them in a particular category, by a specific language, or in a specific knowledge domain chosen from their respective dropdown menus or add a new test type by clicking Add New Test.

Figure 149: Test Type Maintenance Interface

Both the Add New Test Type Record popup (shown in Figure 150) and the Edit Test Type Record popup (Figure 151) allow DMV administrators to perform a number of functions related to test types, including:

- Define/revise the number of questions for a test
- Define the questions to be used to generate a test
- Define/revise the passing grade for each test by either percentage or number of questions answered correctly
- Define/revise Test Session Features
- Choose in which languages the given test type is offered

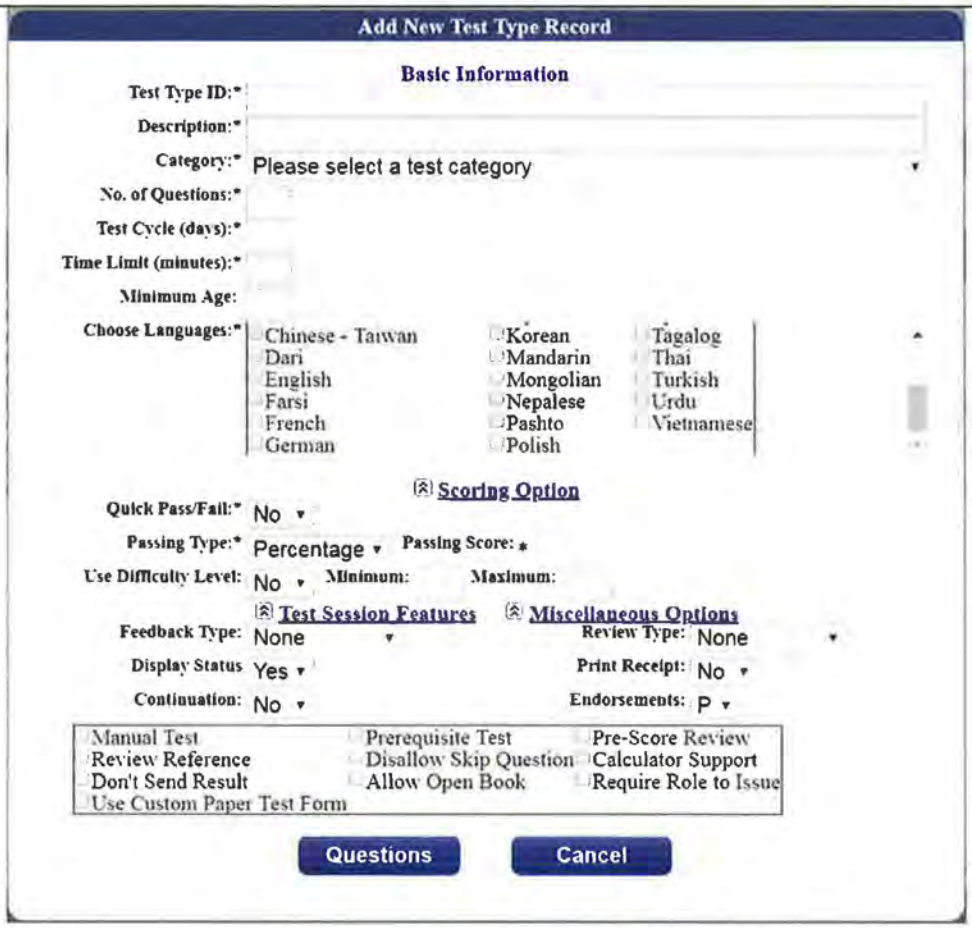


Figure 150: Add New Test Type Record

Figure 151: Edit Test Type Record

Add New Test Questions and Answers: Clicking the Questions & Answers button on the Manage Tests menu opens the Test Question & Answer Maintenance screen shown in Figure 152. DMV administrators can modify or delete current test questions by searching for them in a particular knowledge domain chosen from a dropdown menu or add a new test question by clicking Add New Question.

Figure 152: Test Question and Answer Maintenance Interface

Administrators can add or modify any test question and its associated answers, audio, and graphics easily from this menu.

Both the Add New Test Question Record popup (shown in Figure 153) and the Edit Test Question Record popup (Figure 154) allow administrators to perform a number of functions related to test questions, including:

- Create/modify test questions and answers
- Add/modify a graphic associated with a question
- Add/modify audio associated with a question
- Set effective activation and expiration dates for questions and/or answers
- Define/modify knowledge domain

- Demine/modify language
- Define/modify source in manual

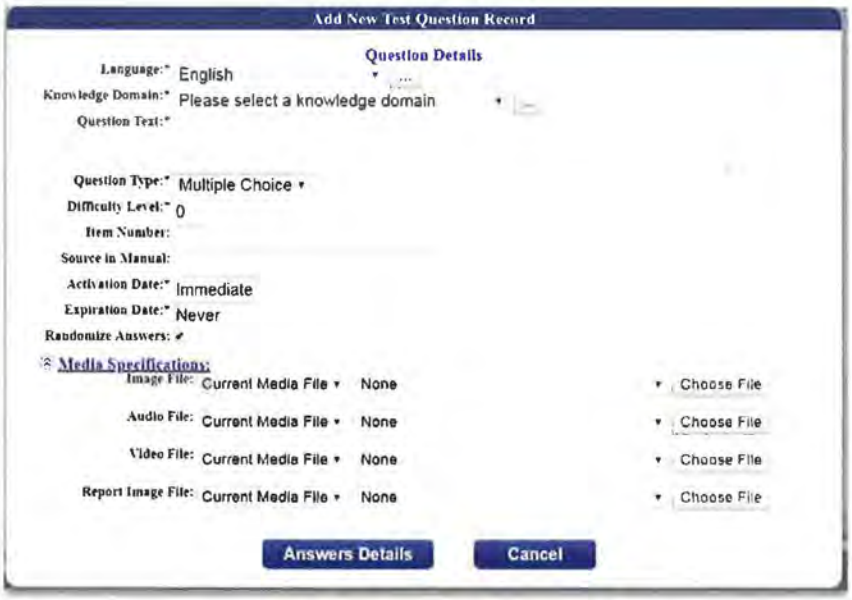


Figure 153: Add New Test Question Record

Figure 154: Edit Test Question Record

c. Modify tests, media, etc.

From the Manage Tests menu, DMV administrators can modify tests and any media associated with tests. Through the Media Files button, DMV administrators can upload media files to administrator to be saved there. Through the Questions & Answers button, DMV administrators can search test questions and answers and modify any part of them, including the media associated with them. This is shown in Figure 155 (edit test question record – question details) and Figure 156 (edit test question record – answer details).

Figure 155: Edit Test Question Record – Question Details

DMV administrators can add images and audio files under the Media Specifications dropdown.

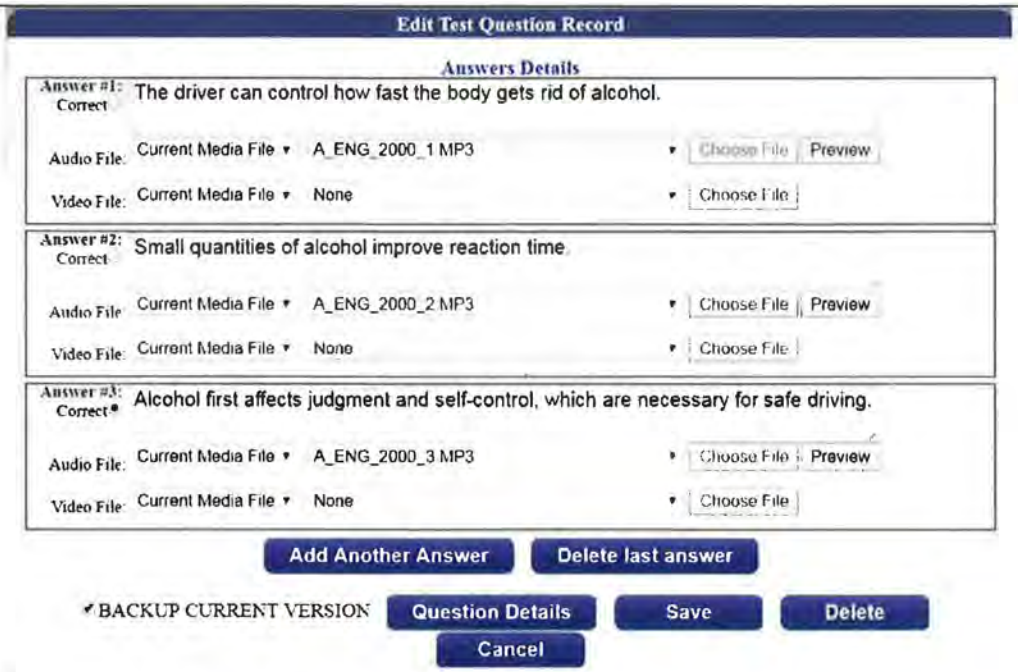


Figure 156: Edit Test Question Record – Answer Details

DMV administrators can add images and audio files for each answer by choosing a local file and uploading it.

d. Perform all staff role capabilities.

DMV administrators can perform all staff role capabilities from the Administrator application. Under the User Maintenance menu, authorized DMV administrators can manage the roles and capabilities of individuals and groups such as all examiners.

e. Collect all statistical data from all locations.

From the Manage Service Centers button on the Administrator home screen, DMV administrators can collect statistical data from all DMV locations. Figure 157 shows the menu that appears after clicking Manage Service Centers on the Administrator home page.

Figure 157: AutoTest Administrator – Manage Service Centers

DMV administrators can manage the status and maintenance of all DMV service centers from this menu.

If the DMV administrator clicks Service Centers Statuses, Administrator will display the status and various statistical data from all DMV locations, as shown in Figure 158. Using the Reports function, administrators can create reports on this statistical information.

Service Centers Statuses

Seq #	Service Center Name	Applicants In-Queue	Average Wait Time	Minimum Wait Time	Maximum Wait Time	Applicants Completed	Applicants Cancelled	Tests Not Uploaded	Stations Idled	Stations Suspended	Stations In-Use	Stations Offline	Stations Inactive
1	Billerica	0	0	0	0	0	0	0	0	0	0	0	0
2	UAT	0	0	0	0	0	0	0	1	0	0	1	0

Figure 158: AutoTest Administrator –Service Centers Statuses

DMV administrators can view statistics and status of all DMV service centers from one central point

M. Knowledge Testing

j. Database

104. Describe how your solution will satisfy the central statistical database requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 17. Knowledge Test Central Statistical Database Requirements.

✓ **IDEMIA USA complies.**

Below are our responses to the requirements described in Section V. Project Description and Scope of Work, M. Knowledge Testing, 17. Knowledge Test Central Statistical Database Requirements.

a. *The Central Statistical Database is the component of the Knowledge Test that must serve as the central repository for the retention of core information relevant to applicant testing, the testing process, test results, and the certification of test performance that will result in specific authorization for a license to drive.*

AutoTest's central database server serves as the Central Statistical Database AutoTest and all the core information related to it. It is divided into three separate tiers: Web Interface, Application, and Database. Each tier lives on an independent virtual machine (VM), normally on a virtual local area network (VLAN) dedicated to that respective tier of our architecture. The three-tiered architecture not only assists in securing DMV and applicant data as it is passed through and stored in the AutoTest system, it also provides for flexible sizing of the system as capacity needs to grow over time. Each tier is expandable, simply by adding additional servers, if necessary, as transaction volume increases.

- The Web Server Tier is the access point for DMV users. It sits behind a firewall that only allows in connections from expected servers and clients with which there are shared secure sockets layer (SSL) certificates. The certificates validate that the source of the connection is trusted and the data sent is not corrupted. The certificates are used to encrypt the transmission so no one listening on the network can read the transmissions. The firewall prevents data from coming through on any ports other than those agreed to with the DMV, limiting attacks to inbound paths that are heavily monitored and inspected.
- The Application Server Tier runs on a separate VM. All traffic goes through a firewall and is encrypted using a different set of certificates than those for the Web Server tier, ensuring all communications are encrypted differently than on the first tier. If someone manages to compromise the Web Server VM, the person only has access to that layer and has another firewall in their way.
- The Database Tier also is on its own VM with a firewall between it and the Application Server. Yet another set of SSL certificates is used for connections between the Application tier and the Database tier so if the Web tier or Application tier was compromised they cannot be used to access the Database tier. This is especially important, as the Database tier is where any personal (citizen) data is stored. All unused ports are closed and open ones are monitored allowing only predefined traffic making for a very secure Database tier.

b. *The Central Statistical Database must be able to:*
   i. *Record and electronically store the results of on-screen and oral tests automatically.*
   ii. *Support data entry, data exchange, data transfer, automated processing, and comprehensive compilation of responses to requests made by any examiner at any time. There should only be*

"one" record per applicant. The important combination of test data and individual driver history information must be available and utilized as the foundation of an efficient, effective system.

iii. *Process all requests, regardless of request type, utilizing a normalized process and flow that fully controls entry, tracking, update, monitoring, controlling, reporting, and printing. Test results must be retained in a complete and accurate manner meeting the needs of the DMV, individual applicants, and other system users.*

iv. *Require all data input pass system edits (with associated warning prompts) designed to ensure data accuracy, detect inaccuracies, and make required adjustments or updates, if any.*

v. *Assist with data reconstruction, problem analysis, data transfer reconciliation, and system audits. The Central Statistical Database must include provisions for an audit trail of system transactions and database updates, including the identity of the user who initiated the transaction (logon ID, user name, user number, examiner number).*

vi. *Retain data on the system for six (6) years (current year plus five (5) previous years). A retention schedule must be developed to establish a time line specific to each database area. When a retention timeline expires, affected information must be automatically archived and purged from the system. Other site-specific statistical and audit data must also be retained for a minimum time period of six (6) years.*

The Central Database is able to meet all the requirements listed above.

c. *The Central Statistical Database must be able to maintain the following information for each applicant taking a test:*

i. *Applicant name - including provisions for one-word names, middle names, multiple last names, multiple middle names, and multiple suffixes (the DMV Driver Control System formats an individual driver's name as last, first, middle, suffix).*

ii. *Date of birth.*

The Central Database is able to maintain all the required information for each applicant taking a test.

d. *The Central Statistical Database must be able to maintain the following information for each test taken by an applicant:*

i. *Testing center location*
ii. *Date of test*
iii. *Test start time*
iv. *Test elapsed time*
v. *Test language(s)*
vi. *Tost category*
vii. *Test type(s)*
viii. *Test version(s)*
ix. *Test mode(s)*
x. *Total number of questions*
xi. *Total number of questions answered correctly*
xii. *Total number of questions skipped*
xiii. *Record of score (percentage)*
xiv. *Test outcome (pass, fail, abandon, cancel)*
xv. *Test unit ID*

The Central Database is able to maintain all the required information for each test taken by an applicant.

e. *The Central Statistical Database must be able to maintain the following information for each test item:*

i. *Test item identifier*
ii. *Total question usage*
iii. *Choice selected*
iv. *Choice correct*
v. *Average time required to respond*
vi. *Rate at which questions are being answered incorrectly*
vii. *Frequency at which answers are selected per test item*
viii. *Display of associated graphic, if applicable*

The Central Database is able to maintain all the required information for each test item.

N. Skills Testing

a. Integration

105. Describe how the Skills Testing is integrated with your entire solution, including all interfaces. How does the data flow seamlessly between functions/modules and how does the user move between functions/modules in this area to and from other functions/modules?

✓ **IDEMIA USA complies.**

Integration with the Entire Solution

IDEMIA USA's skills testing solution, RoadTest (in use in 10 jurisdictions, including Nebraska), provides a flexible, scalable architecture that integrates seamlessly into the DMV's current environment in either a vendor-hosted or DMV-hosted solution. We do not use any propriety standards in our development, making it easy to integrate our application with your Mainframe. All of our source code is scanned for software vulnerabilities, including cross-site scripting and SQL injection using HP Fortify. We check against the SANS/CWE TOP 25 list and remediate issues before deployment. RoadTest employs a standard SQL database—in conjunction with Simple Object Access Protocol (SOAP)-/Representational State Transfer (REST)-based .NET Windows Communication Foundation (WCF) Web services framework—to support push/pull data exchange mechanisms that facilitate easy interfaces with the DMV's legacy systems.

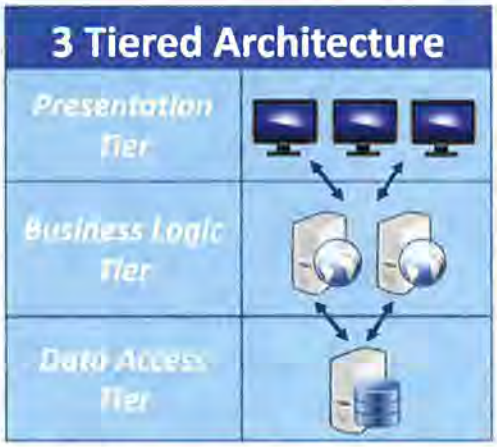


Figure 159: Three-Tiered Architecture

This three-tiered architecture provides scalability, high performance, and high availability, securing your data and ensuring smooth operations.

RoadTest's backend solution can be broken up into three separate tiers: Web Server, Application Server, and Database. Each of these lives on an independent virtual machine (VM), normally on a virtual local area network (VLAN) dedicated to that respective tier of our architecture. This three-tiered architecture (pictured in Figure 159) ensures we can integrate with the entire solution.

Figure 160 gives a high-level view of this network topology.

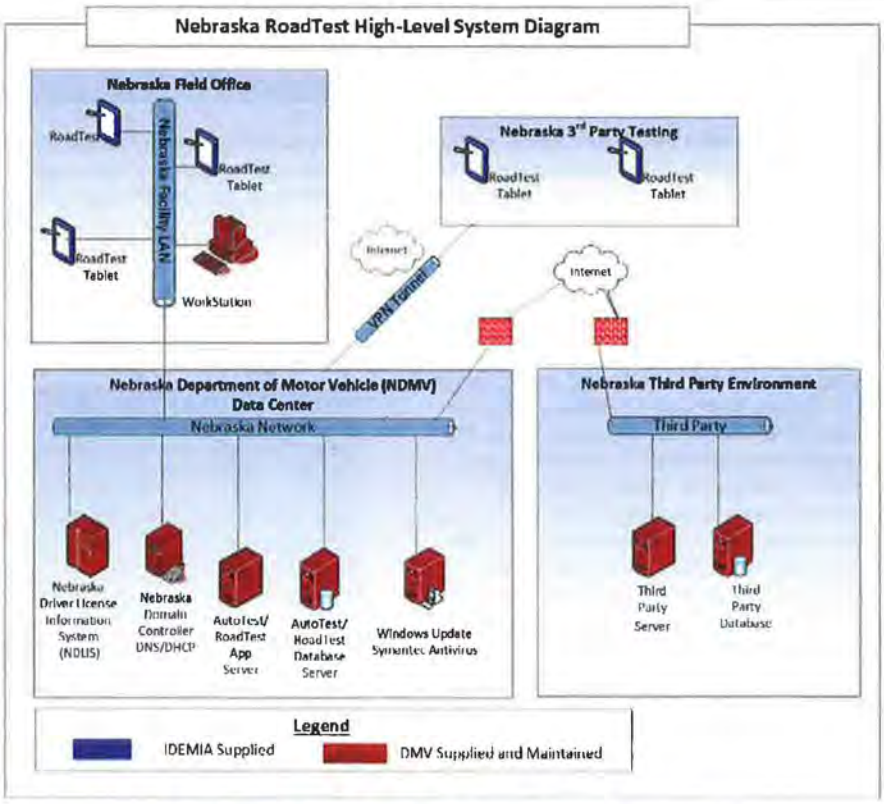


Figure 160: RoadTest High-Level Network Topology

Seamless Data Flow Between Functions and Modules

RoadTest was designed to ensure that all data flows and steps for properly conducting a skills test are followed during every test. RoadTest guides the DMV examiner through a logical, systematic process, which helps eliminate manual errors by checking fields for completeness. Figure 161 illustrates how the DMV skills test examiner must complete the basic vehicle information page first before moving on to any other parts of the test.

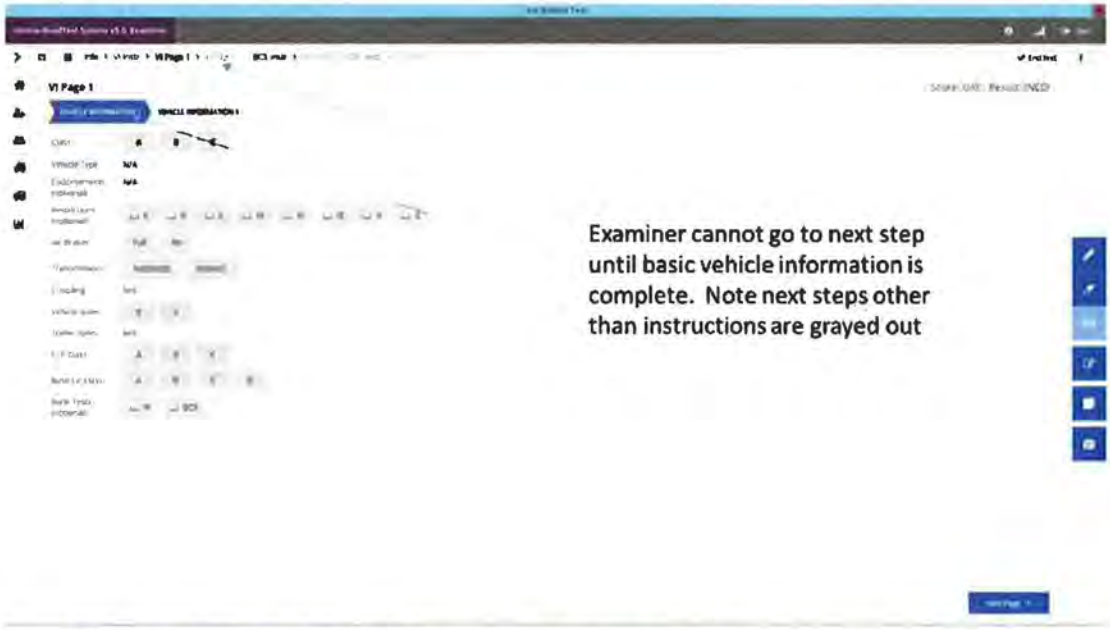


Figure 161: RoadTest Data Flow Ensures a Systematic Process to Complete a Skills Test

The data entered by the DMV examiner is saved automatically and stored by the tablet until confirmation has been received that the data was uploaded to the system. This ensures the proper data is available to all functions associated with the RoadTest. Once this first basic step has been completed, the DMV examiner can continue with other portions of the RoadTest, as shown in Figure 162.

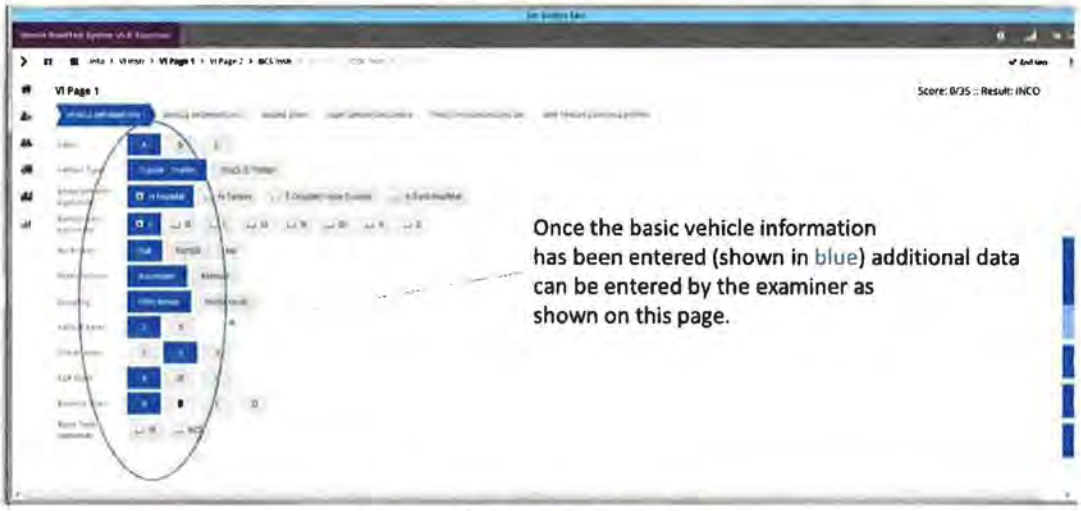


Figure 162: RoadTest Data Flow

Our RoadTest data flow safeguards the integrity of a skills test, ensuring the DMV that data will move seamlessly between all functions and modules.

User Movement Between Functions and Modules

User movement between functions and modules of RoadTest is illustrated by the examples shown above for data flow. The DMV examiner is prompted to move step-by-step through the testing process in a logical sequence that is very similar (if not identical) to the current procedures used by the DMV today. The sequence flow (shown in

Figure 163) flows from left to right highlighting each function as it is completed, letting the DMV examiner know he/she can move to the next function.

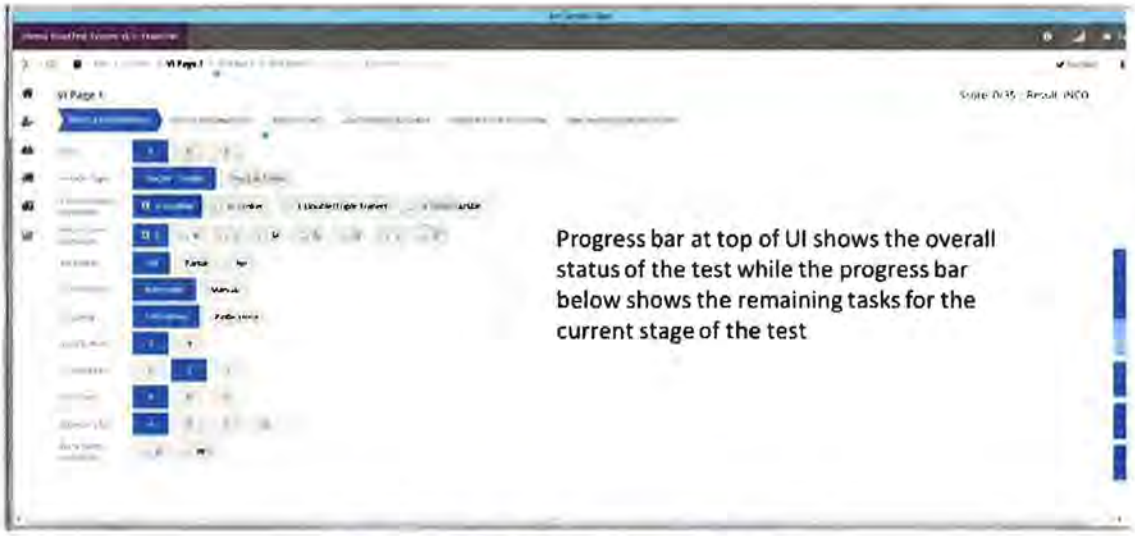


Figure 163: RoadTest Sequence Flow

N. Skills Testing

b. Workflow

106. Describe how the Skills Testing solution supports the workflow sequence described in Section V. Project Description and Scope of Work, N. Skills Testing, 5 and 6.

✓ **IDEMIA USA complies.**

Below are our responses to the requirements described in Section V. Project Description and Scope of Work, N. Skills Testing, 5 and 6.

5. Examining Staff

a. *Establish the testing site location (e.g., choosing the appropriate area and station).*

RoadTest supports the ability to load predetermined test driving routes by location. DMV personnel are able to change or modify the test route to another predetermined route based on traffic, road construction, and other unforeseen conditions.

b. *Retrieve applicant information from the DMV Mainframe and load that information onto the correct testing tablet.*

DMV examiners can view the testing queue to see a list of tests scheduled for a given office for the current day. Then, the DMV examiner selects an applicant from the queue when the test needs to be conducted and pushes the test onto a given tablet. If the DMV chooses not to schedule tests or provide such a push of applicant/test data from the system of record (SOR) to the RoadTest system, the DMV examiner instead can register an applicant for a skills test right on the tablet. The DMV examiner either can scan an applicant's DL/ID card barcode (using an optional integrated barcode scanner on the tablet) or manually enter the applicant's demographic data via tablet's stylus or onscreen keyboard. The DMV examiner also can identify the test type and then proceed with conducting the skills test.

c. *Open the test on the correct tablet, score and comment on the test throughout the testing duration, periodically save the test throughout the testing duration, and upload the test results to the DMV Mainframe through a wireless connection.*

Once the applicant's information is pushed to the correct tablet—or the applicant is registered on that tablet—the DMV examiner can begin administering the test. Our standard tablet is a touchscreen device that has an on-screen keyboard (pictured in Figure 164) for DMV examiners to score and comment during the exam. DMV

examiners also can use the attached stylus to record test information and capture signatures or toggle between keyboard and stylus mode for data entry.

Figure 164: On-screen Keyboard for Data Entry

DMV examiners can toggle between on-screen keyboard mode and stylus mode for data entry easily via the controls on the right.

The RoadTest interface displays test progress along with automated scoring in the top right corner of the screen, as pictured in Figure 165 on the left screen. It also displays a map of the actual route driven compared to the planned route including any infractions can be displayed by simply touching the "Map" button, pictured on the right screen in Figure 165. RoadTest automatically saves the scoring data, comments, and maps throughout the test.

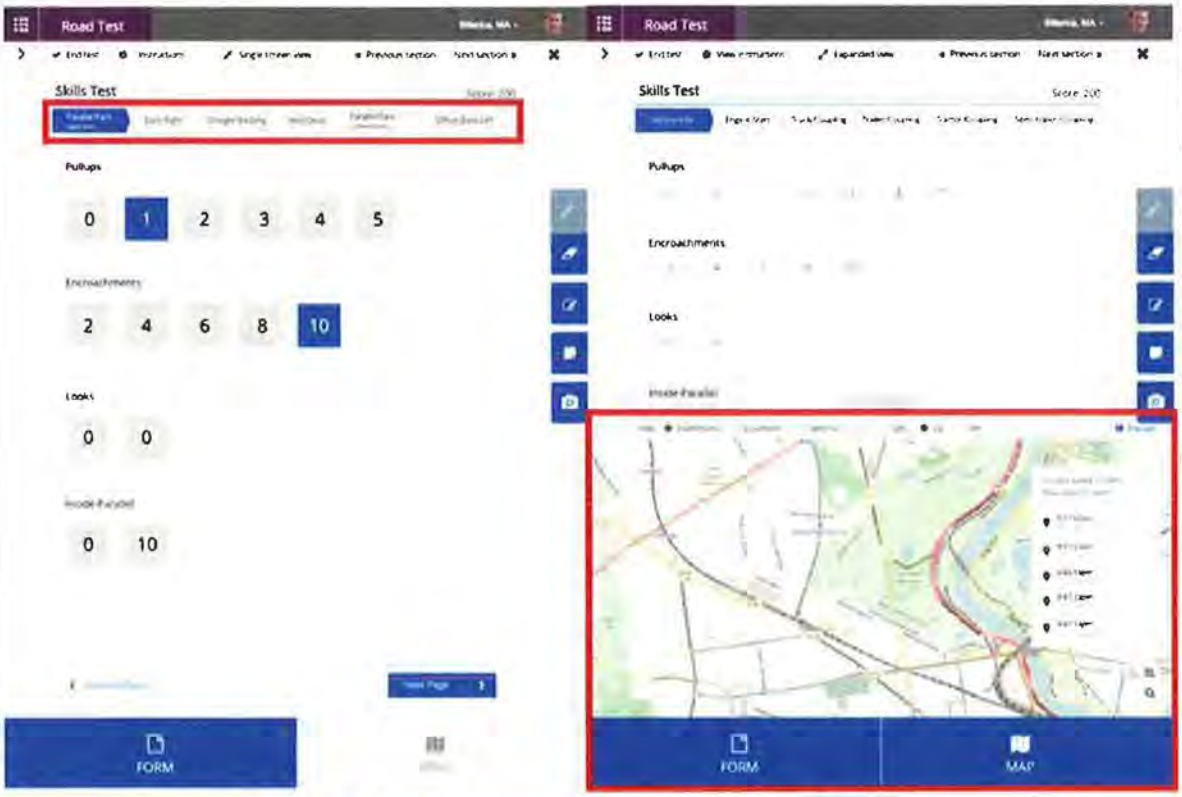


Figure 165: RoadTest Progress Display (left) and Map View (right)

Viewing the progress of the skills test is simple and intuitive.

To upload test results, a DMV examiner needs to reconnect to the State network, which he/she can do at the end of each test or even just once at the end of the day. After instructing the tablet to upload the results to the RoadTest server, the successful upload typically completes in seconds.

d. Bring up the record from the DMV Mainframe and complete the issuance process.

After instructing the tablet to upload the results to the RoadTest server, the server immediately invokes the Web service to report the results to the DMV Mainframe so the customer can be processed to complete the transaction.

6. Third-Party Testers

a. Establish the testing site location (e.g., choosing the appropriate area and station).

Routes for third-party testers can be added/changed just as easily as the routes for the DMV examiners. The tablets used by the third-party testers will be loaded only with the routes that are available for their specific test location and could be updated only by the DMV and not the third-party tester. If more than one route is available, the route would be selected by the third-party examiner prior to starting the test. This is the exact same procedure that would be used by the DMV examiner.

b. Sign into through a wireless connection via VPN.

The third-party examiners will sign in to the DMV Mainframe through a wireless VPN connection to download the applicant information prior to the test. When the test is completed, they must sign in again to upload the results.

c. Import applicants to be tested from Nebraska's state e-government portal and select applicant.

The third-party examiners will sign into the Nebraska State e-government portal through a wireless VPN connection to download the applicant information prior to the test.

d. *Open the test on the correct tablet, score and comment on the test throughout the testing duration, periodically save the test throughout the testing duration, and upload the test results to Nebraska's state e-government portal CDL Database through a wireless connection via VPN.*

Third-party examiners will follow the exact same procedure as DMV examiners for opening the test, scoring the test (tests are automatically saved on the tablet without any operator intervention) and uploading the tests. All connections to the Nebraska State e-government portal will be through a wireless connection via a VPN.

e. *Verify on portal CDL Database that results posted.*

Third-party examiners will be able to connect via a wireless VPN to the Nebraska state e-government portal to check that CDL results were posted.

N. Skills Testing

c. GPS

107. Describe how your solution will automatically initiate GPS for all Skills Tests without examiner intervention.

✓ **IDEMIA USA complies.**

RoadTest provides an integrated GPS capability that will initiate for a skills test without DMV examiner intervention. Our tablet will record GPS information for the skills test automatically as part of the test and make that available in the completed test results. The GPS tracking functionality will allow the DMV to identify possible instances of fraud in the skills testing process by logging and retaining the exact driven test route map with recorded vehicle speeds.

The GPS function also provides the following functions:

- Allows pre-defined standard routes to be used
- Tracks the test's progress on the map
- Detects route deviations
- Notes all infractions committed by the applicant during the test and marked by the DMV examiner on the GPS map with time, location, speed, and description

All GPS-related information (e.g., selected standard route, actual route taken with recorded vehicle speeds, notations of infractions) is retained and stored as part of the test record. This GPS data is then displayed on the saved file, as shown in Figure 166.

Figure 166: Map Depicting GPS Tracking of Skills Test

DMV examiners can view the map during the test and save it with the permanent test results to be viewed later.

N. Skills Testing

c. GPS

108. How will you ensure GPS mapping continues and functions correctly throughout each Skills test?

✓ **IDEMIA USA complies.**

The GPS solution integrated within the suggested tablet is a satellite-based GPS solution and not an Assisted Global Positioning System (AGPS) solution, which would require a cellular connection to be reliable. This satellite-based GPS skills test solution communicates directly with GPS satellites to provide more accurate location coordinate. DMV examiners have the ability by simply clicking on the map to observe the GPS tracking function to periodically to ensure the mapping function is operating properly.

We also offer an option to combine GPS tracking with 4G LTE data service connectivity (in which monthly service charges are the responsibility of the State). With this, DMV administrators can use the "Find My Device" capability to track the progress/location of skills test examiners and tablets while skills tests are conducted in the field to ensure GPS mapping is functioning properly.

N. Skills Testing

d. Administrator functions

109. Describe how your solution will support administrators' ability to retrieve, review and print all drive test data, GPS mapping, score sheets and photos of any applicant immediately after the completion of the test.

✓ **IDEMIA USA complies.**

Immediately following the completion of a skills test, DMV administrators can retrieve, review, and print all drive test data, GPS mapping, score sheets, and photos of the applicant as needed. RoadTest stores these items in a readable file format to a directory on the tablet so they may be viewed later or directed to a printer. Once the DMV administrator uploads the test results to the system, it stores completed test sheets and other data more permanently on the RoadTest server and is accessible to authorized DMV users for viewing at any time, even long after the test is completed. Additionally, any skills test forms and reports can be printed directly from the tablet or from a RoadTest Administrator workstation at any time.

N. Skills Testing

e. User sequencing

110. Describe how your solution allows administration of a skills test to one person, or multiple people; completing each segment of the test for everyone in the group, then moving to the next segment of the test.

✓ **IDEMIA USA complies.**

Single Tester

When a skills test is administered to a single person, the DMV examiner simply moves through the process in a logical sequence, as shown in Figure 167 for a motorcycle skills test.

Figure 167: Single Applicant Taking a Test

Multiple Testers

When multiple people are administered a skills test, the DMV examiner selects the first person in the group for a particular segment of the test and then, once that person completes the segment, the DMV examiner selects the next person until all members of the group have completed the segment. The DMV examiner then moves on to the next segment until the process is complete, as seen in Figure 168 for the motorcycle test being administered to a group.

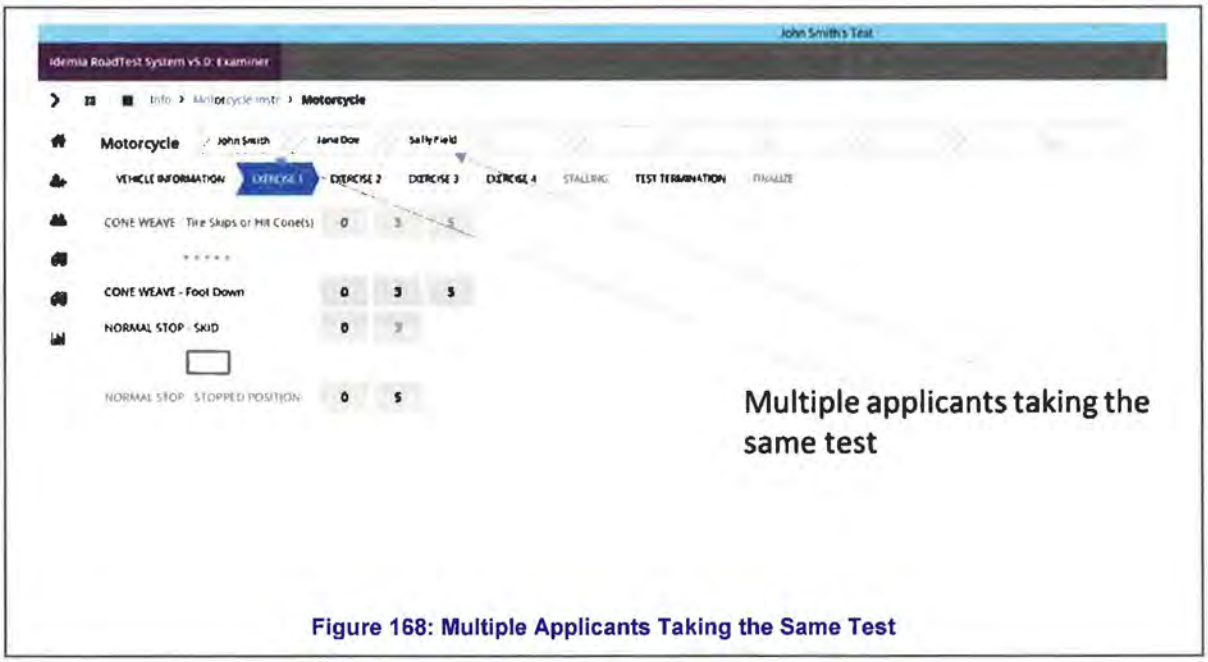


Figure 168: Multiple Applicants Taking the Same Test

BACK OFFICE FACIAL RECOGNITION

IDEMIA USA's biometric software is our own, not a third-party system. We designed it to fight identify fraud in motor vehicle databases. The DMV will have the advantage of continuing their partnership with a company that has a proven history of innovation in identification improvements in facial recognition. We continue to invest research and development (R&D) dollars into our facial recognition product with new workflows, algorithms improvements, and expansion for programs such as Multi-State Screening, which enables participating states to process DL applicants across the facial recognition databases of other states. You will not be left behind as technology progresses.

Don't just take our word for it: others have taken notice of our leadership in the facial recognition industry and have presented IDEMIA USA with two recent prestigious awards in the facial recognition industry:

IDEMIA Facial Recognition Selected Competitively by 60% of U.S. States

With 32 U.S. state implementations, IDEMIA USA has competed against many other suppliers in facial recognition implementation. Our recent NIST 2018 Face Recognition Vendor Test (FRVT) and 2017 Frost Sullivan Industry recognitions provide evidence of a team that is confident and ready to deliver a quality product. **Your team will benefit will ease of transition to the new solution supported by a capable team and industry-recognized product.**

- **NIST 2018 FRVT Award** – IDEMIA USA's facial recognition technology has attained the top ranking in the Webcam and Selfie categories of National Institute of Standards and Technology's (NIST's) 2018 Face Recognition Vendor Test (FRVT) award. *Our algorithm proved more accurate than those of 32 competitors.*
- **Frost & Sullivan 2017 Best Practice Award** – IDEMIA USA received the 2017 "Global Biometric Authentication Solutions Company of the Year" honor from Frost & Sullivan's Best Practices Awards, which are presented each year to companies that are predicted to encourage significant growth in their industries, have identified emerging trends before they became a marketplace standard, and have created advanced technologies that will catalyze and transform industries in the near future.

O. Back Office Facial Recognition	
a. Integration	
111.	Describe how back office facial recognition is integrated with your solution, including all interfaces. That is, how does the data flow seamlessly between functions/modules and how does the user move between functions/modules in this area to and from other functions/modules?

✓+ **IDEMIA USA complies and exceeds.**

Issuance 360 Back Office

Issuance 360 Back Office (shown in Figure 169 and Figure 170) serves as the hub of our credential issuance system. With a new, modern interface and intuitive user experience, it replaces our legacy disparate products: Image Server and Facial Recognition. Like Web Enrollment, it has been completely redesigned with a clean, fresh look and user experience. It is very easy to navigate through the application to find what you need, when you need it. There is no need to exit one application and open another to find your answers—**they are all right there at your fingertips in the same application**.

Figure 169: DMV Examining Staff productivity improves with a simplified, intuitive suite of tools that focus on the person not the transaction

Figure 170: Nebraska credentials are strengthened with this state-of-the-art investigative tool

Issuance 360 Back Office follows an exception-based workflow, requiring action only when applicant processing has been suspended based on business practices. Customizable dashboards and work queues improve efficiency of DMV back office personnel, allowing them to make better-informed, faster decisions. Each user of the solution is presented with a tailored dashboard of reports, exceptions and issues requiring attention based on their role and responsibility within the DMV. Automated workflows route issues to the person or group responsible and track them to completion. Daily business reconciliation functions offer immediate visibility of each card issuance, from initial request through facial recognition and on to ultimate delivery of a credential to the applicant.

New and Proven

Facial recognition is an integral part of Issuance 360 Back Office. This full integration makes it easy to find all information related to a person—photo, signature, demographics, issuance history, gate information, facial recognition information status, and more—and to navigate through the system.

Our facial recognition software uses innovative technology to identify potentially fraudulent records. It compares each newly captured image associated within the record (1:R) to prevent data errors and identity theft, followed by a full comparison against all images in the DMV image database (1:N) to thwart duplicate identity fraud. The system assigns and stores the numerical threshold in the applicant record, and results that don't meet the designated threshold populate a queue for manual review. The DMV user screens of the facial recognition software are optimized to enable quick-glance status and easy navigation.

Facial Recognition University

IDEMIA USA will provide the DMV with an annual facial recognition training program based on programs delivered to thousands of employees at the U.S. Department of State.

We provide this annual training and facial recognition refresher to key facial recognition users from the DMV and its partners **at no additional cost to the State!**

As a configurable solution, the 1:N facial recognition match can be configured to execute in real time or in batch depending on how it supports DMV business needs. Because the DMV currently performs AAMVA checks overnight and passes us a file of records for production, we will assume that you will continue to run 1:N matching in batch mode. By this means, DMV investigators can adjudicate records that are known to be authentic and ready for production. We will work with the DMV during the design phase of the project to determine the best overall configuration for your facial recognition checks.

Configured to support DMV business practices, the overnight batch populates pre-filtered queues. These queues contribute to the efficiency of daily reviews and investigations. Our solution leverages workflows and business rules to maximize automated processing with minimal manual efforts. **Pre-filtered queues facilitate automated assignment and work distribution for daily screening and case investigation activities to individual screeners or investigators, reducing the effort required by DMV Examining Staff and accelerating approval of issuance requests.**

To maximize productivity, an individual DMV examiner has his/her own personal work queue, as shown in Figure 171.

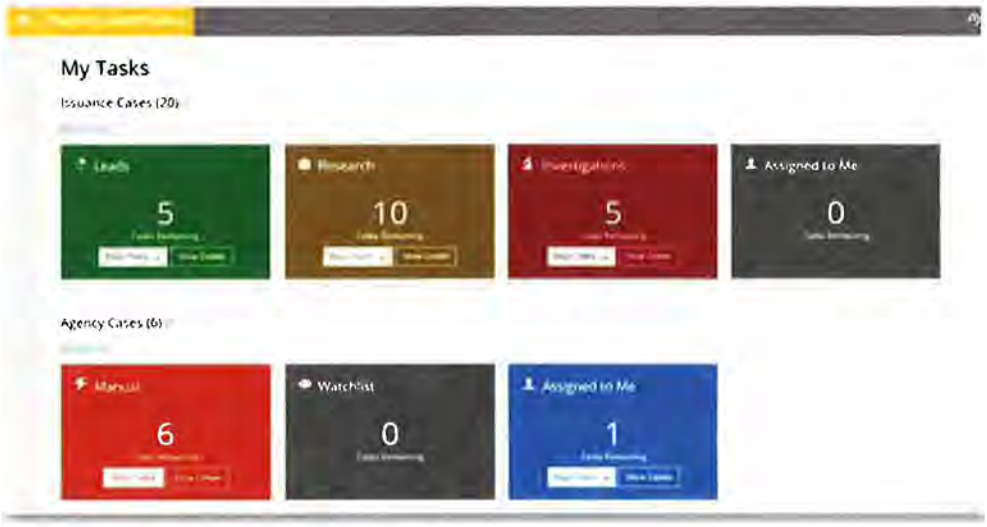


Figure 171: My Tasks Dashboard

The dashboard layout helps to organize the DMV examiner's work queued up for the day.

Any new image identified as a potential fraud causes the transaction to suspend automatically at the facial recognition gate. It will require DMV Examining Staff to review it prior to release to the factory for card production or to continue to hold it for further investigation.

The Issuance 360 Back Office workflow allows authorized DMV Examining Staff to confirm/override matches identified by the 1:N check (e.g., visually compare the images that the 1:N check identified as matching). The 1:N case layout allows Examining Staff to scan all potential match candidates rapidly, select those that match, and choose to either forward the lead for further review or override the match and release the issuance request for production. Because the 1:N match looks for faces that match with inconsistent demographic data, Issuance 360

Back Office highlights those fields where a match is found. Thus, anything not highlighted indicates a discrepancy, as shown in Figure 172 in which the face is the same, but the name and most of the details are different.

Figure 172: 1:N Case Review

Issuance 360 Back Office accelerates visual comparisons by showing the issuance photo with an array of candidates. Hot keys support rapid execution with minimum effort.

Learning more about this issuance is as simple as a right click. Shown in Figure 173, right clicking on the image provides options for investigation.

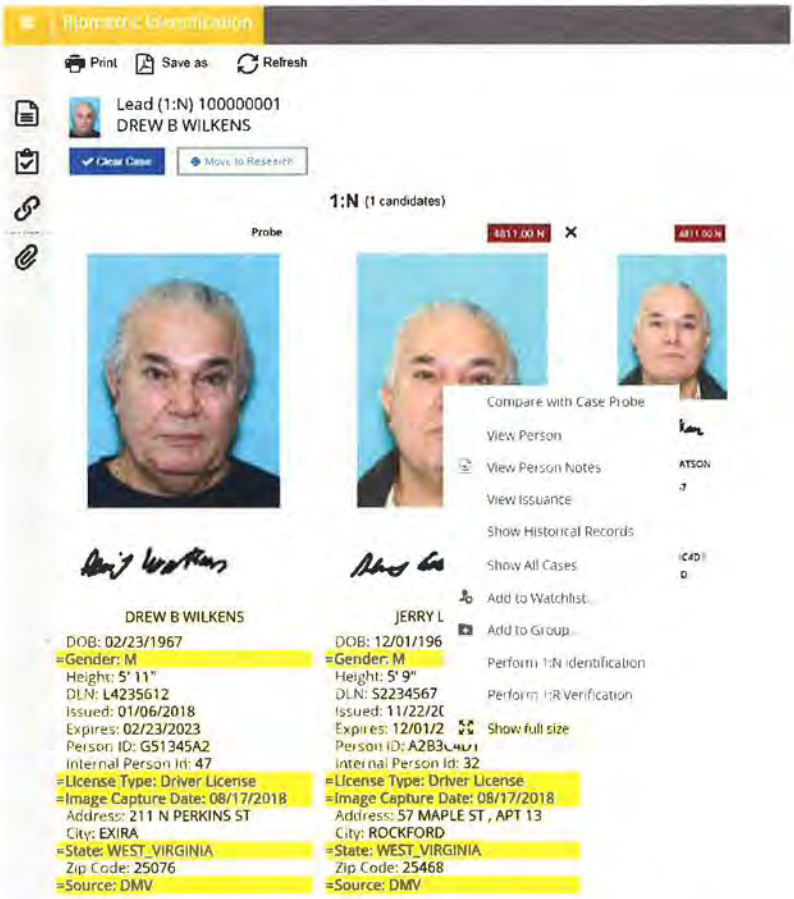


Figure 173: It's easy to see when data doesn't match

Clicking on "View Person" shows all historical information about this person, shown in Figure 174.

Figure 174: Navigating to a person's record is easy

Clicking on "View Issuance" displays detailed information about this specific issuance, as shown in Figure 175.

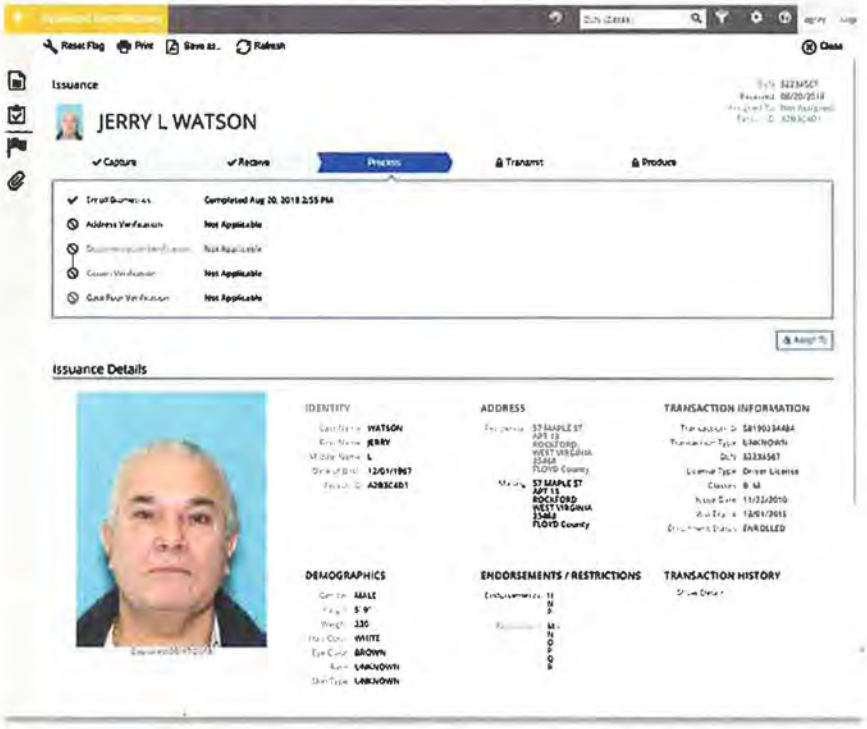


Figure 175: The click of a mouse display the issuance details

Clicking on "Show Historical Records" displays the historical images for this person, shown in Figure 176.

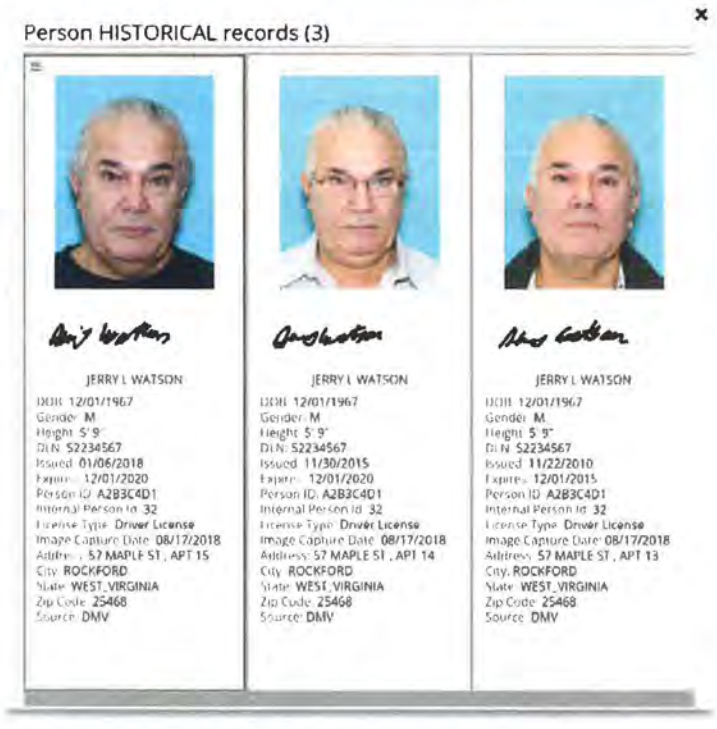


Figure 176: Users easily locate historical images and data

DMV users can add a person to a Watchlist or a group by right clicking on any of the above faces, just as is done to retrieve the issuance, retrieve a case, or perform a 1:N search. Navigating between issuance and biometric data is simple and intuitive, making the investigator's job easier and greatly improving throughput and productivity.

Issuance 360 Back Office integrates tightly with both Web Enrollment and the factory card production system, called Factory Management System (FMS). The solution scales quickly to meet the DMV's needs as they expand over time. The DMV can count on Issuance 360 Back Office to deliver everything necessary to reliably capture, store, backup, and retrieve critical applicant portraits, signatures, and demographic data for future downstream processes, as well as execute accurate facial recognition searches to catch fraud and identity theft.

FaceCheck – Facial Recognition On the Move

In addition to more traditional back office operations for facial recognition, we also propose IDEMIA USA's **FaceCheck mobile application**. Part of our continued innovation plan to bring DL/ID solutions to handheld and mobile platforms, FaceCheck enables distributed organizations to capture and search subjects while on the move. FaceCheck is a mobile app for both iOS and Android phones that is completely integrated into Issuance 360 Back Office via a Fabric Server for facial searching.

An effective tool for law enforcement, childcare, and other agencies where protective services are required, **FaceCheck allows users to run facial searches from their mobile phones in a field environment**. Frequently, officers in the field are presented with questionable credentials, no credentials, or false identity information by suspects or encounter those who are unable to communicate. FaceCheck guides the user to take a picture of a subject using:

- Onboard camera on a Smartphone
- Issuance 360 Back Office database
- Cell phone connectivity

Next, it transmits that photo to the back office server for a 1:Many facial comparison. The results are returned to the phone for display where a user in the field can make real-time, better-informed decisions about handling the situation in front of him/her.

The FaceCheck app performs the image acquisition, quality checks, and pre-query image optimization. The app then transmits the acquired data securely to the IDEMIA USA Fabric-based services, which prepares and securely transmits the acquired data to the facial recognition system for processing/search. It also reformats the search results and returns the data to the mobile device for display and subsequent disposition.

The new, updated app easily performs phone setup by using an automated configuration based on a QR code, and face capture has been automated for better support of one-hand capture.

With the FaceCheck solution, users can:

- Assess the validity of identity of the individual
- Determine if an individual being questioned has a prior criminal record and take appropriate action
- Identify an individual who might be lost or confused and provide the proper help
- Identify an individual who may be unconscious or unable to speak

Figure 177 shows four different FaceCheck mobile application screens.

Figure 177: FaceCheck Mobile Application

The "Take Picture" tool helps the user frame the image by guiding the user to align the face in the center. An image is captured as soon as quality and pose thresholds are achieved facilitating single hand capture. The "Results" screen shows the facial result with the probe image in the left top corner.

O. Back Office Facial Recognition

a. Integration

112. How does your solution interface with adjunct systems? How might queries be run against other image databases described in this RFP (e.g., NCJIS, NLETS, jails, and other multi-jurisdictional partners)?

✓ **IDEMIA USA complies.**

Our facial recognition solution provides an interface with adjunct systems such as external law enforcement and multi-jurisdictional partners. As we do for your current solution, we will provide a Web service to NCJIS and NLETS to retrieve images.

Just as with your current facial recognition solution, Issuance 360 Back Office supports "multi-tenant" facial recognition, whereby jail images are uploaded to the database but its users and data are separated. This allows agencies across the State to leverage the DMV infrastructure while maintaining adherence to privacy laws. To verify an individual's identity, the automatic 1:N search for the DMV will be configured to search the DMV and jail tenants, but the 1:N for jail will only search against jail records. The platform can support additional agencies if desired by the State.

O. Back Office Facial Recognition

b. Multi-jurisdictional sharing

113. How will your solution provide the DMV the ability to continue its participation in current and future multi-state efforts to share facial recognition data?

✓+ **IDEMIA USA complies and exceeds.**

As the current provider of your multi-state facial recognition solution, IDEMIA USA is best positioned to allow the DMV to continue using this very important program. Fabric, the software used today to enable multi-state facial recognition, interfaces with the facial recognition database. Issuance 360 Back Office supports the identical interface that's currently in place and talks to the same services. **There will be no change to the way it interfaces with other states today, making transition and training easy for you staff.**

O. Back Office Facial Recognition

c. Approach

114. Describe your approach for completing the back office facial recognition process. Include flowcharts and detailed information about this process.

✓ **IDEMIA USA complies.**

All records flagged as matches for potential fraud are prevented from proceeding to production at the facial recognition gate where they are held for adjudication. We employ a multi-tiered workflow (shown in Figure 178) for manual review of those issuances.

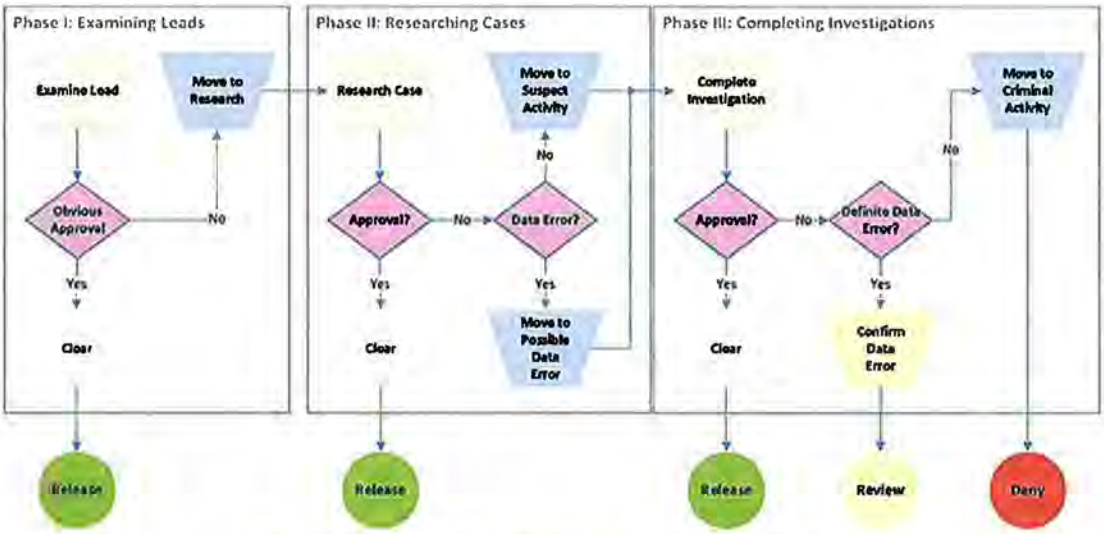


Figure 178: Multi-Tier Workflow for Issuance Review

A structured workflow delivers consistent results.

Three phases make up the tiers of the workflow:

- Phase I: Examine – Pre-filtered queues facilitate automated assignment and work distribution for daily screening and case investigation activities to specific users. This screening process is quick and efficient. The screener is encouraged to clear those issuances that obviously are not fraud (e.g., in the case of a name change upon a marriage) and to pass to the next level of investigation those issuances that need more time to adjudicate properly.
- Phase II: Research – Any issuances marked for further investigation in Phase I will populate a queue for this second phase. The DMV screener would provide a closer look to search for any obvious reasons to suspect fraud. In the case of a name change, the investigator would need to see documentation that showed that the same face filed under two names has a legitimate explanation. If the investigator is unable to locate this information, the potential for fraud is high and the issuance would be sent for additional review.
- Phase III: Further Review – Issuances marked for even further investigation in Phase II populate a queue for this third and final phase. These issuances require the most scrutiny to determine if fraud has occurred and sometimes will lead to criminal investigation.

DMV investigators will benefit from the ease of navigating the system. If at any time during the process an investigator wants more information to help make a decision about a case disposition, a click of the mouse will provide relevant and meaningful information—quickly and easily.

At any step in the workflow, the issuance can be cleared and released for manufacturing or denied. Our experience has taught us that of those issuances that are initially held at the facial recognition gate, 5% or less will require further investigation, and of those, 10% will move forward to full investigations, allowing your investigators to focus on the truly suspect cases of potential fraud and funneling out the rest. Of course,

the volume of issuances varies depending upon the daily issuance load and the configurable facial recognition threshold setting that holds an issuance for adjudication. DMV staffing and business rules will dictate how the DMV will assign roles and distribute work. During the design phase of the project, we will work with you to understand and configure a workflow that best suits your needs.

O. Back Office Facial Recognition

d. Valid matches

115. When making comparisons to other images, how does your solution overcome the impacts of facial image variations, such as a change in applicant's eyeglass style?

✓ **IDEMIA USA complies.**

Issuance 360 Back Office's image comparison algorithms are designed to analyze the captured image with finite detail, which enables it to determine and overcome the intrinsic variations of the face such as variations due to the age, makeup, pose, and changes to types of eyewear.

O. Back Office Facial Recognition

e. User experience

116. Describe what the fraud investigator users will see and experience, and describe the steps to be performed when completing the daily facial recognition review processes. Include screenshots, options for managing images/cases, and tools available to assist with image review.

✓ **IDEMIA USA complies.**

DMV investigators will experience a modern and intuitive user interface. All records flagged as matches for potential fraud—including expedited/priority issuances—will be prevented from proceeding to production at the facial recognition gate, where they will be held for adjudication. We use a multi-tiered workflow for manual review. The results of the overnight batch 1:N search populate pre-filtered facial recognition queues as, shown in Figure 179. The queues are configured to support DMV business practices, and they contribute to the efficiency of daily reviews and investigations.

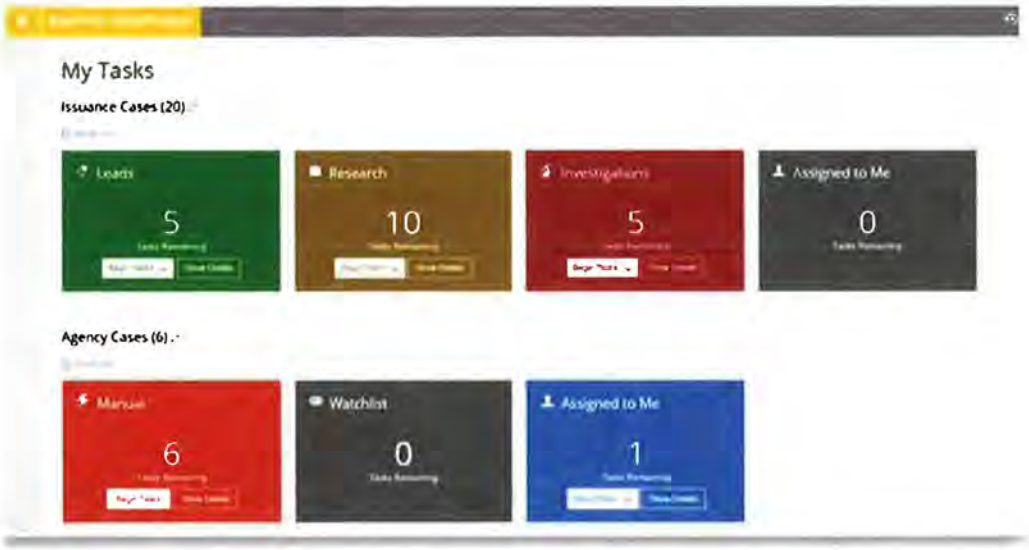


Figure 179: Home Dashboard with Pre-Filtered Queues

Issuance 360 Back Office leverages workflows and business rules to maximize automated processing with minimal manual efforts.

The pre-filtered queues also facilitate automated assignment and work distribution for daily screening and case investigation activities to specific users, which reduces effort and accelerates approval of issuance requests. To maximize productivity, a DMV investigator has his/her own person work queue under My Tasks, as shown in Figure 180. Clicking on the "Leads" box will open the first record in his/her work queue.

Figure 180: My Tasks

This view shows a screener or investigator his/her work queued up for the day.

The DMV investigator can view a detailed list of issuances assigned to him/her for the day, as shown in Figure 181. By default, the list is sorted by case number, but it can be sorted using another criterion easily by simply clicking on the column heading. Clicking on an individual case displays details of that case, allowing the DMV investigator to begin his/her work.

Figure 181: My Tasks Issuance Leads and Cases

My Tasks creates an individual queue of work for processing.

The Leads Review function (see Figure 182) provides authorized DMV users with the ability to scan all potential match candidates rapidly, select those that match, and choose to forward the lead for further review OR override the match and release the issuance request for production. DMV users are provided with screen layout controls and hot keys to support individual preferences for highest productivity. Issuance 360 Back Office supports a review rate greater than six leads per minute, **assuring timely completion with minimal staff and no impact on the delivery of credentials to Nebraska residents.**

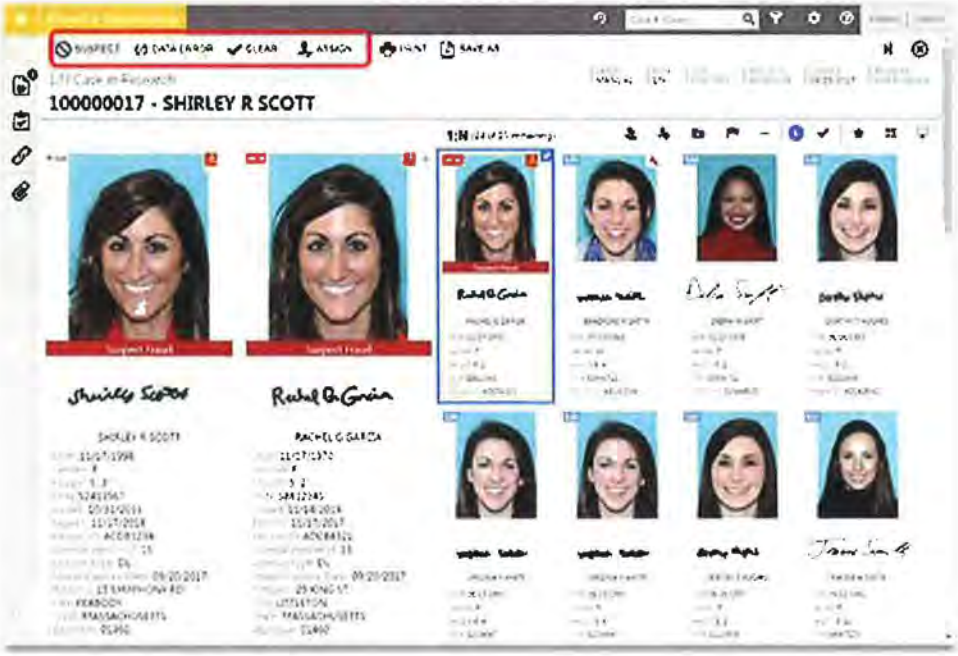


Figure 182: Back Office Biometric Identification

Issuance 360 Back Office presents the issuance photo with an array of candidates to accelerate visual comparisons. Key functions to confirm or override matches are highlighted. Hot keys support rapid execution with minimum effort.

Our experience has shown that of those issuances that are initially held at the facial recognition gate, 5% or less will require further investigation, and of those, 10% will move forward to full investigations. During the design phase, we will work with you to configure your current or desired workflows within the new back office solution.

O. Back Office Facial Recognition

e. User experience

117. Describe from the fraud investigator's perspective what users will see, experience, and steps to perform when importing facial images from outside sources for image comparison. Include screenshots, options for managing images/cases, and tools available to assist with image review.

✓ **IDEMIA USA complies.**

Issuance 360 Back Office provides several tools that help fraud investigators import external images for identification. For ease of use, image upload can be performed in three areas: on the Image Search page, the Watchlist page, or the My Groups page. Clicking on the upload icon pops up a dialogue box, show in Figure 183. Authorized users can browse to a directory location or drag and drop an image to the screen then provide title and descriptive information about the image.

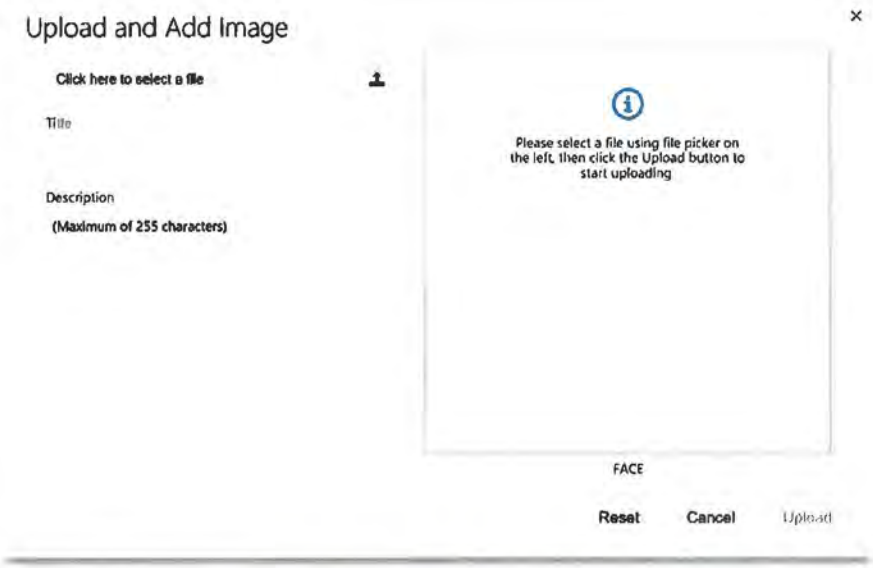


Figure 183: Image upload is intuitive

How the image is displayed varies based on the intent of the page from which the request was made, as shown Figure 184 and Figure 185.

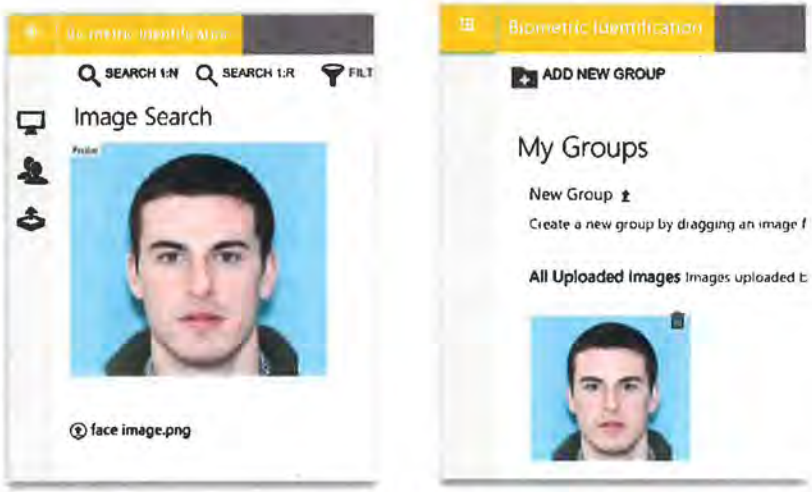


Figure 184: Users can upload images from different parts of the application

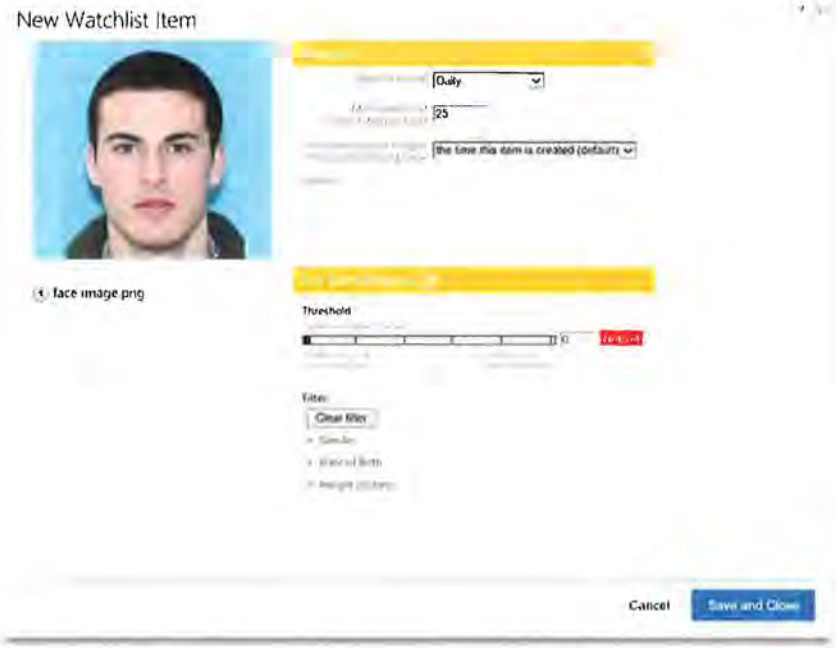


Figure 185: Setting parameters on uploaded Watchlist candidates helps fight fraud

Once an image is uploaded, **Issuance 360 Back Office puts powerful tools at DMV investors' fingertips to help them do their jobs.** These tools, detailed in Table 25, offer robust features that facilitate rapid, ad hoc identification as well as a structured process with follow-on documentation and detailed investigations.

Table 25: Productivity tools for investigators

Tool	Function
User Definable Groups	Enables investigators to organize external images based on individual or DMV preferences. Examples include external agency name, incident, major case, image type, and lineup.
Upload Image	Provides a standard dialogue to locate the image on the system. Supports direct import from a file, CD, or USB drive. It provides the user with the ability to define the image name along with supporting details such as the requestor's contact details.
Image Enhancement	Provides functions to improve image quality and pose adjustment, including single-process extraction of multiple faces from a group picture.
Image-Based Functions	Allows investigators to perform various functions on an image after it is extracted into a group; these functions include check/reset eye locations, move images to a watch list, alternate group, review full size images, etc.
Image Search	Allows investigators to identity an image with iterative search functions, including filters, thresholds, and candidate depth.
Compare Images	Provides investigators with a rich set of image adjustment and comparison features, including color, contrast and brightness controls, zoom, and rotate and blend tools, enabling fast and easy decision making.
Export Results to Case	Moves a search result into the investigation workflow with a single click.

Investigators typically follow these steps in an external image investigation:

1. **Define Group**—Issuance 360 Back Office provides user-defined containers called Groups to help investigators manage external image activities. Groups allow users to organize images by type, incident,

source agency, etc. Groups facilitate easy search functions such as drag-and-drop, enabling investigators to rapidly complete identifications. Unique Groups are optional for users and agencies; the default base Group also can be used. Figure 186 shows the My Groups function in Issuance 360 Back Office.

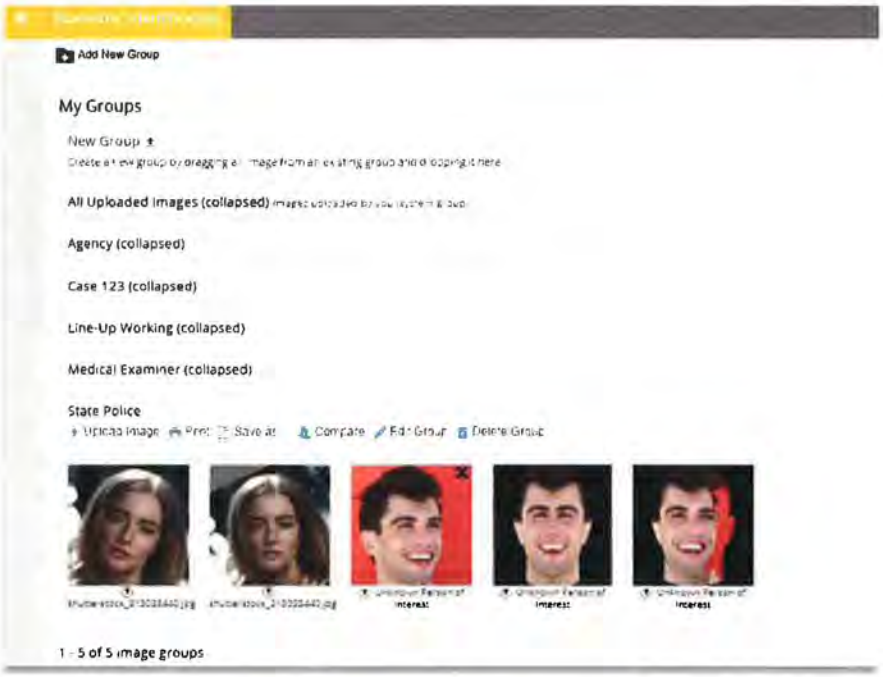


Figure 186: User-Definable Groups

Groups facilitate easy management and organization of investigation activities for external images aligned with DMV procedures.

2. **Enhance Image**—The Image Enhancement feature (shown in Figure 187) provides investigators with inline quality improvement tools that allow them to perform image improvement by rotating, zooming in on, and cropping on image. The tool also supports upload of multiple images during a single session, enabling variants of the same image or multiple subject images to be captured at the same time.

Figure 187: Image Enhancement

Image Enhancement provides quality improvement for external images during uploads along with automated cropping and quality evaluation to optimize results

The 3D Pose Correction feature (shown in Figure 188) provides investigators with tools to enter defined feature point that are used to align the available face data into a frontal image. Users can iterate on varied locations to generate multiple probes for identification attempts. For side-view images, tools to mirror the face create an image that may improve identification results. Capabilities accelerate investigator activities and enable higher probability of finding a match.

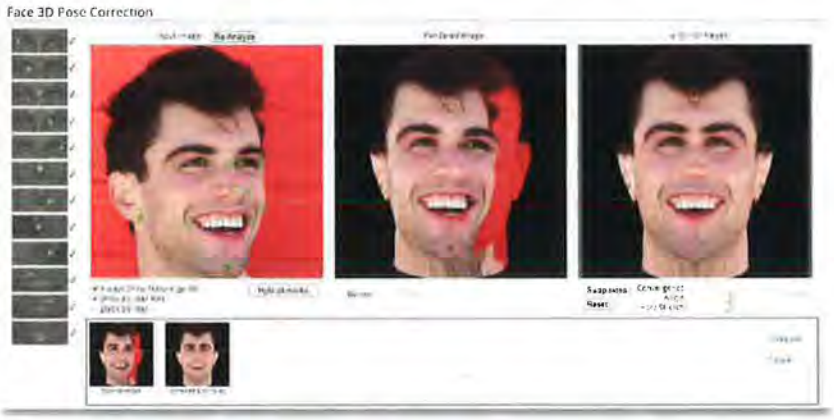


Figure 188: 3D Pose Correction

Issuance 360 Back Office incorporates forensic face technologies enabling investigators to quickly and easily synthesize partial faces for identification.

3. **Search Image**—Investigators are provided with filters and scope settings to facilitate an iterative search methodology that optimizes the identification search for improved results. Scope filters direct the searches to specific DMV data, candidate result size, and similarity score threshold. Figure 189 shows a sample image search results screen.

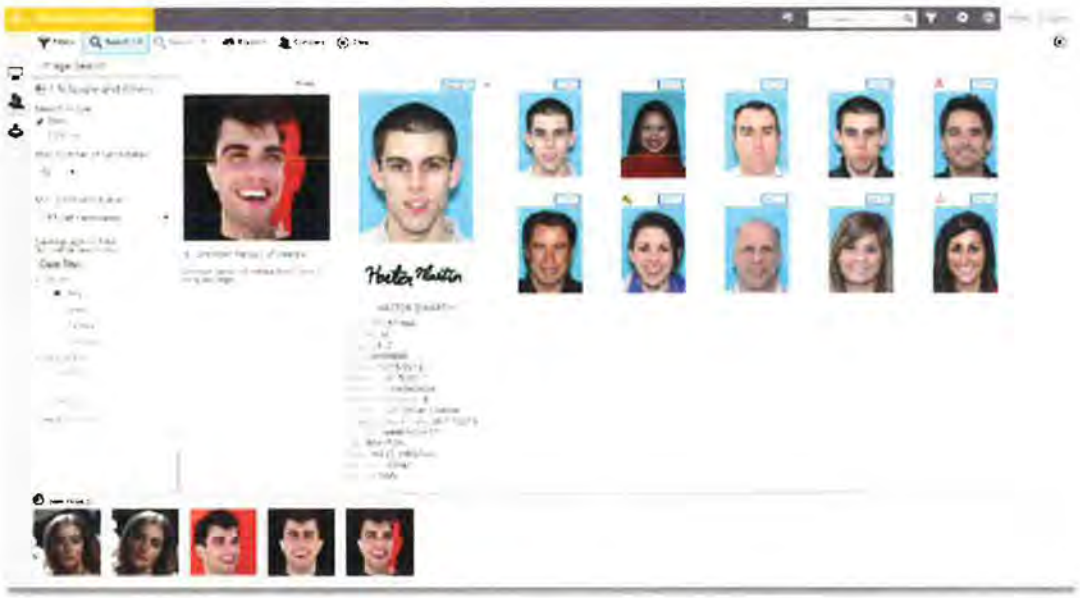


Figure 189: Image Search Results

Investigators can search images immediately by dragging and dropping them from a selected group.

4. **Compare Images**—The Compare function (shown in Figure 190) provides investigators with a broad set of tools to align image qualities, zoom, rotate, and overlay in multiple dimensions. Film-strip navigation

(shown on the far right of Figure 190) allows investigators to view probable matches and make rapid decisions.

Figure 190: Compare Images

Image comparison provides tools to quickly compare match results for rapid decisions.

5. **Export to Case**—The Export feature provide two key functions:
    a. Creation of dossiers as a response to an external requestor
    b. Creation of a case to support follow-on review and investigation
6. **Create Case**—The Create Case feature (shown in Figure 191) presents users with automated dialogues leading the user from search results to an assigned case. Once created, a case will follow DMV review, investigation and case management workflows.

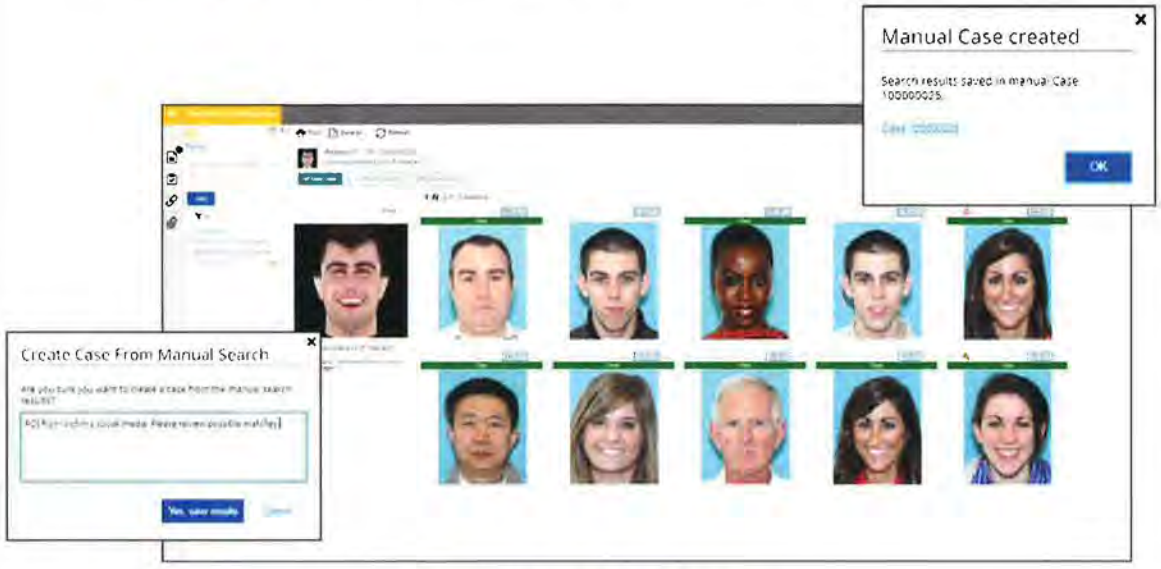


Figure 191: Create Case Function

Create Case enables results from upload image searches to be moved into DMV investigation workflows and case management tools.

7. **Assign Case to Investigator**—The Assign Case feature (shown in Figure 192) enables easy workload management for automated issuance and manual cases as they progress through the DMV business

processes. Assigned cases appear in a user-specific queue on his/her personal dashboard. When a case is assigned to a DMV investigator, his/her queue changes color and the total quantity of cases is displayed. This provides the DMV investigator with quick and easy awareness. Investigators access the cases by selecting the queue or displaying details and selecting an individual case.

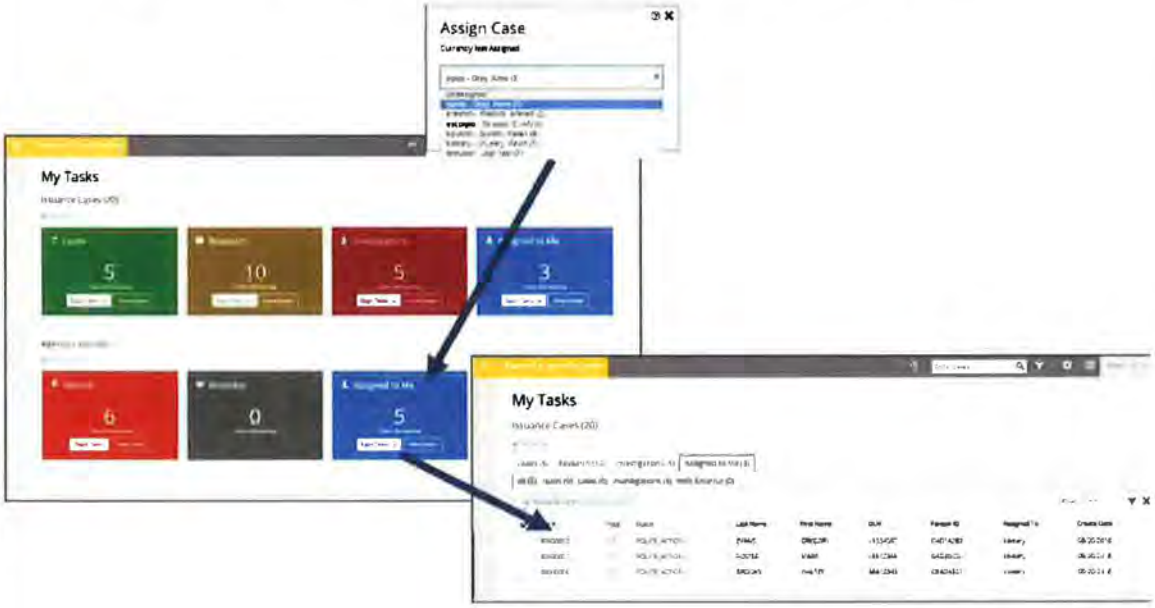


Figure 192: Assign Cases

Case assignment allows authorized DMV investigators to manage workload based on case type, quantity, workflow phase, etc. Cases appear in the "Assigned to Me" queue, notifying users of their current tasks and providing easy access to accomplish them.

O. Back Office Facial Recognition

e. User experience

118. Describe the process for creating dossiers, law enforcement lineups, and other image/facial recognition related documents.

✓ **IDEMIA USA complies.**

Creating Dossiers

Authorized DMV users can very simply create dossiers from the Lead, Case, or Investigation screens in the Biometric Identification section of Issuance 360 Back Office. At the top of each screen are icons (shown in Figure 193) for investigators to generate a dossier as a PDF, which can be saved for later use and/or printed.

Figure 193: Save and Print Dossier

Authorized DMV investigators have options to create three types of dossiers: 1:N, 1:R, or side-by-side. Figure 194 shows the popup for generating a dossier of any of these types, Figure 195 shows a sample 1:N dossier, and Figure 196 shows a sample side-by-side dossier.

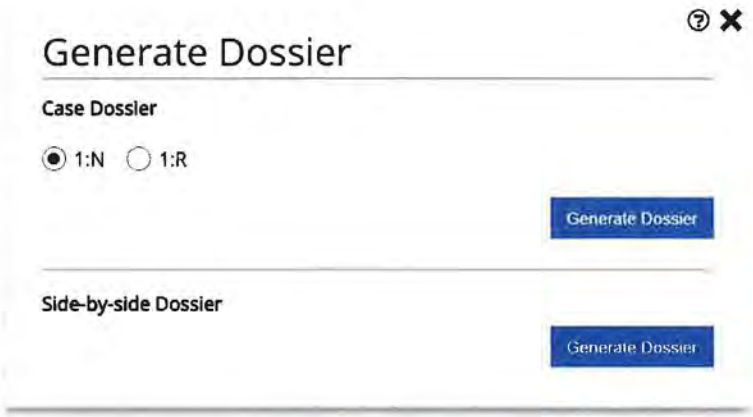


Figure 194: Generate Dossier Screen

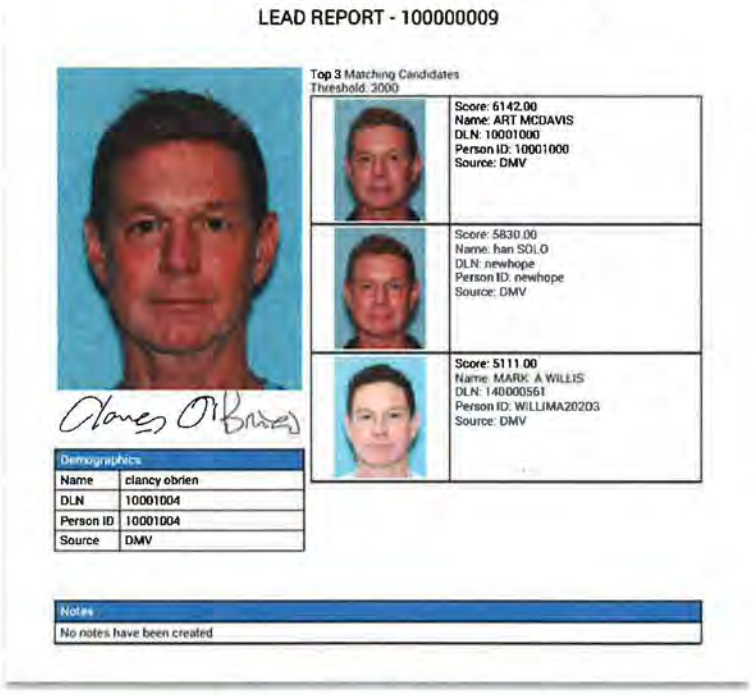


Figure 195: 1:N dossier

COMPARISON REPORT

Demographics	
Name	clancy obrien
Date of Birth	02/02/1980
DLN	10001004
Person ID	10001004
Source	DMV

Residential Address
300 WAKE FOREST ROAD, DURHAM, WEST_VIRGINIA 39393

Mailing Address

Demographics	
Name	ART MCDAVIS
Date of Birth	01/01/1970
DLN	10001000
Person ID	10001000
Source	DMV

Residential Address
123 MAIN STREET, WHEELING, WEST_VIRGINIA 77489

Mailing Address

Notes
No notes have been created

Notes
No notes have been created

Figure 196: Side-by-Side Dossier

Creating Law Enforcement Lineups

Issuance 360 Back Office provides an intuitive tool to create lineups. Authorized DMV investigators can select the Lineups workflow from Biometric Identification's main menu, show in Figure 197.

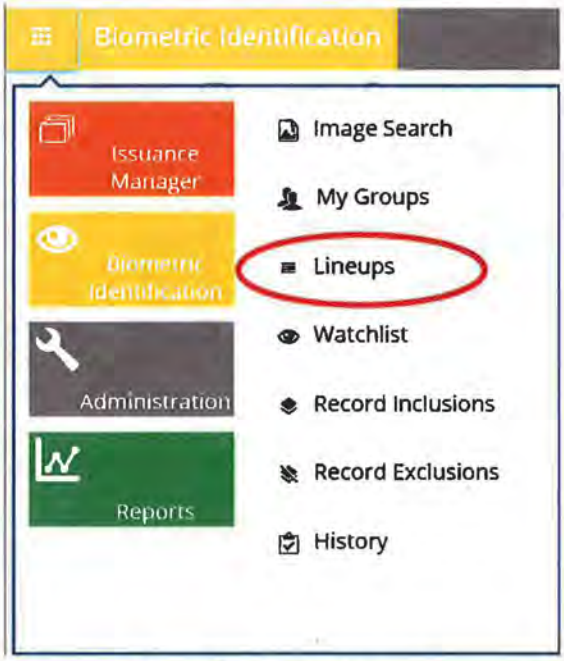


Figure 197: Create Lineups

The Lineups manager allows DMV investigators to define, generate, and manage lineups and resulting documentation. To create a new lineup, an investigator enters the search criteria of the person in question along with the size of the lineup and the data source, as shown in Figure 198.

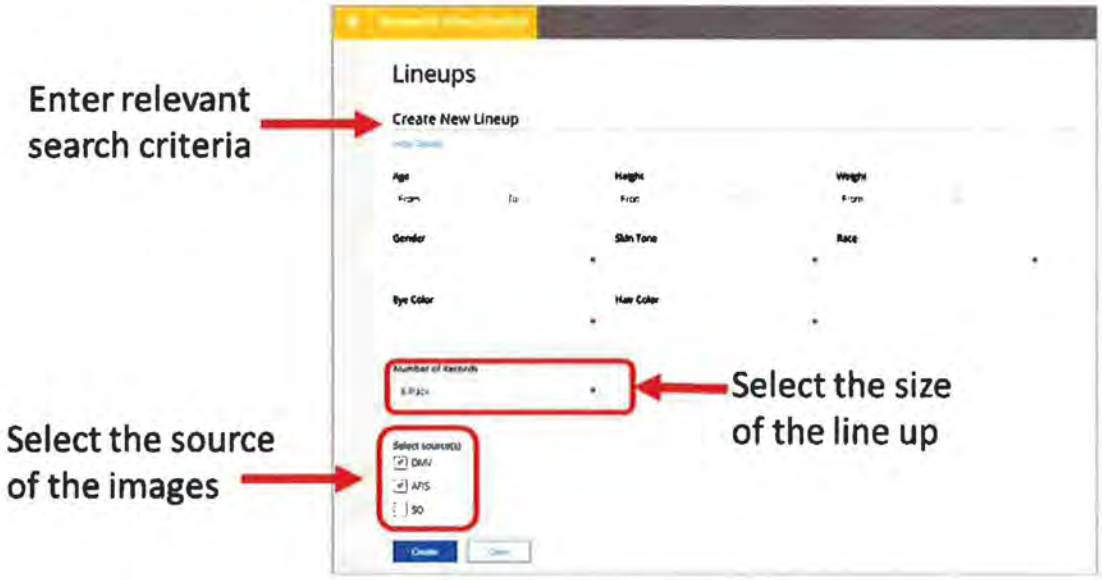


Figure 198: Create New Lineup

Clicking Create generates the lineup. The DMV investigator is given options to upload images to the lineup, reorder the lineup, change the lineup size and repopulate it, save the lineup in the archive folder, or delete the lineup. Figure 199 shows a sample lineup.

Figure 199: My Lineups

By choosing to generate a report (shown in Figure 200), a DMV investigator creates a PDF of the dossier to be printed for hardcopy use to distribute to relevant stakeholders.

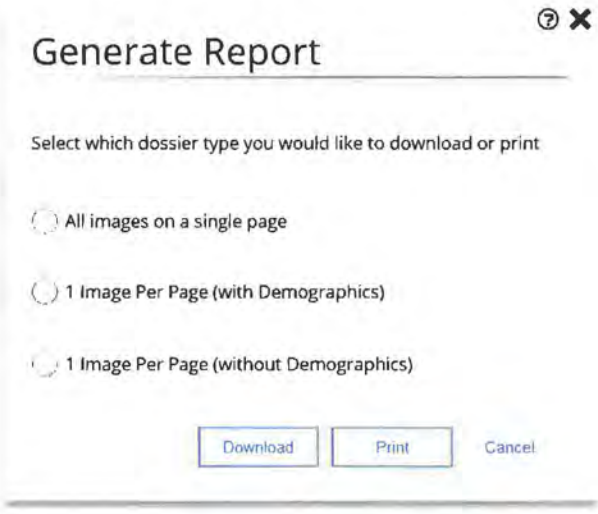


Figure 200: Generate Report

The Lineups manager also generates supporting documentation with basic identification for each photo, as shown in Figure 201.

Figure 201: Lineup Supporting Documentation

Other Image/Facial Recognition-Related Documents

Our solution also provides multiple dossiers for records and cases. Transaction dossiers (shown in Figure 202) provide a detailed view of the issuance transaction to assist DMV investigators in their research of identity issues.

ISSUANCE REPORT - ALICE W GONZALES

ALICE W GONZALES

Demographics	
Gender	FEMALE
Date of Birth	11/22/1989
Height	5' 7"
Weight	105 lbs
Hair Color	BLOND
Eye Color	HAZEL

Residential Address
200 S HARRISON ST, WAUKON, WEST_VIRGINIA 25353

Mailing Address
200 S HARRISON ST, WAUKON, WEST_VIRGINIA 25353

Issuance Summary	
Person ID	C11A22D3
Transaction ID	01364815613
DLN	S9337228
License Type	Driver License
Transaction Type	UNKNOWN
Issue Date	11/15/2017
Will Expire	10/22/2020
Portrait Capture Date	Aug 17, 2018 3:45 PM
Enrollment Date	08/20/2018
Enrollment Status	ENROLLED
Document Style	PERMANENT
Classes	C M
Endorsements	P
Restrictions	B C D E F

Figure 202: Issuance Report

O. Back Office Facial Recognition

f. Best practices

119. Describe gaps in the proposed solution which deviate from the AAMVA Facial Recognition Program Best Practices.

✓ **IDEMIA USA complies.**

There are no gaps in our support of the AAMVA Facial Recognition Program Best Practices. Table 26 identifies IDEMIA USA's full support for the best practices identified in the August 2015 Facial Recognition Program Best Practices. Supported functions include application features, automated processing functions, biometric technology, professional services, and collaboration and advice. All of these stem from our unmatched direct experience with nearly 40 states, including Nebraska.

Table 26: Best Practices

Chapter	Subject	Support?	Comment
1	**Overview**		
	Benefits	Yes	IDEMIA USA's facial recognition solution offers the industry's most proven tool for assuring the integrity of DMV records by identifying fraud and data discrepancies.
	Identity Theft and Fraud	Yes	Dedicated features support identification and investigation of identity theft and fraud.
	Internal Fraud	Yes	The solution incorporates transaction details, visual comparison, and auditing tools to assist the DMV with internal investigation efforts.

	Additional Benefits	Yes	Solution incorporates features supporting highway safety, benefits and financial fraud, disaster response, and collaboration with law enforcement.
2	**Program Development and Enhancement**		
	Business Case Development	Yes	Our client executives and product management team have assisted dozens of agencies with business case creation. An anti-fraud service was developed specifically to provide statistical support for the impact of fraud and data integrity miscues.
	Project Planning	Yes	We provide standard professional services delivered to more than 35 different agencies over the past 20 years
	Implementation	Yes	We provide standard professional services delivered to more than 35 different agencies over the past 20 years
	Deployment	Yes	We provide standard professional services delivered to more than 35 different agencies over the past 20 years
	Maintenance	Yes	We provide standard professional services delivered to more than 35 different agencies over the past 20 years
3	**Implementation and Operation**		
	Legacy Cleanse / Scrub	Yes	Solution includes tools and support for pre-deployment scrub and follow-on agency user initiated cleansing. We also provide proven professional services based on a history of dozens of scrubs for the DMV.
	Staffing Considerations	Yes	Solution is optimized for daily screening of DL/ID issuance programs with the minimum resources required.
	People and Processes	Yes	We provide standard professional services delivered to more than 35 different agencies over the past 20 years. Features and functions of the solution adapt out of the box to multiple best practice approaches.
	Exceptions	Yes	We provide exception management to enable agencies to configure to their approach and evolve their business approach over time.
	Thresholds	Yes	Thresholds are a core function facilitating the balance between risk and available resources as well as iterative investigation techniques.
	Reporting	Yes	We provide standard reports to support operational management, auditing, results, and analysis.
4	**Technology**		
	FR Technology	Yes	IDEMIA USA solutions incorporate the Multi-Biometric Search Services (MBSS) technology that provides optimized identification and verification based on decades of research investment. These services are surrounded by automated applications that are production proven across over 40 DMV agencies.
	Standards	Yes	Our solutions support industry standards as well as optimized formats to facilitate full data and record transition when necessary.
	Data Elements	Yes	Our solution data schema is a superset of the best practices facilitating traditional biometric screening as well as multi-agency operations (e.g., Department of Corrections).
	Limitations	Yes	Our solution provides formal management for exception

			decisions such as failure to enroll.
	Performance	Yes	We offer tools and professional services that support capture and analysis of factors affecting biometric performance.
	Metrics	Yes	We offer tools and professional services that support the capture and analysis of biometric performance metrics.
	Image Capture	Yes	Our enrollment solution is optimized to provide high-quality images that support accurate results for verification and identification.
	Image Compression	Yes	Web Enrollment is optimized to provide high-quality images that support accurate results for verification and identification. Compression levels are continuously tested to assure minimal impact on facial recognition quality.
	Search Engine Technology	Yes	Our solution offers the production proven operation for large and small DMV volumes.
	Verification and Identification	Yes	Our solution incorporates the Multi-Biometric Search Services (MBSS) technology that provides optimized identification and verification based on decades of research investment. Performance has been proven by placing in the top-tier algorithms in all NIST testing.
	Devices and Equipment	Yes	Our applications include usability and accessibility reviews to assure operation without negatively impacting screeners and investigators.
	Tools	Yes	The user applications included with our solution offer role-based features optimized for efficient screening, research, and investigation by single group or multiple collaborating departments. These features are the result of thousands of hours of input by various DMV users over the past 20 years.
	Networks, Bandwidth & Communications	Yes	Our solution is optimized to perform well in typical DMV environments.
5	**Training**		
	Training Targets (staff)	Yes	We provide train-the-trainer services, which have been delivered to more than 40 different agencies over the past 20 years. This training spans internal and external roles.
	Training Content	Yes	Our training content covers all categories needed for the DMV staff to learn how to use our solutions.
6	**Privacy**		
	Policy Support	Yes	Our team includes many individuals with extensive experience assisting agencies with facial recognition programs. They provide valuable input for agencies developing policies for facial recognition privacy.
	Signed statements	Yes	Optionally, we offer user acceptance acknowledgement to promote policy awareness for each individual user.
	Audit Program	Yes	We provide audit tools and reporting of facial recognition processes in support of the best practices for security.
	PII Security	Yes	All PII data managed by our solution is encrypted in memory, in transit, and at rest.
7	**Access and Sharing of Images**		
	Facial Image Access	Yes	Our solution supports password-protected access to facial recognition features with role-based access and individual configuration by DMV staff.

	Additional Uses of Facial Recognition	Yes	We allow the DMV to provide all additional uses for facial recognition identified in the RFP.
	Shared PII Management	Yes	Our solution supports limited visibility of citizen PII based on role and use case.
	Program Authorization	Yes	Our team includes many individuals with extensive experience assisting agencies with their facial recognition programs. They provide valuable input for agencies developing policies for facial recognition privacy.
	Security and Access	Yes	Our solution includes DMV-managed access and security supporting administrative control of individual access and capabilities. Individual data security is a primary core function protected via encryption and auditing tools and reports.
	Security Standards	Yes	We incorporate NIST security standards within all applications of the solution.
8	**Stakeholders, Collaboration and Outreach**		
	Collaboration and Partnerships	Yes	Our solution provides investigative and administrative features that facilitate and support collaboration between agencies.
	Multi-State Partnerships	Yes	We provide technology, support and program management for multi-state CDL screening initiatives.
	Public Education and Outreach	Yes	We offer marketing professional services and general advice for outreach programs involving facial recognition.
	Communications Strategy	Yes	Our team includes many individuals with extensive experience assisting agencies with their facial recognition programs. They provide valuable input for agencies developing policies for facial recognition privacy.
	Stakeholder Communications	Yes	Our team includes many individuals with extensive experience assisting agencies with their facial recognition programs. They provide valuable input for agencies developing stakeholder communications.
9	**Success Stories**	Yes	Eight of eleven success stories documented within the Best Practices Guide were facilitated using IDEMIA USA products.

CARD PRODUCTION AND MAILING

We take protection of your data and your cardholders' personally identifiable information (PII) seriously. Our dedication to your security has strengthened our data breach prevention measures and led us to be the first driver's license manufacturer in the U.S. to be both ISO and NASPO certified. We invest continually in preventative measures to stay ahead of fraudsters and to assure protection with internal officers dedicated to the effort. We understand how important it is for your customers to receive their credentials. Our card production system offers equipment redundancy within the primary card factory, and we offer a regularly tested secondary factory for failover in the case of disaster recovery that also meets all requirements of this RFP to maintain compliance with DMV's card production needs.

Value-Added Benefits to the DMV

As our trusted partner of nearly 40 years, the Nebraska DMV will continue to benefit from our free-of-charge programs to enhance the security of your credential solution:

- **Card Design Summit** – This interactive, comprehensive annual summit is held at our card design headquarters in Billerica, MA for the DMV to view the latest advances in card security.
- **Card Design Security Program (CDSP)** – With this industry-unique program, our award-winning Card Design Team assess the status of Nebraska card security over time and makes recommendations for additional card features. The program provides counterfeiting threat monitoring and ensures the DMV will have the option to stay current with any card security requirement changes.

It should be difficult to manufacture a DMV credential. At our Card Production factory, we require multiple steps to preprint, personalize, and then construct the secure credential. **If it's difficult to make, it will be difficult to fake**. Other solutions that rely on one single piece of equipment to totally personalize a credential do not offer the same protection, as such equipment is available on the open market. We do not sell your solution on the open market and especially NOT to counterfeiters.

IDEMIA USA never takes our eyes off your customers' cards. Nebraska credentials are tracked throughout every stage of the issuance and manufacturing process, from front office enrollment, to back office verification, through card production, and finally through post issuance inspection and delivery. Our process and procedures account for material at every step of the way, including all materials related to the build of a Nebraska credential and until the card is delivered to the USPS office. Your data will be protected with us as your continued partner.

P. Card Production and Mailing

a. Integration

120. Describe how card production is integrated with your entire solution, including all interfaces. That is, how does the data flow seamlessly between functions/modules and how does the user move between functions/modules in this area to and from other functions/modules?

✓ **IDEMIA USA complies.**

As is done today for the DMV's Digital Driver License solution, the DMV will transmit card production requests for driver's license issuance transactions from CATS to the IDEMIA USA issuance facility to enable card production, receive completed files back to the State's issuance system, and have appropriate reporting to reconcile production jobs. Currently, IDEMIA USA performs this function on a daily basis for 23 jurisdictions.

In keeping with all North American DL/ID issuance and federal standards, the IDEMIA USA Factory Management System (FMS) can receive securely transmitted files from CATS, translate the format for our production system, close out the job, and return issuance completion information to CATS following the final mailing of the cards. FMS handles printing, mailing, and communication back to the DMV on production details.

We will continue to provide the DMV with a central hosting location for FMS that handles communications with the DMV in a highly secure manner. The servers in this central location employ both high availability and disaster recovery with communication that adheres to Web services protocol industry standards. FMS will continue to use Simple Object Access Protocol (SOAP) with XML information sets for message format and HTTPS for encrypted transport protocol for factory communications. These same secure communications standards apply to communications between FMS and CATS as well as between FMS and the central issuance (CI) facilities. Building upon the factory communications interface already supported by the DMV will simplify the integration efforts for CATS and minimize implementation risks.

Our servers feature a 24x7, high-availability configuration that safeguards against any single point of failure. It also eliminates downtime and service interruption due to server platform maintenance, backup, upgrades, or failures, ensuring data and images are always available when data and images are transferred to them. The FMS implementation in our primary facility in Springfield, IL is backed by a secondary hosting facility in Sacramento, CA in case of a disaster affecting the primary facility and can be switched over automatically if the primary system fails. Each location will be staffed and managed to meet all operational needs in order to ensure timely and high-quality credential production and delivery to the residents of Nebraska. Our FMS allows us to transition production between the locations seamlessly without any needed State efforts to route production jobs to the alternative factory location. **In fact, because we stock your materials in both factories and regularly test alternative site production, we can produce in either factory or simultaneously at both factories with just a few system configuration settings by our factory managers to ensure the most efficient production of cards for the residents of Nebraska.**

Figure 203 depicts our proposed FMS workflow for the DMV.

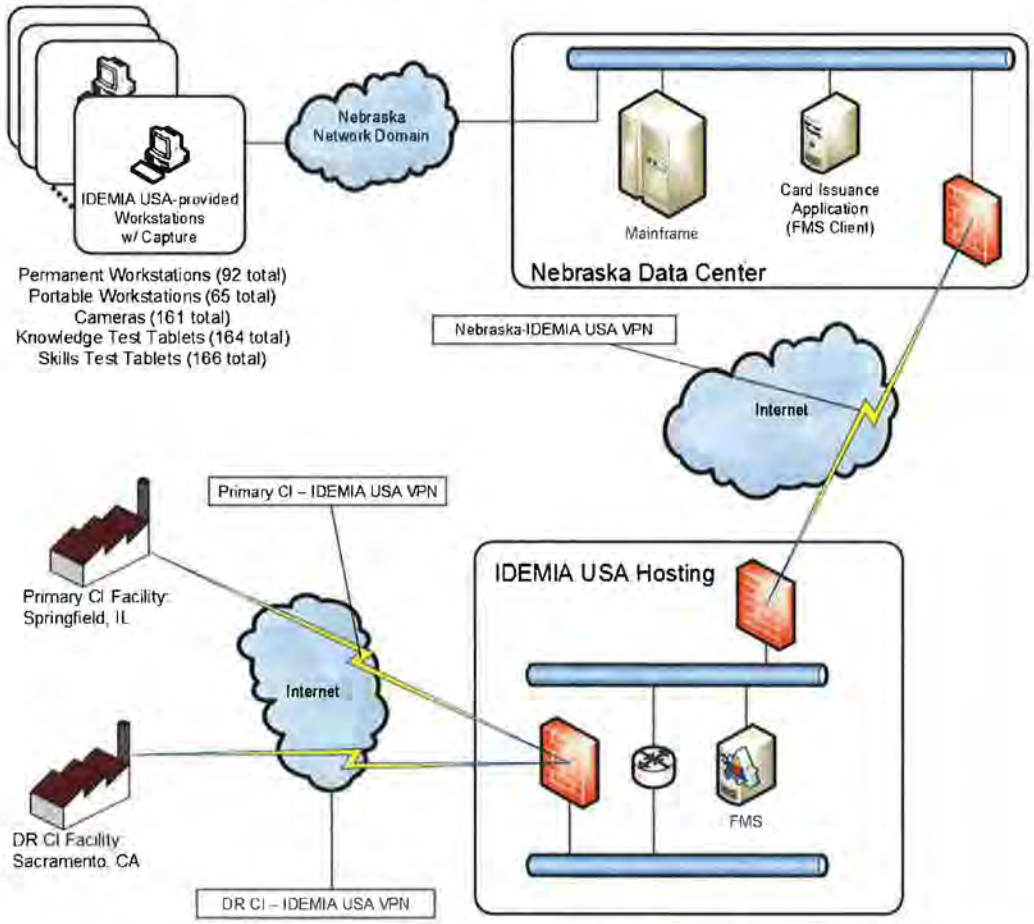


Figure 203: Proposed Factory Management System Workflow

Our FMS features both high-availability and disaster recovery mirrored configuration and a geographically diverse disaster recovery configuration for card production. FMS provides automatic load balancing and rerouting of card production requests in case of system failure.

P. Card Production and Mailing

b. Real ID

121. Describe your plan to meet the Department of Homeland Security standards for materials and facilities as described in the Real ID Security Plan Guidance Handbook in sections 3.1, 3.2, and 3.3.

✓+ **IDEMIA USA complies and exceeds.**

IDEMIA USA meets the Department of Homeland Security's standards for materials and facilitates, as described in the REAL ID Security Plan Guidance Handbook in sections 3.1, 3.2, and 3.3. ANSI NASPO, and ISO-14298 certification requirements meet and exceed REAL ID Security Plan Guidance Handbook sections 3.1 3.2, and 3.3. Because of this, we align with ANSI NASPO and ISO-14298 certification requirements. How they are related to materials and facilities is described below.

Materials

IDEMIA USA's proposed security features meet the Department of Homeland Security standards for REAL ID-compliant card body design, security design, resistance to reproduction, security inks/pigments, and personalized data protection. **IDEMIA USA issues more REAL ID cards than any other vendor in the U.S., with the 20 REAL ID State programs currently implemented producing over 32 million cards combined annually. This uniquely positions us to provide a lower risk, smoother path to REAL ID for your program.** Our industry-unique Card Design Team designs cards for over 80 percent of U.S. DL/IDs issued annually. Our team members help shape the requirements and are leaders in the industry. Our proposed card has been reviewed, developed, and designed by trained card security professionals.

Our CI production facilities are ANSI NASPO and ISO-14298 certified on an annual basis. These certifications cover nine areas of security, including material security. Our process and procedures account for material at every step of the way, including all materials related to the build of a Nebraska DL/ID. Incoming material is verified and quality checked upon arrival, accounted for while stored in our vault storage of secure materials, and accounted for through production and delivery of the credential. ANSI NASPO certification requires us to accurately measure material inventory balances so that we can account for material use and scrap. All scrap material is tracked and will never leave the facility before being disposed of in our commercial grade shredders that produce confetti-sized scrap split between multiple bags. We also operate a "zero gap" process, which means that each DL/ID is accounted for at every step of creation before the batch can move onto the next step in the process.

Facilities

All of our card production facilities are NASPO certified. During the certification process, we also align with all AAMVA and federal regulations pertaining to driver's licenses. Having already implemented 20 REAL ID programs, our facilities are prepared now to meet the REAL ID Security Plan Guidance Handbook sections 3.1, 3.2, and 3.3.

As discussed above, our CI production facilities are ANSI NASPO and ISO-14298 certified on an annual basis. These certifications cover nine areas of security including facility security. Our factories are designed using the "Onion Method," which means our most secure area "the vault" is located in the middle of the facility, the High-Security Area (HSA) or production environment would be the next area surrounding the vault area. Our factories include 24x7x365 high-definition video surveillance covering all exterior and interior points of the facility. We implement biometric and employee ID card two-factor authentication into all areas of the facility, and access levels are restricted to business case and job duty. Our vault requires two-person authentication to gain access to secure materials used to make identity documents. We also have a card delivery process for how we ship cards through our loading dock, which includes a dock lock system, trapping the truck in place while finished goods are being loaded into the truck and accounted for during the process. We do not have signage on our factories and do not promote the locations of these facilities to the public. We do not allow visitors to enter the facility without preapproval from our Chief Security Officer (CSO).

P. Card Production and Mailing

c. Security

122. How are data and cards secured from the production facility in transit to and at the sorting company (if one is used)?

✓ **IDEMIA USA complies.**

Our presort vendor, Pitney Bowes, has preselected and approved drivers for each production facility. In fact, we post the photos of the drivers on the dock, drivers must identify themselves upon arrival, and they must arrive at a scheduled time. We have implemented card delivery and verification security across all of our factories, which includes dock locking the truck in place, limiting the driver to the loading dock area, and restricting movement of

goods from our finished goods area to the truck. The shipment is counted and signed off by IDEMIA USA employees and the Pitney Bowes driver. At that point, we release the truck from the locking mechanism and tag the truck's overhead doors with a security tag for accountability at the presort facility. Our contract with Pitney Bowes includes a clause stating that we are a "Point A to Point B" delivery from our facility to the presort facility—with no allotted stops in between. All Pitney Bowes trucks have GPS tracking and tracing technology, and once the goods arrive at Pitney Bowes, our factory manager will receive an email notification for count and quantity received.

Pitney Bowes' facility security includes video surveillance and armed guards.

We take protection of your data and your cardholders' PII seriously. Our dedication to your security has strengthened our data breach prevention measures and **led us to be the first driver's license manufacturer in the U.S. to be both ISO and NASPO certified.** Your data will be protected with us as your continued partner. IDEMIA USA designs its CI facilities for maximum security and protection of your residents' PII. All of our CI premises are highly secure, NASPO-certified facilities and are protected from security risks in both the virtual and the physical environment. All data that is temporarily processed within the CI facility is protected using encryption standards such as AES 256-bit key, which adds an additional layer of safeguarding for PII. All data at rest and in motion is encrypted. In addition, after credentials have been printed, mailed, and recorded with the State, all PII is purged from our servers. Even the workstations IDEMIA USA has proposed for use by the State are equipped with Windows 10 and Trusted Platform Module 2.0 to support BitLocker whole-disk encryption that the State may use to further protect PII at the frontend of the Issuance System. These PII protection mechanisms used by our FMS system are depicted in Figure 204.

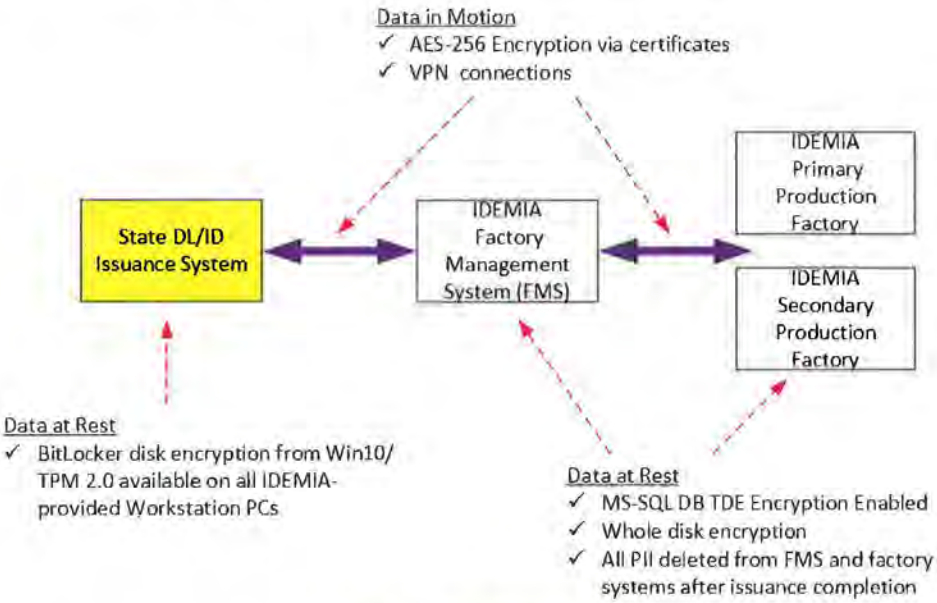


Figure 204: FMS PII Data Encryption

Protecting the PII of the residents of Nebraska is the highest priority for the DL/ID Issuance System. Our solution protects your residents' PII at multiple levels.

P. Card Production and Mailing

d. Card design

123. Describe how your solution complies with standards set forth in most current AAMVA DL/ID Card Design Standards.

✓+ **IDEMIA USA complies and exceeds.**

IDEMIA USA will deliver DL/IDs that are fully compliant with AAMVA DL/ID Card Design Standards. **We have delivered more AAMVA-compliant programs than any other vendor.** Our Card Design Team members are experts in designing cards, formats, and layouts that incorporate secure card body materials combined with a strong suite of card security features in AAMVA-compliant designs across multiple card formats. Our Card Design Team, led by our proposed Card Design Lead, has extensive experience working with the AAMVA Card Design Standards Committee to develop the AAMVA Secure Design Standard. We have delivered over 100 AAMVA-compliant secure DL/ID designs to 37 states and REAL ID-compliant designs to 19 states.

Our proposed card solution is fully compliant with the most recent (2016) AAMVA Card Design Standards. AAMVA's 2016 standards specify card security features in the following four categories:

- Card Body Design Features
- Design Features that are Resistant to Reproduction
- Security and Ink Pigment Features
- Features to Protect Personalized Data

For each of these four categories, AAMVA requires at least one mandatory feature and a number of recommended optional features for each category. Our proposed credentials for the DMV include all mandatory features, as well as selected features from AAMVA's recommended options in each of the four categories. We will provide secure card designs that include all security features required by the AAMVA 2016 Security Standards. IDEMIA USA also recommends select incremental features that increase the overall security of the credential and protect against a range of counterfeiting threats.

AAMVA also calls for a forensic feature. We have included a forensic feature in each our card designs. Details of this security feature will be disclosed to the DMV authorized security officer at the appropriate time.

The following tables show how our proposed designs meet and exceeds AAMVA's requirements.

AAMVA 2016 Card Design Security Requirements. Table B.1 – In addition to the mandatory feature (M), at least 2 optional security features (O) shall be included.

Table B.1 – Card Body Design Features			
AAMVA Ref #	Security feature	AAMVA Requirement	Exian Evident
1.1	UV-A dull substrate material	**Mandatory**	Meets
1.2	Fixed printed and/or dynamic data on different layers	Optional	Meets
1.3	Tamper evident card body	Optional	Meets
1.7	Card core inclusions	Optional	Exceeds
1.8	Pre-printed serial number on card blanks	Optional	Exceeds
1.11	Security bonding	Optional	Exceeds

AAMVA 2016 Card Design Security Requirements. Table B.2 - In addition to the two mandatory features (M), at least 2 optional features (O) shall be included.

Table B.2 – Security Design, Resistant to Reproduction Features			
AAMVA Ref #	Security feature	AAMVA Requirement	Exian Evident
2.1	No CMYK colors and at least 2 special colors	**Mandatory**	Meets
2.2	Guilloche design	**Mandatory**	Meets
2.4	Micro printed text	Optional	Meets
2.7	Deliberate error into the design or microprint	Optional	Meets
2.8	Use of non-standard type-fonts	Optional	Exceeds

AAMVA 2016 Card Design Security Requirements. Table B.3 - In addition to the mandatory feature (M), at least 2 optional features (O) shall be included.

Table B.3 – Security Ink/Pigment Features			
AAMVA Ref #	Security feature	AAMVA Requirement	Exian Evident
3.1.1	UV fluorescent ink in security background printing	**Mandatory**	Meets
3.1.3	IR-fluorescent ink	Optional	Meets
3.1.4	IR-drop out inks (static)	Optional	Meets
3.2.3	IR-drop out inks (variable)	Optional	Exceeds
3.2.5	UV fluorescent ink in personalized data	Optional	Exceeds

AAMVA 2016 Card Design Security Requirements. Table B.4 - In addition to the four mandatory features (M), at least 1 optional security feature (O) shall be included.

Table B.4 – Protecting Personalized Data Features			
AAMVA Ref #	Security feature	AAMVA Requirement	Exian Evident
4.1	Printing dynamic data elements using digital imaging technologies	**Mandatory**	Meets
4.2	Laminate, overlay or coating for surface printed data and portrait	**Mandatory**	Meets
4.3	PDF 417 Barcode	**Mandatory**	Meets
4.4	Security background overlapping the portrait image area	**Mandatory**	Meets
4.5	Embedded data in the portrait image	Optional	Meets
4.6	Redundant personalized data	Optional	Exceeds
4.7	Optical Variable Element	Optional	Exceeds
4.13	Ghost image	Optional	Exceeds
4.15	Covert variable pixel manipulation	Optional	Exceeds
4.17	Visible security device overlapping the portrait	Optional	Exceeds

Our proposed base card offering for the DMV exceeds the AAMVA requirements for card security features at each level of security. The specific security features we propose can be found in our separate, sealed volume titled SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL. **The card has been carefully designed to provide Nebraska residents with a secure credential that is durable and prevents duplication by fraudsters.**

P. Card Production and Mailing

d. Card design

124. Describe the physical materials comprising the card and why you are recommending each.

✓ **IDEMIA USA complies.**

ExianEvident, our proposed card, is the proven, secure card of choice of 16 U.S. jurisdictions that, combined, issue more than 38 million DL/ID cards annually. ExianEvident uses a composite construction of Teslin and co-extruded polymer laminate.

Why Teslin (ExianEvident)?

Teslin substrate forms the card core. All security pre-print, including banknote grade, fine-line artwork, and cardholder personal data is printed on the Teslin core. Co-extruded polymer laminate forms the front and back surfaces of the card. These materials are selected for their ability to form a secure bond during the lamination process.

During the card manufacturing process, font and back laminate are bonded to the card core using heat and pressure to form a secure, tamper-evident card construction. The finished card construction places all cardholder portraits and data securely within the card core.

Teslin substrate is engineered with a microporous matrix that allows it to absorb and create strong interlocking bonds with inks, coatings, and laminating films.

Difficult to Make is Difficult to Fake

Multi-layer manufacturing/multi-modal protection is more complex than a unibody or dual-layer card. Both card suppliers and counterfeiters shy away from production or duplication due to the complexity, which provides higher security and less risk of identification theft for this card.

Our Teslin series of cards are the competitive choice for states—69% (of the U.S. population throughout 33 states currently use our Teslin cards.

Teslin Material Properties

The ExianEvident card's Teslin substrate bonds readily to inks and toners, which results in nearly indestructible printed text and graphics. Teslin substrate readily bonds to laminating films to provide multi-dimensional strength and extended service life for laminated printed products. Coextruded laminate bonds securely to the Teslin core, resulting in a card that is resistant to tampering—any attempts to intrude on the card result in significant damage that readily evident, rendering the card useless.

Other benefits of the material properties of Teslin include:

- Resists mechanical separation and permanently distorts when the strong mechanical bond it forms with other materials is altered or broken
- Offers optional customizable security features for advanced security programs

Card Security Threats

The offshore card counterfeiting industry is a large, established, and well-funded business.

Counterfeit factories are not prosecuted in many other countries, and they operate overseas like any other legal business. Since they are not prosecuted under local law enforcement, these businesses are "for-profit" enterprises that behave much like any other business—they are motivated by profit

We reduce the incentive for counterfeiters to target a specific state or card by making it complicated and expensive to counterfeit. In other words, if your card is **difficult and costly to make, it will be difficult and costly to fake**.

IDEMIA USA's ExianEvident cards support a broad range of advanced security features that are placed on the card using multiple secure personalization technologies. They have a sophisticated construction that links and layers redundant card security features to make it easier to distinguish between a fake and the real thing. For example, a piece of biometric data—such as the cardholder's photo or initials—is repeated (or "linked") throughout the card in different places, embedded at multiple locations/surfaces within the card body, and created using a range of secure, sophisticated imaging methods.

Major marketing efforts have been undertaken by card manufacturers to promote laser-engraved polycarbonate cards. Their premise is that this card type is more secure because laser imaging is placed in the card core, making it less susceptible to tampering or alteration. However, this point completely misses how cards are counterfeited today. **Fake cards purchased online make up the vast majority of fraudulent cards in circulation today**. High-quality fakes are readily available online from offshore suppliers for every card construction, including polycarbonate cards, so tampering and altering cards is not necessary when low-cost, quality fakes are available online. Polycarbonate cards only solve yesterday's problems and risks. Our Teslin-based cards solve today's and tomorrow's.

P. Card Production and Mailing

d. Card design

125. Describe the card design and approval process.

✓+ **IDEMIA USA complies and exceeds.**

The goals of our four-phase card design process are to:

- Encompass all design elements and formats required by the DMV
- Include distinct designs and layouts that clearly identify document type
- Meet and exceed all AAMVA 2016 standards for card layout and security features
- Provide easy authentication of the credential and data elements for all stakeholders in a wide range of environments and lighting conditions
- Meet the highest security standards—providing a secure credential for the DMV and Nebraska's residents
- Provide aesthetically pleasing designs that represent Nebraska in a professional manner

Figure 205 shows the workflow of IDEMIA USA's Card Design Process.

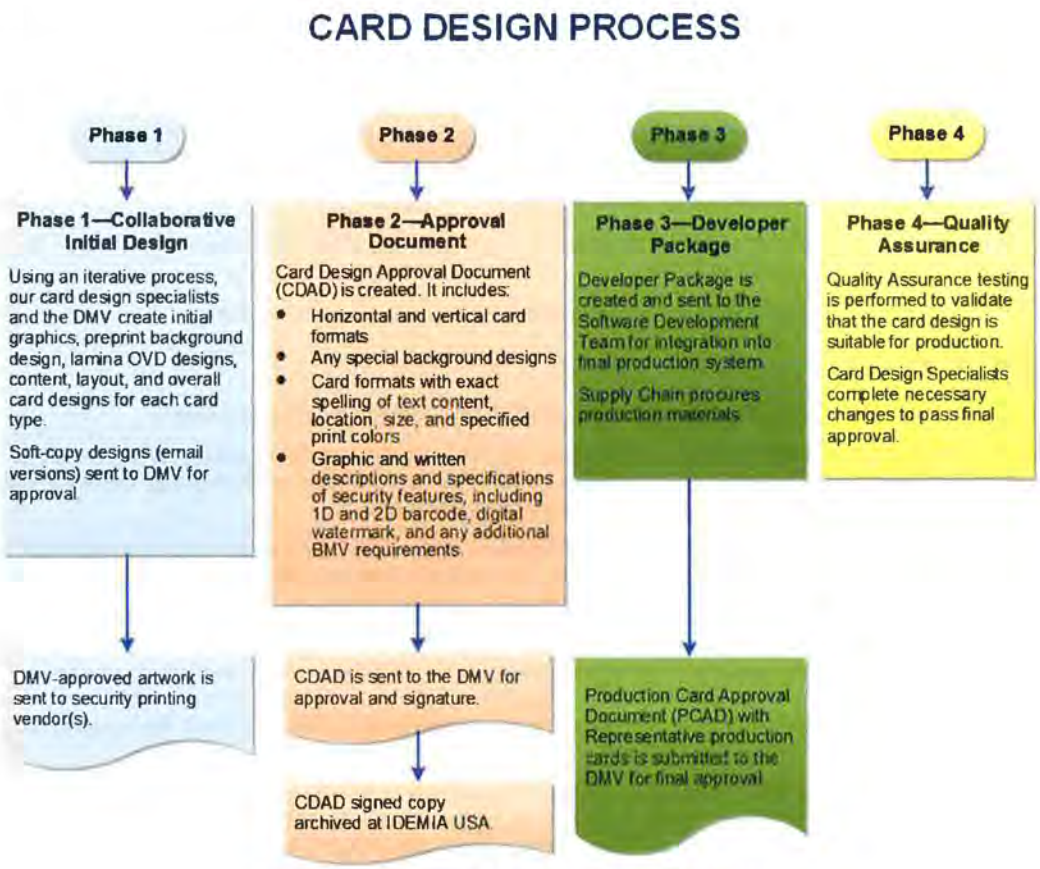


Figure 205: IDEMIA USA Card Design Process

This is a collaborative process between our skilled Card Design Team and the DMV's stakeholders. We do not progress to the next stage until you are convinced that we have achieved a highly secure, DMV-specific credential.

Card Design Process – Phase 1

Our Card Design Process begins with interviews and dialogue with the DMV's designated design approvers to understand preferences, design goals, and format requirements. Next, the security designer researches to identify iconic symbols used by the DMV. This is a high-level approach to develop initial design themes for approval. Typically, several different design and layout concepts are presented for review, feedback, and/or selection. The

review process is iterative with multiple review sessions during which we finalize designs to meet aesthetics, format the DMV's business rules, and incorporate the highest possible level of security. Through the review process, designs are refined based on customer input. The final theme concepts are selected by the DMV.

Card Design Summit

A recent process improvement that has yielded great results is our interactive Card Design Summit. This concept begins early in the delivery and involves us hosting the DMV's card team in our Billerica, MA design center for a 3-5 day comprehensive summit to create the new card design. We have hosted this summit for other jurisdictions and have received exceptional reviews for the valuable insight and results they have experienced working side by side with our award-winning Card Design Team. We recommend that the DMV accepts our offer to provide this service; we are confident that the summit will provide substantial value to your team.

Primary (overt) images are chosen to be incorporated into the pre-print designs so they are readily apparent in the design.

Secondary (covert) images/themes are selected to be incorporated more subtly within the card as part of the security pre-print design and/or on card backs. Once the DMV approves pre-print design, we send the artwork for the pre-print to security printing.

Additionally, at this stage, we apply designs to the final layout templates showing fields for demographics and cardholder data for each required document type and format. The layouts are then reviewed by our in-house AAMVA specialists for compliance with AAMVA card layout and security requirements. Once layouts are approved for AAMVA compliance, we check the design against all requirements specified in the RFP. As a final step, we select multiple color schemes for different document types and formats, which are presented and reviewed with the DMV for approval.

Card Design Process – Phase 2

IDEMIA USA delivers a Card Design Approval Document (CDAD) to the DMV. The CDAD shows graphical layouts and formats for each card type and layout, including exact spelling of all text content, location, size, and specified print colors. The CDAD also includes detailed descriptions of all card formats, security features, barcode specifications, and any content specified by the DMV. Hard copy pre-production samples are included during this phase. Upon acceptance, the card design will move into preliminary production.

Card Design Process – Phase 3

After approval of the CDAD, we release card designs in the developer package to the software development team for integration into the final production system. Card and laminate materials are procured by the supply chain management team. We produce representative production card samples for each card type and format and send them to the DMV for final approval.

Card Design Process – Phase 4

This final stage in the card design process includes quality assurance testing and incorporation of any necessary changes to pass final approval. We complete Low Rate Initial Production (LRIP) runs using production materials, following a standard production processes to validate quality and production readiness. At the completion of Phase 4, the card design is released for live production.

Free-of-Charge Card Design Security Program

As another value-added benefit, IDEMIA USA offers our unique Card Design Security Program (CDSP) to assess the status of Nebraska card security regularly. Our team of card experts will evaluate card designs over time and make recommendations as necessary for additional card features. Our CDSP program provides counterfeiting threat monitoring and ensures the DMV will have the option to stay current with any (AAMVA or Department of Homeland Security card security requirement changes. **We offer this program free of charge.**

P. Card Production and Mailing

e. Card security

SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL. Answers shall be included in the bid package in a separate sealed envelope (separate from any other components).

126. Describe the overt and covert security features you are proposing.

✓ **IDEMIA USA complies.**

Please see our separate, sealed envelope titled "SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL" for details of our overt and covert security features proposed for the Nebraska card.

P. Card Production and Mailing

e. Card security

SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL. Answers shall be included in the bid package in a separate sealed envelope (separate from any other components).

127. Describe any additional security features you recommend, but that are not included in the proposed card features.

✓ **IDEMIA USA complies.**

Please see our separate, sealed envelope titled "SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL" for details of our additional recommended security features not included in the card features proposed for the Nebraska card.

P. Card Production and Mailing

f. Card durability

128. Describe your quality control/assurance/inspection process.

✓ **IDEMIA USA complies.**

We use extensive quality controls (see Table 27) during the production process to ensure functionality, legibility, and overall quality level of the personalization elements, including portrait, signature, and other printed data. We understand that acceptable standards for quality control will be reviewed during Detail System Design (DSD) activities in the execution phase.

Table 27: Quality Methods, Standards, and Frequency of Review

Steps	Process	Method	Standard	Frequency
Pre-Production	**Source Inspection**	Review quality of raw materials, production processes, and final products	Compliance with design specifications referenced in purchase orders	Prior to production ordering
Pre-Production	**Incoming Inspection**	Visual inspection of delivered product	Compliance with design specifications referenced in purchase orders	Every order
1	**Color Printing**	Measure inlay/pre-print	X|Y measures – card design compliant	Each job daily
		Visually inspect for defects (e.g., streaks, lines, splotches)	Print Quality - Card Quality Inspection Sheet compliant	Each job daily
1	**UV Printing**	Measure UV Position	UV X|Y measures – card design compliant	Each job daily
		Visually inspect for defects (e.g., streaks, partial image, splatter)	UV Print Quality – card design compliant Date of Birth and UV portrait match	Each job daily
2	**Laminating**	Measure Bond Strength	Bond Strength > 4lbs – Cohesive Fail	Each job daily

		Visually inspect for defects (e.g., wrinkles, bubbles, creases)	Laminate – card design compliant	Each job daily
3/4	**General Printing, Cutting, Laser Engraving**	Measure card curl and engraving height	Card curl and engraving height – card design compliant	Each job daily
		Visually inspect for defects (e.g., curl, damaged edge, tick marks)	Cutting, engraving – card design compliant Data and photo match	Each job daily
4	**Security Feature Check Inspection**	Visual/automatic inspection and measurement of the presence and position of security features (e.g., pre-print, laser, UV, front / back variable, laminate)	Quality Control Security Feature Standard	Each card daily
Post Production	**Mailing**	Zero-gap process	All card records verified	Each card Daily
		Visually inspect for defects (e.g., unsealed envelopes, missing cards and carriers)	Card carrier match, sealed envelopes	Each job daily

Any defects detected during the manufacturing/production process follow our Design For Six Sigma (DFSS) framework that results in root cause analysis and corrective actions for our company and/or our suppliers.

P. Card Production and Mailing

g. Mailing

129. Describe how your solution meets the requirements that cards are mailed within 84 hours of the receipt of the applicant's file from the DMV.

✓+ **IDEMIA USA complies and exceeds.**

IDEMIA USA routinely prints and mails credentials to customers **within 48 hours of receipt of the applicant's file from the DMV, exceeding the 84-hour requirement**. In fact, since moving Nebraska's card production to our Springfield, IL factory in September 2018, we have completed card production and delivered to USPS in **less than 48 hours 100% of the time**.

IDEMIA USA completes the personalization, carrier, and credential insertion into envelopes within the primary CI facility in Springfield, IL. After this, a secure pickup of the mail is arranged with Pitney Bowes Presort Services following our strict NASPO security procedures. The mail is transported directly back to the vendor sorting facility, sorted, and inserted into the USPS mail stream within 24 hours of pickup.

In order to achieve this cost/functionality, IDEMIA USA recommends that the DMV use Coding Accuracy Support System (CASS) certified address quality software and the National Change of Address (NCOA) System that makes available current change-of-address information. CASS reduces undeliverable mail, and addressing errors are identified and corrected before mail enters the mail stream.

P. Card Production and Mailing

h. Daily reconciliation

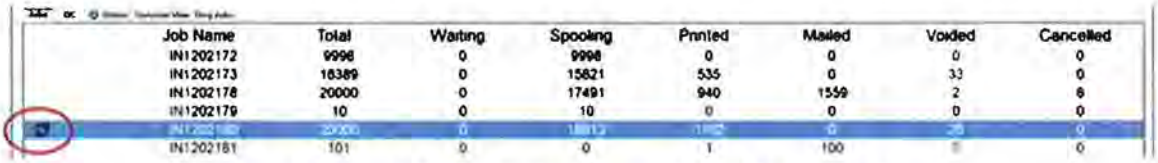
130. Describe how your solution will meet the requirement of 100% reconciliation of all documents and materials used to print the documents on a daily basis.

✓ **IDEMIA USA complies.**

We use a zero-gap production system that enables personalization and mailing of each individual record received in the print request production batch. During production processing, any cards that have been identified with

quality defects are set aside to be remade after the first pass of the job is complete. At this time, each defective card is accounted for in the FMS to ensure we have physical and system-level accuracy of the exact cards completed and those remaining. Following the production job, our Enterprise Resource Planning (ERP) system is updated to reflect the materials used to complete the production job.

As shown in Figure 206, the circled reconciliation icon indicates to the operator that the highlighted job requires reconciliation due to cards being voided in the production process. In this case, we see 25 cards have been voided. When the operator reconciles the job, IDEMIA USA's FMS spawns a new job of 25 cards—all of which will be produced to a final state and will be mailed or cancelled by the operator. Each step of the production process is tracked, logged, and stored in the Issuance 360 Back Office database for audit and reporting purposes.



Job Name	Total	Waiting	Spooling	Printed	Mailed	Voided	Cancelled
IN1202172	9998	0	9998	0	0	0	0
IN1202173	16389	0	15821	535	0	33	0
IN1202178	20000	0	17491	940	1559	2	8
IN1202179	10	0	10	0	0	0	0
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
IN1202181	101	0	0	1	100	0	0

Figure 206: Card Reconciliation Process Leaves No Card Behind

P. Card Production and Mailing

I. Backup, redundancy, recovery

131. How do you ensure system backup, redundancy, and disaster recovery at the production facility?

✓ **IDEMIA USA complies.**

To ensure system backup, redundancy, and disaster recovery at the DMV's primary production facility, IDEMIA USA proposes continuous production and mailing of DL/IDs via a secondary factory in case the primary card production facility becomes unusable. **This built-in functionality allows credentials to be produced in cases of outage situations where production at the primary issuance site is prevented. This is provided at no additional cost to the State.** Redundancy also built into the IT Infrastructure System includes an alternate factory communication server, which is designed for recovery protection.

Our disaster recovery program—our FMS—is industry-unique and modeled to address the requests and needs of many U.S. state customers over the past few decades. The concept is that we routinely will produce the secure DL/ID documents from two NASPO-certified factory locations so that at any time, full or partial failover is achieved without issue. IDEMIA USA uses the ability to send all or partial jobs to two factory locations at least weekly to ensure ongoing card production is not interrupted due to unplanned downtime events. This offers a proven standard operating practice included in our solution.

We will provide disaster recovery and business continuity plans that detail our approach to maintaining card production and mailing services in the event of a major problem at the primary factory. The DMV and IDEMIA USA will make the joint decision to declare a disaster and switch to the secondary factory.

Our proposed disaster recovery (secondary) factory is located in Sacramento, CA. This factory normally functions as a primary factory for several jurisdictions and is already connected to the FMS we use to route jobs to a factory. It will have the same production equipment as the primary factory and will be operated by trained staff. We will maintain a stock of DMV card materials sufficient for uninterrupted production.

To ensure that disaster recovery is not just an afterthought, we will:

- Bring the secondary factory online first followed by a transition of production to the primary factory
- Run a test of the disaster recovery capability twice a year
- Replenish the stock of DMV card materials at the secondary factory with fresh material well before it reaches end of life

With these steps, DMV can be confident that our disaster recovery capability will work, if needed. In fact, because our FMS allows us to switch card production between factories so easily, our secondary factory can even be used to provide the primary factory with a surge capability, which could be extremely valuable in the event of a short-term peak in demand for new credentials that exceeds the DMV's estimates.

Beyond planning for a disaster, we also take steps to ensure business continuity by reducing the likelihood of a communications interruption between the DMV and our factories. The network that supports FMS and the reporting server is set up in a high-availability configuration. The primary server and its data storage are provisioned separately from the secondary server and its data storage. In the event of an outage, the secondary server and database can be reconfigured to become the primary ready for production use. Microsoft SQL will manage the replication of the data sets.

A brief overview of some of the features and benefits of FMS is detailed in Table 28.

Table 28: Features and Benefits of FMS

Feature	Benefit
All of our facilities are NASPO-certified and follow identical procedures to produce secure, compliant DL/ID credentials and to protect PII they house temporarily.	• Assures consistent, continued, and compliant Nebraska credential production and information security.
Safe distance between the primary and secondary card production facility	• Assures that Nebraska credential production will continue in the event that the primary site goes down due to a localized event.
Primary and secondary sites are dedicated IDEMIA USA U.S. DL/ID card production factories, not facilities that mix production of several types of non-driver license cards (e.g., credit cards).	• Decreases the chance of material and program confusion, resulting in more control, better security of processes, and decreased chance of material or manufacturing mistakes.
Per agreement with the DMV, we offer the ability to arrange an ongoing production split that allows daily or specific production document jobs of DL/ID cards to be produced at the secondary site.	• Provides continual manufacturing at the primary site with ongoing assurance that we are able to switch over to a secondary site quickly and effectively. • Prevents unexpected surprises when the cutover of production is required due to emergencies. • Routes production materials to make sure they are in-stock at multiple locations.
Card production and inventory control processes continue even in the event of a disaster.	• Protects the State's investments, continues productions at all times. • Allows DMV offices to support your customers continually. • Provides residents with assurance that their driver license will be delivered on time.

Figure 207 illustrates our proposed disaster recovery workflow.

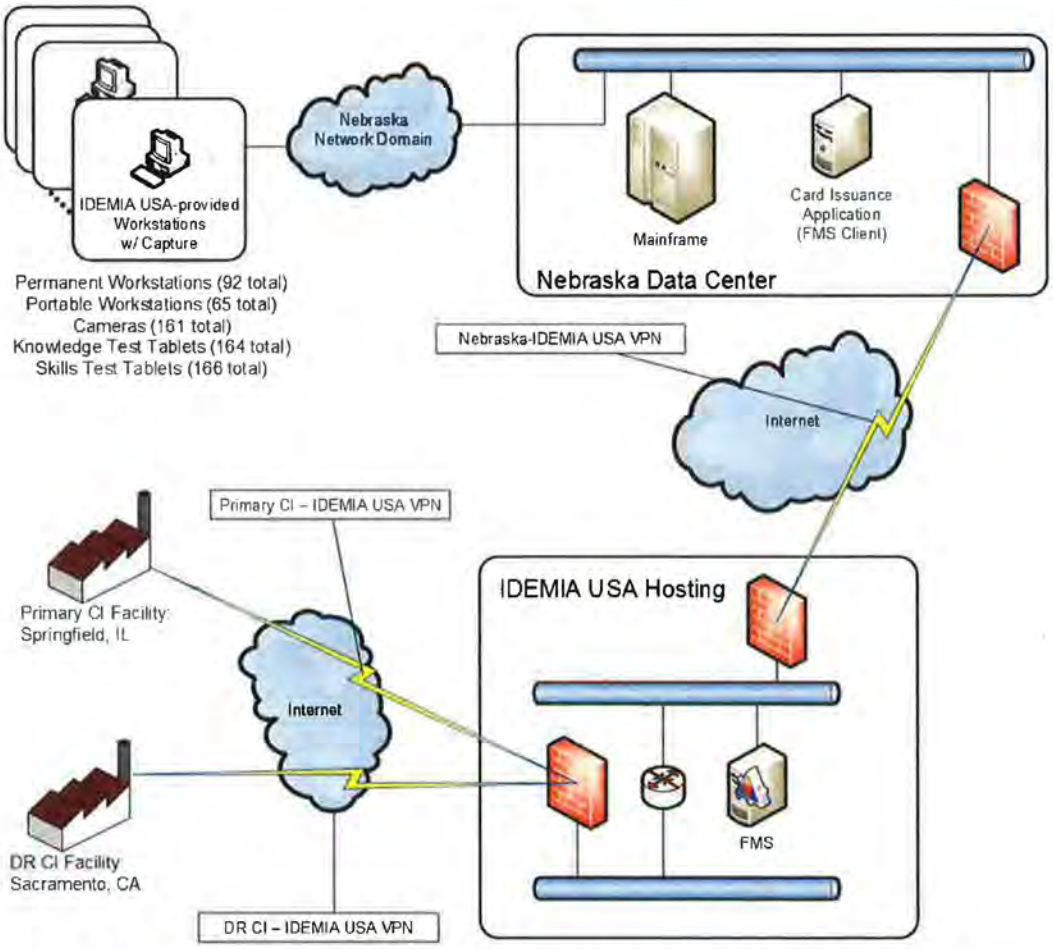


Figure 207: Protecting your Card Production and Inventory Controls Processes

Our Sacramento, CA facility backs up card factory production software.

IDEMIA USA recognizes the importance of having a disaster recovery program and willingly provides this service as part of our standard solution. FMS will be included under the new contract with the DMV to enable seamless transition of production between factories when needed. We are fully committed to the long-term success of your program; taking responsibility to maintain customer satisfaction is paramount to our business approach.

P. Card Production and Mailing

j. Inventory

132. What inventory controls do you utilize to ensure materials are available when needed?

✓ **IDEMIA USA complies.**

At the start of a new card production contract, our Supply Chain Management (SCM) organization executes master supply agreements with all providers of our raw materials to ensure an uninterrupted supply. On an annual basis, SCM performs an assessment to ensure each supplier:

- Remains financially stable
- Has the capacity to meet the daily requirements, plus 30%

- Continues to use the necessary process controls to provide raw materials consistently within specification

Using historical production data, input from the IDEMIA USA Program Manager, and projections from DMV, SCM generates a 12-month rolling demand forecast, updated on a monthly basis, for each raw material supplier.

Our secure inventory management system maintains current inventory levels at both the primary and secondary factory; materials are rotated out of the secondary factory regularly if not used in trial or co-production efforts to make sure material supply is fresh. We compare the inventory data to the demand forecast to determine when to place delivery orders against the master supply agreement with our suppliers.

P. Card Production and Mailing

k. Card tracking

133. What process do you have in place to expedite, ship, and track specific cards when necessary?

✓ **IDEMIA USA complies.**

Our solution allows priority flags to be set on individual card print records, which triggers expedited processing. Typically, your host system of record initiates the transaction by setting a flag that indicates the transaction is to be expedited. This function also can be performed by manually setting the expedite flag in Issuance 360 Back Office.

Once the transaction is flagged, it follows an automated DL/ID expedited distribution and special handling process. We facilitate this through an "expedite" records job to the production facility early in the morning, and then the regular production job is sent to the facility later. We have removed many of the manual labor tasks to complete and deliver overnight shipments, helping your solution to be more efficient.

A separate expedite job for the card production facility has been used in several programs in multiple factories to meet a variety of business needs for our customers. This approach provides the facility an early job with the specific cards needed for early delivery so that we can process them immediately upon receipt. We perform special handling and accelerated processing for current customers, including Arizona, Georgia, Illinois, Michigan, and Missouri, with varied delivery timing and methods to meet specific customer needs.

The card production facility produces the expedited cards with the target of same-day shipment (within 24 hours) to applicants through United Parcel Service (UPS) overnight shipment or in bulk to the DMV, whichever is preferred, and the shipping costs are billed to the DMV. This process is implemented currently at our card production facilities in California, Georgia, Illinois, and Massachusetts. Both the primary and secondary facilities Nebraska uses support this mechanism.

Other Shipping Options

We have developed processes and options for same-day and overnight shipment directly to your customers, daily pickup by the DMV for one or multiple day's batches, and daily or bi-daily overnight of cards to the DMV's headquarters. Our systems expedite shipping by using automation to apply tracking information to the carrier and expedite mailing for the card.

P. Card Production and Mailing

l. Replacements

134. Describe the process the DMV would take to initiate reprints or replacements of cards previously produced.

✓ **IDEMIA USA complies.**

Cards that the DMV marks for reproduction are sent back to IDEMIA USA system as a duplicate request. The request is included in the next scheduled job transmission to the factory. If it is an urgent request, the appropriate flag is set to trigger expedited processing. Otherwise, a reprint or replacement is considered just another card to be produced daily.

P. Card Production and Mailing

m. Image

135. Describe how an image of any individual's produced card may be made available to the DMV. For example, the DMV may request the produced card image to provide to law enforcement.

✓ **IDEMIA USA complies.**

IDEMIA USA uses an automated system to capture the front and back images of each card during processing on our mailing machine. These images are subsequently provided back through Issuance 360 Back Office for transmission and storage on the DMV's systems. They also are stored as JPEG files as part of the issuance system and are retrievable from Issuance 360 Back Office as a part of the customer record.

P. Card Production and Mailing

n. Tracking

136. How are cards tracked from issuance of receipt to delivery to United States Postal Service for mailing to the applicant and how is this visible to the DMV?

✓ **IDEMIA USA complies.**

IDEMIA USA tracks your cards throughout every stage of the issuance and manufacturing process (Figure 208), from front office enrollment, to back office verification, through card production, and finally through post issuance inspection and delivery. Upon completion and confirmation of delivery, a notification from the USPS will be configured and provided to the DMV. During the design phase of the program, IDEMIA USA and the DMV will collectively determine the most effective way to provide the data for review and reporting by the DMV. The security protocol used will be consistent with that of the USPS application programing interface (API) for delivery confirmation transmissions.

Figure 208: Vigilant Eyes on Nebraska Credentials

P. Card Production and Mailing

o. Customer portal

137. Describe your solution to establish a tracking system that interfaces with Nebraska's state e-government portal contractor for customers to check card status from factory receipt of customer information to delivery to a United States Postal Service office. If a mailing service is used, delivery to the mailing service does not serve as a proxy to delivery to a United States Postal Service office.

✓ **IDEMIA USA complies.**

We will provide the DMV with a Web page code and all associated backend Web services to host our "Where's My Card" functionality on your State e-government portal contractor. This functionality allows customers to check card status from factory receipt of customer information to delivery to a USPS office.

We provide this same functionality to the State of Connecticut today at https://dmvcardtrack.ct.gov/CredentialTrackingWeb. Searching by DL/ID or by name, customers can see credential status easily. The DMV's portal would allow applicants to search by DOB and DL number on a screen similar to the one shown in Figure 209.

Figure 209: Where's My Card Functionality

Looking up card status by DOB and name or card number is easy.

To make sure a real person is inquiring and not a robot, we use reCAPTCHA as part of the search process. To handle typos and input errors, we provide the logic for error handling in both search scenarios, as shown in Figure 210.

Figure 210: Error handling is intuitive

Your customers can easily see the status of their credential, as shown in Figure 211.

Figure 211: Your customer's card is on its way

USER TRAINING AND COMPLEMENTARY PRODUCTS TO SUPPORT

Through decades of training experience and early collaborative efforts, we have seen that developing and delivering training content early and often using a variety of delivery methods will keep all users up-to-date from solution inception to refresher sessions as new innovations are realized. Designing and delivering training content is a program-long mission and not just a day of install event. We will work with the DMV's training staff, leadership, business units, and subject matter experts (SMEs) starting at program kickoff, which allows our staff to develop the relationships to build training programs that meet your unique needs. These working sessions continue through UAT, pilot, and deployment events.

Up-to-Date Training Materials

Effective training and support are only as good as the materials used to provide them. **We provide no-cost updates to training materials** resulting from discrepancies that are discovered in the materials or if there are required updates, upgrades, or fixes.

Our comprehensive training program is staffed by our master trainers, who have trained motor vehicle agency operators in over 40 U.S. jurisdictions using our proven, hands-on training methodology that combines maximum learner participation with lectures, demonstrations, printed and video-taped training materials, and on-site refresher instruction, as needed. Materials include quick reference cards for often-used functions and detailed step-by-step procedures, classroom training aides and exercises, and online support within the product. This multi-pronged training approach leads to successful learning that transfers into successful implementation and ongoing operation. All of our instructors are experienced in creating a relaxed, positive learning environment that facilitates effective training and retention. They understand the DMV's unique issues and concerns and make a point of preparing operators for the "real life" situations they will experience on the job, ensuring that your operators can maintain customer service while operating the new equipment. Trainees will leave training confident in their knowledge and skills and will be fully equipped to perform their specific work roles.

Q. User Training and Complementary Products to Support

a. Overall approach

138. Describe the approach for meeting the training requirements as identified in this RFP.

✓ **IDEMIA USA complies.**

IDEMIA USA's Training Team creates and updates customized learning courses and materials and documentation to meet the specific needs of the DMV's trainers and CATS users in various roles. Our Training Team is involved early in the program development process and interacts frequently with the DMV's program management and training staff.

Our goal is to provide your users with easy-to-understand training that enables them to efficiently serve your customers. As detailed earlier in the proposal, our system design has been streamlined to reduce the amount of interaction required to perform transactions. We are confident that this new system design and our training curriculum will result in a better experience for DMV users and Nebraska customers.

We will develop and update training courses and supporting materials necessary to meet the DMV's Train-the-Trainer and CATS user role training needs for implementation and ongoing operation of the system.

Training Tools

We will use tools to measure end user comprehension and the ability to use the CATS system. IDEMIA USA applies our experience with training initiatives to finalize a detailed rollout of training prior to testing completion. To provide effective training to your staff, we will develop a Training Plan and a detailed schedule to roll out training. The comprehensive Training Plan is a living document that takes shape during kickoff with an initial draft review based on our current knowledge and understanding of DMV needs. The Plan is refined during the requirements analysis and design phase of the CATS project with input from the DMV.

Trainee registration, management of any prerequisites, and satisfactory course completion will be recorded using the Nebraska State training platform. We will plan, establish, supply, and manage the training environments to support all types of training necessary for the entire project. This training environment will be set up for use by the trainer and trainees replicating the systems to be used in DMV offices. All training equipment hardware, software, content, access management for trainees, and data of the training environments will be supplied and managed by IDEMIA USA.

Training Environments

We provide training specific to a user's role and combine self-paced video clips and instructor-led presentations with hands-on exercises, all designed to develop and test the knowledge and skills needed to effectively operate her/his portion of the CATS solution. We understand per RFP V.Q.4.b that approximately 55 home staff employees will require training. Training shall be customized to each user role, administrative, DMV help desk, fraud examiners, IT staff, and field staff trainers. This training shall be conducted in Lincoln, NE at the time and location arranged by the DMV. Additional training at up to five locations will be provided as needed during launch.

We perform training in your test environment. Our systems interface to your test system, ensuring fresh data as needed, accurate data flow, and complete process visibility when learning the CATS system.

Training Documents

All training materials will be stored in a mutually agreed-upon location and will be available to DMV staff. All courseware will be generated using standard tools to allow future handoff of material for the DMV to update. For more information on our documentation, please see our response to R. Documentation (item 142) on page 245.

Training Schedule

Per RFP requirements, we will provide final, accurate training materials at least 30 days in advance of initial training, which is scheduled to take place between 45 and 60 days prior to start of implementation, per RFP requirements. Training will be conducted at each site after installation to ensure all end users are fully prepared to initiate Go-Live. On the Go-Live day at each site, IDEMIA USA personnel will be onsite to support your staff and help ensure smooth operations. We anticipate that the new system efficiencies and our training program will complement each other, and your users will be fully prepared to service your customers from day one.

Q. User Training and Complementary Products to Support

b. Deliverables

139. Describe the various types of curricula and training materials that will be created by the Contractor's training team.

✓ **IDEMIA USA complies.**

Training Curriculum

Our team will create training curricula and materials that follow a standard core of delivery methods.

Instructor-led training classes are delivered by IDEMIA USA master trainers with classroom discussions and hands-on exercises. All hands-on exercises are realistic to scenarios experienced by DMV users and allow multiple users to be trained at the same time. All instructor-led sessions provided will be delivered onsite at DMV-designated locations. Classes are typically one-day sessions delivered during standard business hours. Role-based modules include:

- Web Enrolment
- Issuance 360 Back Office operations
- AutoTest knowledge testing
- RoadTest skills testing
- Mobile (portable workstation) case setup

Training Materials

All training materials and system documentation will be created and customized to accommodate the needs of all DMV users, including supervisory staff. These deliverables will be provided during the scheduled training events. Available as both hardcopy and electronic "softcopy," these training and reference materials include all current system functionality. Reference materials are provided in various forms, including:

- System interface via online help features
- Quick reference guides
- Training aides
- Printed user guides

Up-to-Date Training Materials

Effective training and support are only as good as the materials used to provide them. **We provide no-cost updates to training materials** resulting from discrepancies that are discovered in the materials or if there are required updates, upgrades, or fixes.

IDEMIA USA trainers will ensure the proper operational knowledge is transferred the DMV's staff. Throughout the Contract, our Training Team will maintain a close relationship with the DMV's assigned training staff to provide the support needed for successful operation.

Q. User Training and Complementary Products to Support
c. Train-the-trainer

140. Describe the approach used for a train-the-trainer program. Explain how the Bidder's proposed training team will support the State trainers during delivery of training.

✓ **IDEMIA USA complies.**

Our Train-The-Trainer program operates over two days and within two modes:

Our training team will create a video to be used to train new users **at no additional cost to the DMV.**

- **Day One** allows the DMV trainer to become "student for a day" to experience the course from the eyes of those they will teach. The IDEMIA USA trainer will provide instruction, knowledge, and expertise to the DMV trainer through the Web Enrollment workstation operation during the first day of training; upon completion of day one, the DMV trainer will be proficient in its operation. Each topic/task delivered on day one will be exactly as the attendee will experience, with classroom discussion for that daily task followed by an exercise that will reinforce the learned topic. The Quick Start Method will be used to focus on the features and actions needed to accomplish the task. The hands-on exercises will be performed in a group of three, known as our Customer, Operator, Observer (COO) approach.
- **Day Two** will take the DMV trainer from attendee to trainer, as the IDEMIA USA trainer will provide the Instructor Guide, training presentation (PowerPoint), theory, and background for our adult learning techniques to include the COO group of three and our Quick Start Method explanations. This second day is intended to supply the experienced State trainer with the tools needed to deliver training content effectively and will include DMV teach-backs to ensure knowledge transfer.

The Train-the-Trainer topic list includes the following:

- Day One (Trainer becomes the Student) – IDEMIA USA Web Enrollment Workstation Module
  - Entire module topic list remains the same (as previously listed)
- Day Two (Trainer Activities) – IDEMIA USA Train-The-Trainer
  - Entire module topic list remains the same (as previously listed)

Q. User Training and Complementary Products to Support
d. Student comprehension

141. Describe how your training materials and tools measure student comprehension of the training materials when using a train-the-trainer approach.

✓ **IDEMIA USA complies.**

Adults learn in a variety of styles, and our hybrid approach focuses on these multiple styles to allow critical tasks to be retained for optimum knowledge transfer. We use class discussions and a "Quick Start" instruction method to apply the knowledge immediately in the hands-on exercises. Hands-on exercises use our Customer, Operator, Observer approach (see Figure 212), which allows adult learners to see, execute, and participate in the exercise designed for the visual, aural (verbal), and physical learning styles. We solidify the knowledge transfer with printed training aids, quick reference sheets, and user guides that can be used as reference materials.

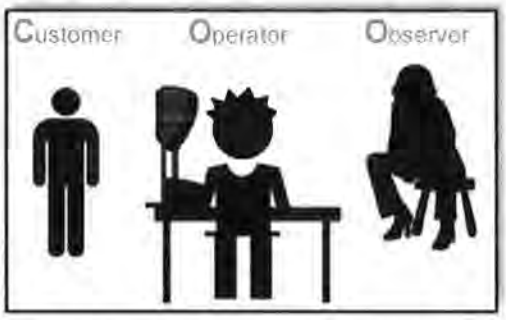


Figure 212: Customer, Operator, Observer Approach

Our COO training approach allows DMV staffers to learn the new CATS solution faster and ultimately reduce customer wait times and frustration as it is rolled out in the State.

R. Documentation

a. User Manuals

142. Describe in detail the training documentation (e.g. user manuals, brochures, etc.) you will provide.

✓ **IDEMIA USA complies.**

Documentation will be refined with a review process and a collaborative effort between the DMV and IDEMIA USA. The final version of all documentation will be approved by both parties prior to delivery. We will provide documentation for end users, system administrators, and technical staff.

Draft copies of all of this material will be reviewed internally by IDEMIA USA prior to release for the review with the designated DMV personnel. Working drafts of all documents will be provided to the DMV for review and refinement as stated in a defined document review process. Final documentation also will be reviewed and accepted prior to pilot and/or rollout of the delivered solution.

Documentation for the solution and systems will include the diagrams and content designed to support training. Start-of-Day and End-of-Day processes and typical daily activities performed by DMV examiners will be covered. Screenshots of user interface features, troubleshooting tips, and theory of operation also will be included in the materials. Hard copy (printed) and softcopy (electronic) manuals will be provided.

As part of the final delivered solution, we will provide the DMV with a help feature within the application as part of the supplied documentation.

Training Documentation

We will provide the DMV with the following training documentation:

- **Instructor Guide** – a fully documented guide in printed and PDF format for the DMV's trainers that contains the slide set, exercises, and content delivery "script." We will include presentation notes outlining items such as duration, mouse, and pointer options along with tips and navigation for the presentation. This guide will become the primary knowledge delivery vehicle when used with the PowerPoint presentation from our trainers and will be a tool for your trainers to provide refresher or new hire training (if necessary).
- **PowerPoint Presentation** – a fully populated and accurate PowerPoint that includes notes and tips for efficient presentation. This will become the primary display vehicle for classroom interactions. Attendees will follow along with the presentation within their Participant Guide supplied to all attendees; the instructor guide also will follow the same flow.
- **Participant Guide** – an effective classroom training and note-taking tool in which attendees can take notes during the presentation in class. It is used strictly for the training to allow the attendees to follow along with the presentation, take note, and reference for the first few days of operation. This is not provided as a standalone document for self-learning.
- **Online Help** – a comprehensive tool incorporated into our software aimed at reducing DMV staff dependency on printed documents. Online Help will provide step-by-step procedures for specific system functionality and a searchable index with common keywords. The online help provided in the system is not intended as a training tool but will be beneficial in supporting the training delivered to your staff.

User Manuals

Documentation that will be created and maintained for the Nebraska CATS solution include role-based information for:

- Web Enrollment
- Issuance 360 Back Office (to support the DMV Fraud Unit)
- AutoTest
- RoadTest

- Mobile (portable workstation) case setup

Manuals/guides will include screenshots of user interface features, operating and troubleshooting tips. With approval from the DMV, documentation will be updated when changes to user interface features occur in the solution.

Hard copy (printed) and softcopy (electronic) manuals will be provided. IDEMIA USA also will provide and maintain a Quick Reference Guide for all role types as well.

As a minimum, user manuals/guides will be organized using:

- Tables of contents with hyperlinks
- Logical flow of sections and information within sections
- Clear, concise narratives with correct grammar and free from typos
- Description of Start-of-Day and End-of-Day processes

The DMV Fraud Unit user manual will include all information required for operating and troubleshooting common facial recognition issues in Issuance 360 Back Office's facial recognition function.

Scope of Training and User Documentation

Documentation will be evaluated based on use and feedback from the DMV's users and will be delivered in two iterations:

- Draft User Documentation – Used for UAT and evaluated by the DMV; materials include Web Enrollment User Guide, Issuance 360 Back Office User Guide, AutoTest User Guide, RoadTest User Guide, and Mobile Case Setup Quick Reference
- Final User Documentation – Used for pilot and rollout; includes improvements of the above materials based on the DMV's evaluation

ONGOING DEDICATED SUPPORT AND MAINTENANCE

By continuing to partner with IDEMIA USA, the DMV will have a partner with a team familiar to you, your program, and your environment. We work with your current driver's license program today and are ready to deliver your new CATS solution upon Contract award. There will be no time lost at program start with hiring, training, and adjusting to your environment. Our staff has cleared strict security screening requirements and has specific training in the Nebraska environment.

The Best Service is No Service, and with IDEMIA USA's proactive monitoring, we can catch many application and database problems before they happen.

Our team understands your workflow and current environment. With our "Service without Borders" approach, the DMV has access to our nationwide bench of experts trained in cards, factory, delivery, and operational support. Our program management and technical personnel are prepared to make sure that your vision and expectations are realized.

One Call—That's All!

Driver's license issuance, knowledge testing, skills testing, facial recognition, document capture, and document authentication are all IDEMIA USA solutions that are supported by our trained employees. With complete accountability and ownership, finger-pointing is prevented should issues arise. **Nebraska receives a capable, trained partner ready to successfully support your program.**

S. Ongoing Dedicated Support and Maintenance

a. Maintenance

143. Describe your approach to meeting the DMV's requirements for software and hardware maintenance.

✓+ **IDEMIA USA complies and exceeds.**

IDEMIA USA understands that continuous operations and support is a critical part of the DMV's mission to deliver service to your customers. Our team will provide you with the right service, at the right time, with the right level of expertise. Our support team is staffed with highly experienced technical resources with extensive knowledge of the DMV environment, and workflow. All preventative and remedial maintenance activity will be coordinated and reviewed with OCIO.

Our Help Desk is staffed with experienced support personnel who handle approximately three million calls annually to support our various state and federal programs.

Our service excellence is designed to include:

- Proactive/Preventative Operations Support Plan
- Statewide Simple Network Management Protocol (SNMP) Proactive Monitoring
- 24x7 Help Desk and engineering support
- In-State systems administration and account management
- Highly-trained and experienced field technicians
- Executive sponsors and the engagement of experts

Table 29 Indicates benefits and features of our support approach.

Table 29: DMV Benefits from IDEMIA USA Support

Benefit	Features
We are always watching over your systems to protect uptime	"Around-the-Clock" 24x7 proactive system monitoring of all server, workstation, and application layers.
The team focus is on CATS uptime and meeting DMV service level objectives	IDEMIA USA defines specific routing rules for all after-hours support requirements to ensure service requests are handled in a timely fashion, which meet or exceed all the DMV's service level objectives.

Service without Borders	Cross-trained engineers are strategically located at bordering states with the ability to travel beyond state lines in order to meet/exceed our customer's service level objectives.

Help Desk

Our Help Desk will continue to provide the DMV with experienced support with proven processes, training practices, and physical space. The DMV will still have 24x7x365 access to our toll-free phone support (877-559-6003). The Help Desk team has a closure rate of well over 50% of all issues upon first contact. We have an extensive and secure online Knowledge Base via our Customer Portal that the team uses to reduce the time to resolution for both our Help Desk and field service teams. This Knowledge Base will be made customer-facing in the near future to enable self-service for customers who prefer to perform their own research before engaging our Help Desk.

Through August of 2018, the IDEMIA USA Help Desk has handled over 500 calls from the State of Nebraska with an average response time of **1:22**. Our Help Desk strives to deliver consistent quality service to the State of Nebraska as well as consistently refining our own operational processes to ensure efficiency

Our Help Desk operates in a "Follow-the-Sun" model—meaning that it is available 24x7 and is appropriately staffed during peak hours in each time zone. This staffing model maximizes DMV uptime. Our dedicated and experienced staff is located in offices in Billerica, MA, Des Moines, IA, Fort Wayne, IN, Bloomington, MN, and Anaheim, CA.

When a service ticket is created in our service call management system, the IDEMIA USA field operations team will be notified simultaneously in real time via email and text message that a response is required. The system is set at pre-configured thresholds to provide automated reminders, at which time our Maintenance Lead/Field Support Lead will engage the best resource available to step in and make contact if support hasn't been sent already. Our service ticketing system will include all remedial and preventative maintenance of all DMV hardware, software, and peripherals.

In addition to our 24x7 Help Desk, our service personnel serve in a Virtual Help Desk role whenever they are not active in the field. By engaging our local support engineers in a help desk role, not only are they familiar with the DMV's system at an expert level, **they also are familiar on a personal level with your office staff and will be aware of any unique challenges they may encounter.**

Communication Methods

IDEMIA USA will provide the DMV with access not only to our traditional 24x7 phone support as we do today, but also to three new 24x7 online services that have been developed to improve your customer service experience: Customer Portal, Chat, and Knowledge Base. All three services are available at https://customerportal.IDEMIA.com. Examples of 24-hour communication methods are shown in Figure 213.

- *Customer Portal* – Our Web-based Customer Portal is available 24x7 for users authorized by the DMV to create, update, and review support tickets. When reviewing tickets, users may filter them by individual, product, facility, or other data field. This service is useful in locations where a telephone is not conveniently located for a problem that can be more clearly described in writing than verbally, or when a DMV staff member prefers to see the exact information being entered when creating a new ticket.
- *Chat* – Our online Chat tool provides access to a Help Desk staff member via a live chat window, which is available to the DMV's authorized users 24x7. It provides an alternative to calling when, for instance, a

Figure 213: Communication Methods

With a choice of four ways to interact with IDEMIA USA, the DMV's staff members can choose the method they are most comfortable with or which best meets their immediate needs.

DMV staff member is looking for information but does not see the need to open a service ticket or when a matter is not urgent. If it turns out useful to open a service ticket, the Help Desk staff member can import the Chat history into the ticket.

- *Knowledge Base* – The Knowledge Base is a centralized repository of IDEMIA USA technical documents relevant to the DMV that is accessible 24x7x365 as a self-service resource via our online Customer Portal. Authorized DMV users will have direct access to our Knowledge Base to assist them in finding solutions to previously experienced problems, resolving frequently asked questions, and learning more about system operations. Examples of topics covering in the Knowledge Base include PC support, peripherals, and document authenticators.

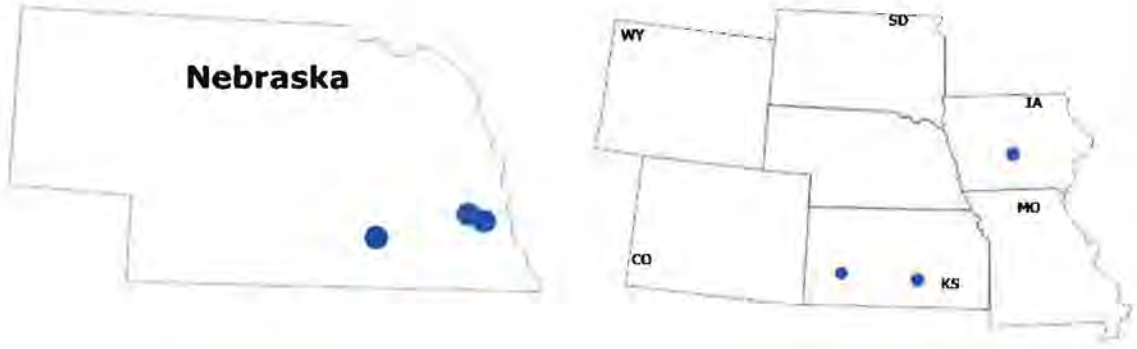
Remedial and Preventive Maintenance and Repair Support

IDEMIA USA's field service team will be responsible for performing preventative and corrective maintenance throughout the life of the contract. We will provide the DMV with onsite remedial and preventive maintenance during normal working hours between 7:00 am – 8:00 P.M. Central Time, Monday through Thursday, and 7:00 am – 6:00 P.M. on Friday and Saturday, per RFP requirements.

Customer Service First

During the course of supporting your current program, periodic situations arise requiring Saturday service. Instances include field service technicians fixing broken equipment and accommodating branch requests due to their convenience. In several of these instances, we provided this service to the DMV to support the need **at no additional charge.**

Our current in-State field service manager, Jeff Atwell, and service engineers, Joseph Carlson and Mike Montgomery (who are strategically located in Lincoln and Hastings) will continue to provide the exceptional support they do today for the DMV's current programs. Additionally, we will maintain a regional field support staff fully prepared to meet and exceed the service level objectives. Our "Service without Borders" approach allows us to provide additional support when needed so you are never left without coverage. Figure 214 depicts the in-state and surrounding state locations of our field technicians who are available to support your CATS solution.



In-State Support Surrounding State Support

Figure 214: Your Service Is Without Borders

Our "Service Without Borders" approach of drawing trained staff from neighboring and regional states means that no staff shortage will prevent your offices from receiving service should situations warrant additional help.

Escalation Process

Our Help Desk and engineering teams have appropriate staffing levels available for emergency after-hours support. The IDEMIA USA escalation path proceeds from the Help Desk to a service technician or member of our sustaining engineering services team for routine issues. For difficult problems, we form a cross-functional team and work together to solve the problem. If the service issue is critical in nature (e.g., system outage), it is rapidly escalated to an Incident Response Team (IRT). The IRT will manage the situation proactively to minimize customer impact by identifying and controlling the incident and engaging all necessary resources. The IRT will provide regular progress updates to identified DMV and IDEMIA USA management. At all times, clear communication is regularly provided your staff, to update the DMV with the progress on the issue.

The IRT will become engaged if an incident causes a complete interruption or extreme degradation of service delivery to the DMV's environment or business operation. In the event that a service issue results in an impact to production related to the servers, an entire DMV branch, or the central production facility, the IRT will be responsible for working with the DMV's IT group to triage, diagnose, and implement a solution and will remain engaged until the issue is resolved.

The Incident Response Team includes the following members:

- Incident Response Team Manager
- Sustaining Engineering Services Manager
- Applications Engineer
- Database Administrator
- Systems Administrator
- Service Technician
- Other engineers as needed, depending on the nature of the problem

Proactive Monitoring

The best service is no service needed!

We understand that support is about more than just fixing a problem; it is about observing, listening, and getting out in front of a problem before it happens. We install proactive monitoring software (shown in Figure 215) of capture workstations and peripherals to monitor system performance. Monitoring provides early warning of potential issues and allows our service technicians to take action proactively to prevent issues from affecting operations. For example, our proactive monitoring system provides a color-coded dashboard (shown in Figure 216) that signals alerts for potential or active issues. After receiving alerts, our support team evaluates the system status and takes immediate action to address the issues. The proactive monitoring solution has resulted in improved visibility of system operations and increased reliability.

Figure 215: The Best Service is No Service Needed

Proactive monitoring of network, servers, and workstations maximizes customer service by allowing us to fix potential problems before they occur

Figure 216: Proactive Monitoring Dashboard

Our monitoring dashboard provides performance status alerts, allowing our support team to take preventative action to resolve issues and increasing system reliability.

Onsite Services

IDEMIA USA will provide all DMV offices with operational support, which will include initial office setup, hardware, supplies and consumables, all software downloads and installations required for equipment maintenance, upgrades, and office problems. We have three (3) full-time, in-state technicians strategically located across the State to respond to the immediate needs of the issuance offices within the prescribed timelines required by the DMV. Our Field Service Team has over 10 years of experience, giving us in-depth knowledge of your locations, operations, staff, and customers' needs.

We will respond to and completely repair any defect—whether an issue with issuance or testing—**within four work hours, typically in less than two hours, of it being reported**. Our Field Service Team will respond and provide defect or remedial support for all issuance or testing stations within four business hours, and typically in under two hours of report. We will respond and repair any issue reported with skills testing within eight work hours, with the exception of Lancaster, Douglas, and Sarpy counties where the response requirement is four hours. In the event that IDEMIA USA cannot complete a repair on the same day on which it is recorded (for example, if the problem is reported late in the day), our technicians will be available when the office next opens to complete the repair.

IDEMIA USA will work with the DMV to determine optimum preventative maintenance scheduling for all issuance sites. We will create all preventative maintenance schedules and will monitor all preventative maintenance activities using the Help Desk call management software. Our field service team will schedule all maintenance activities with the respective license office supervisor so that it will not disrupt the issuing office's daily operations. When practical, preventative maintenance will be performed during other site visits. If critical maintenance must occur before the next scheduled maintenance period, IDEMIA USA will coordinate this activity with the respective office supervisor. Before performing preventative maintenance, the IDEMIA USA technician will request clearance from the office supervisor.

Office Maintenance

We will perform maintenance to keep all IDEMIA USA-provided equipment and software in—or restore it to—good working order. This will include preventative and remedial maintenance, installation of safety changes, and installation of engineering changes based upon the specific needs of the individual item of equipment or software. It also will include any repair, replacement, or exchange deemed necessary to restore equipment to good working order. IDEMIA USA will perform the initial installation of all software on repaired, replaced, or exchanged equipment. Only current available technology will be used for spare and replacement parts, unless the technology only can be replaced with like equipment, which will require full approval by the DMV. We agree to provide replacement hardware for reoccurring or chronic problems.

Our Field Maintenance Lead/ Field Support Lead, Jeff Atwell, will flag any hardware that has had three or more failures requiring a support call within a 12-month period. Mr. Atwell will provide a quarterly report of all hardware

replacements that have occurred across the State, highlighting chronic hardware failures to help identify potential systemic problem.

Additionally, IDEMIA USA will use scheduled automated update services to update operating systems, antivirus, and malware software with approved patches and will ensure that security patches are applied promptly. We will implement and maintain DMV-approved malicious code scanning software and will perform periodic scans for the existence of malicious code on any computer or server that is:

- Used in conjunction with DMV services
- Used for access to DMV production environments
- Contains information designated as confidential by the DMV

This preventive maintenance approach supports our ability to provide maximum uptime to the DMV solution. Our service availability during Q1 and Q2 of this year was 99.5%.

S. Ongoing Dedicated Support and Maintenance

a. Maintenance

144. How many technicians will you have in Nebraska and where will they be located? What are your plans for personnel back-up and redundancy to cover planned and unexpected absences?

✓ **IDEMIA USA complies.**

IDEMIA USA has three maintenance and support personnel in the following locations:

- Lincoln, NE (2) – Jeff Atwell and J.R. Carlson
- Hastings, NE (1) – Mike Montgomery

IDEMIA USA has qualified in-state field service technicians in addition to three regional support personnel in states adjacent to Nebraska to ensure we continue to exceed the current four-hour and eight-hour service level objectives. These technicians offer the State an extensive backup capability to ensure we are able to respond to your needs.

S. Ongoing Dedicated Support and Maintenance

b. Support

145. Describe how your Help Desk personnel and technicians will be knowledgeable and kept up-to-date on Nebraska's solution to resolve problems effectively and efficiently.

✓ **IDEMIA USA complies.**

Effective issue and service level management are critical to our service and support philosophy. We understand that the DMV's success in providing high-quality customer service depends on our responsiveness to you. For this reason, the entire IDEMIA USA management team is committed to resolving issues and service-related incidents quickly and fully.

We do our jobs so you can do yours

We are the current support provider. We know your systems, your processes, and your customers. Our Technical Help Desk and Field Service team will work closely with our deployment team, project management team, and training organization to ensure all participants are trained to deliver and properly support the DMV solution. The Field Service Team will work with program management to ensure proper delivery, installation, and training to all DMV locations.

Our in-state field service engineers are full-time IDEMIA USA employees, are all Nebraska State residents, and are trained in our proposed solution. Their primary role is to exceed the DMV's service needs. The Field Service Team is strategically located throughout Nebraska to reach all branch location to exceed the requested service level objectives from their dispatch locations.

Our Help Desk is staffed with sufficient personnel, trained in the system deployed in Nebraska, and is available during your working hours to meet all Help Desk service level objectives. IDEMIA USA analyzes Help Desk call data for patterns and suggests potential improvements to operations.

S. Ongoing Dedicated Support and Maintenance

c. Reporting

146. Describe the problem reporting process you envision the DMV will use.

✓ **IDEMIA USA complies.**

The IDEMIA USA Help Desk provides the DMV with services for reporting, monitoring, and logging of problems. Our escalation path proceeds from the Help Desk to a service technician or member of our sustaining engineering services team for routine issues. The Help Desk will be your first point of contact for support issues. Our Help Desk technicians are trained in your solution to solve the majority of reported issues without the need for escalation. In the rare situation in which we are unable to resolve an issue quickly over the phone or though remote diagnostic procedures, we will contact our sustaining support team or dispatch in-state field support personnel to the given DMV location for hardware issues. This approach provides an effective and efficient escalation process to assign the appropriate resources and resolve problems quickly, regardless of type or complexity.

Help Desk Support

We will provide the DMV with access not only to our traditional 24x7x365 toll-free phone support as we do today but also to three new 24x7x365 online services that have been developed to improve your customer service experience: Customer Portal, Chat, and Knowledge Base. All three services are available at https://customerportal.IDEMIA.com. Examples of 24-hour communication methods are outlined below:

- Customer Portal—Our Web-based Customer Portal is available 24x7 for users authorized by the DMV to create, update, and review support tickets. When reviewing tickets, DMV users may filter them by individual, product, facility, or other data field. Figure 217 shows the screen used to create a new service ticket. This service is particularly useful in locations where a telephone is not conveniently located, for a problem that can be more clearly described in writing than verbally, or when a DMV staff member prefers to see the exact information being entered when creating a new ticket.

Figure 217: Online Form to Create a New Service Ticket

- Chat—Our online Chat tool provides DMV personnel access to a Help Desk staff member via a live Chat window, which is available to the DMV's authorized users 24x7. It provides an alternative to calling when a matter is not urgent—for instance, if a DMV staff member is looking for information but does not see the need to open a service ticket. If it becomes necessary to open a service ticket, a Help Desk staff member can import the Chat history into the ticket. Figure 218 shows an example of a Chat communication box for which the user wants to get more information about a workflow.

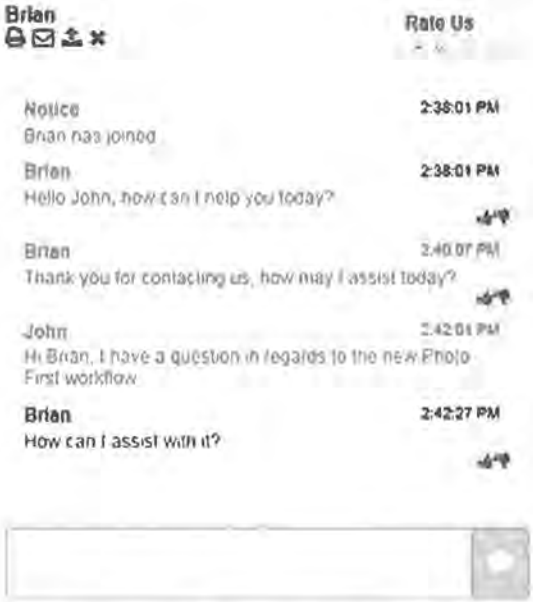


Figure 218: Example of Online Chat

- Knowledge Base—The Knowledge Base is a centralized repository of IDEMIA USA technical documents relevant to the DMV that is accessible 24x7x365 as a self-service resource via our online Customer Portal. Authorized DMV users will have direct access to our Knowledge Base to help find solutions to previously experienced problems, resolve frequently asked questions, and learn more about system operations.

REPORTING CAPABILITIES

IDEMIA USA has reporting capabilities in all solution aspects: driver's license, facial recognition, knowledge testing, and skills testing. As a single point of contact for reporting matters, **we eliminate the struggle of managing different companies trying to implement reporting that do not align with your entire solution.** No subcontractors or third parties are required.

Reports across our suite of products for issuance, facial recognition, knowledge testing, and skills testing are created using a common interface. This makes report creation and support easier and more efficient for your staff.

One Size Doesn't Fit All

Our reporting offering leverages our longstanding experience in the DMV market by transforming data into actionable, meaningful information and getting the right information to the right people at the right time. Our reporting solution provides standard, ad hoc, and on-demand reporting capabilities to **fulfill the varying information needs of different DMV users and teams.**

T. Reporting Capabilities

a. Overall

147. Describe how you will meet the reporting requirements in Section V. Project Description and Scope of Work, T. Reporting Capabilities, 1 through 6.

✓+ **IDEMIA USA complies and exceeds.**

DMV will get the maximum reporting flexibility with our "one-size-*doesn't*-fit-all" approach to reporting. IDEMIA USA provides standard, ad hoc, and on-demand reporting capabilities to fulfill the varying information needs of different DMV users and teams.

Our reporting offering leverages our longstanding experience in the DMV market by transforming data into actionable, meaningful information and getting the right information to the right people at the right time to:

- Improve financial accuracy by better understanding and controlling costs
- Protect credential integrity by detecting and preventing fraud
- Understand cross-functional patterns to better plan and allocate resources
- Serve internal and external customers more effectively by sharing appropriate DMV data

Therefore, we provide a solution that offers different ways to address your information needs:

- **Dashboards** for ad hoc, interactive, random inquiry with the ability to drill-down for a more granular view of information
- **Standard reports** for regularly scheduled, repeated business requirements
- **End-user inquiry** for filtering reports with the most common parameters and selection criteria
- **Ad hoc reporting tools** for custom report modification and/or creation

We believe that providing you with maximum flexibility and choice to answer your questions and solve your most pressing business problems positions you to best respond to changes in your business environment.

Below are our responses to meet the Reporting Capability requirements described in Section V. Project Description and Scope of Work, T. Reporting Capabilities, 1 through 6:

1. The system shall allow the DMV to use and customize standard reports, as well as create ad hoc reports and develop new standard reports.

We have developed a large inventory of standard and custom reports, shown in Figure 219. All standard reports are published on a central reporting portal for ease of access and control. Created using Microsoft SQL Server Reporting Services (SSRS), users can easily run or customize standard reports as well as create new ones.

Issuance 360 Back Office Standard & Custom Reports	
Issuance	**Gated Issuance Reports**
Audit Record Activity	CI Issuance Reconciliation
Summary Billing	CI Reconciliation Detail
Summary Billing Report by date	Open Print Batches
Summary Billing Report Grand Totals	Print Batch Status
Summary Billable Card Production by Card Type	
Detailed Billing	**Custom Issuance Reports**
Detailed Billing Report by date & location	Denied Applications
Detailed Billing Report by location	Detailed Record Deleted Report
Summary Card Production by date & location	Enrollment Applications by Borough of Residency
Summary Card Production by Card Type and by Permanent and Temporary DL/ID	Enrollments by Language
	Incomplete Card Production
Summary Card Production by Site and Card Type and by Duplicates DL/ID and Permanent DL/ID	Integrated Reconciliation Report to Identify Discrepancies
	Motor Voter Activity Summary Report
Detailed Card Production	Motor Voter Activity Detail Report
Detailed Card Production with Veteran Indicator	Motor Voter Declination Report
Detailed Flagged For Investigation Report	Summary Record Deleted Report by Site
Detailed Non-Domiciled Report	Summary Web Camera Photo Report
Image Quality Check Failures	Detailed Web Camera Photo Report
Organ Donor Summary Report	Volume by Location
Organ Donor Detail Report	Volume by Operator
Override Summary	
Override Summary by Site	**Facial Recognition**
Override Summary by User	FRS Failed Enrollment & Identification Report
Override Detail	Case Reports
Retrievals By DL	Case Activity Report
Retrievals By User	Disposition Report
Summary Flagged For Investigation by Username Report	Summary Enrollment Report
Summary Record Deleted Report by Username	Batch Enrollment Report
Summary Veteran's Report	Enrollment Status Report
Transaction Detail Report	Throughput Report
Document Authentication	
Alert Rates for Licenses & IDs	Status by Operator
Alert Rates for Passports	Status by Operator (stacked bar chart)
Alert Rates for Immigration & Agency Documents	Status by Operator (pie chart)
Summary (tabular)	Document Status by month
Summary (stacked bar chart)	Document Status by month (bar chart)
Summary (pie chart)	Document Status by month (pie chart)
Status by month	Document Status by location
Status by month (pie chart)	Document Status by location (pie chart)
Status by location	Document Status by operator
Status by location (stacked bar chart)	Document Status by operator (bar chart)
Status by location (pie chart)	Document Status by operator (pie chart)
	Test Failures by Document type with pie chart
Knowledge Test Administrator Reports	**Administrator Reports Examiner Reports**
Service Center	Applicant History
Custom Messages	Cancelled Test
Applicant History	Test Activity
Audit Trail	Test Review
Test Activity Summary	Test Log
Test Log	**Skills Test Reports**
Cancelled Test	Applicant History
Examiners at Service Center	RoadTest Activity
Item Bank	Examiner Summary
Item Bank Analysis	Location Summary

Figure 219: Standard Reports

We will work with the DMV to define and deploy the reports that best suits your needs.

To support ease of access to reports across your user base, reports can be:

- Displayed interactively and then printed
- Scheduled for creation and automatically posted on the reporting website (portal)
- Scheduled for creation and automatically emailed to select recipients
- Distributed to specific groups according to Active Directory role based security policies ensuring that only those authorized to see the information are able

For auditing purposes, our solution maintains a history of when reports are run and by whom.

During the design review period, we will work with the DMV to mutually agree upon the final report format along with the most suitable deployment method.

Our solution provides you with the ability to create, generate, and deliver custom reports. Just as with standard reports, these reports:

- Are easily exported to familiar formats such as PDF, PowerPoint, Word, Excel, Tiff, and CSV or printed by clicking the printer icon at the top of the page
- Are identifiable with report name, date created, and page numbers clearly marked
- Adhere to Active Directory group and user policies
- Can be distributed automatically via email to target recipients
- Can be posted to the Web portal
- Can be run individually

Additionally, because our offering is based on SSRS, reports optimized for mobile devices and a variety of other form factors are created easily and quickly using the SQL Server Mobile Report Publisher.

Creating and Customizing Reports

Logical views of the data make custom report creation simpler and more intuitive. These views can be combined with other information from external data sources such as Excel spreadsheets to leverage information across the DMV organization. Using Microsoft's SSRS Report Builder's drag-and-drop capability, report writers can create reports from scratch or modify existing reports easily.

As an example, let's take the Override Summary Report. If the DMV assumes there's a suspicion of internal fraud or collusion, a request would be made to make sure that proper override procedures are being followed. The override is approved by a supervisor, and if a supervisor requests an override (acting as an operator), another supervisor performs the override. The following sequence demonstrates the steps required to create a custom ad hoc report to meet this business need:

1. Open the central reporting portal and click on the report (Figure 220) to see what the original report looks like.

Figure 220: Selecting a report from the website/portal

2. This will open the Override Summary Report so the user may see what it looks like before any changes (Figure 221). We want to add the operator name to the report.

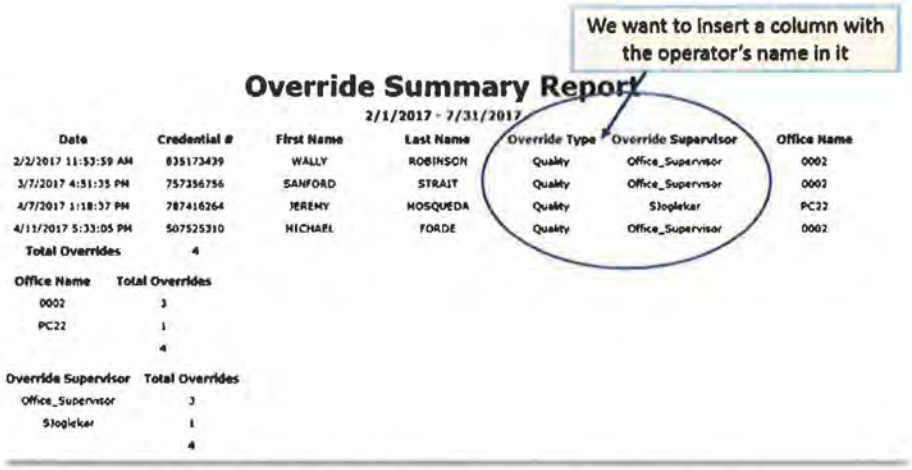


Figure 221: Adding a column is easy

3. To modify the report by adding the operator name, go to the Reporting portal/website and open Report Builder (Figure 222).

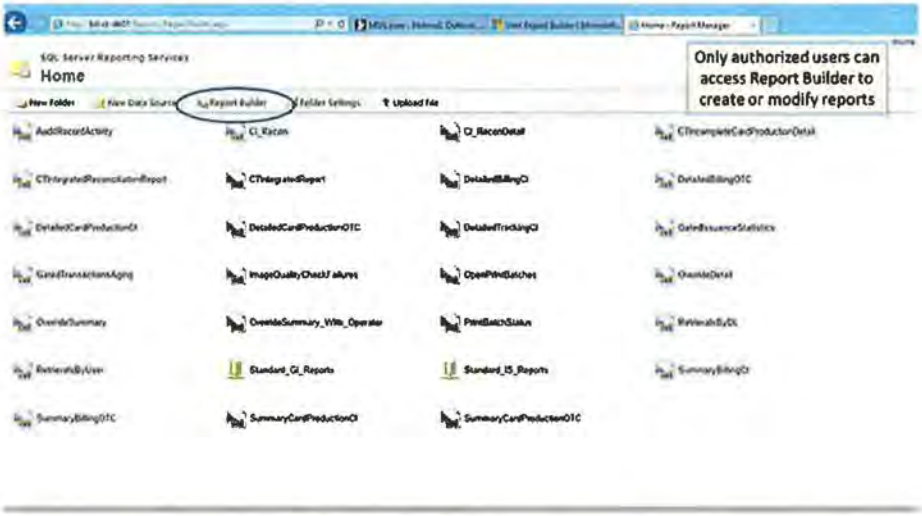


Figure 222: Use Report Builder to modify and existing or create a new report

4. Open an existing report (for our example), or create a new one (Figure 223).

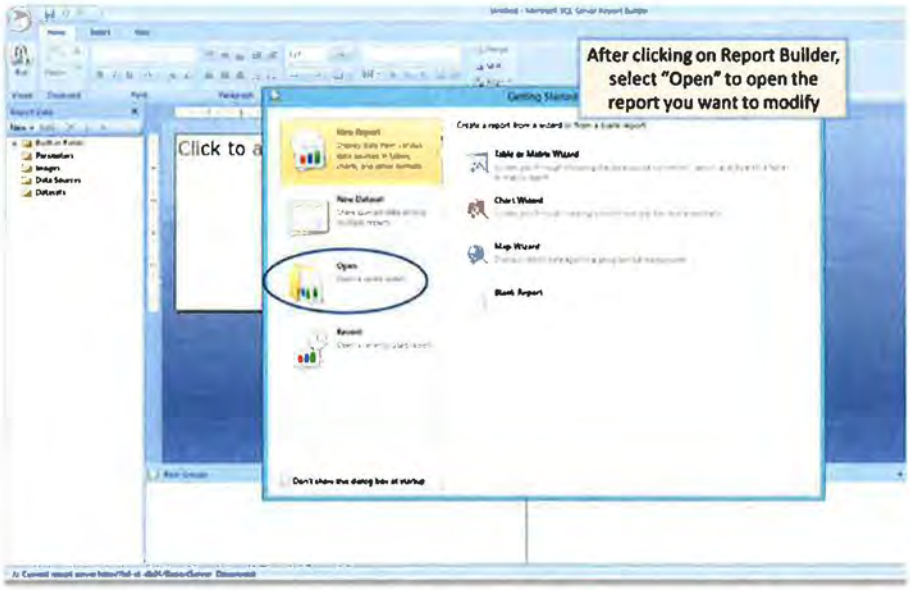


Figure 223: Familiar Microsoft conventions make the Report Builder intuitive

5. Select the report to modify (Figure 224).

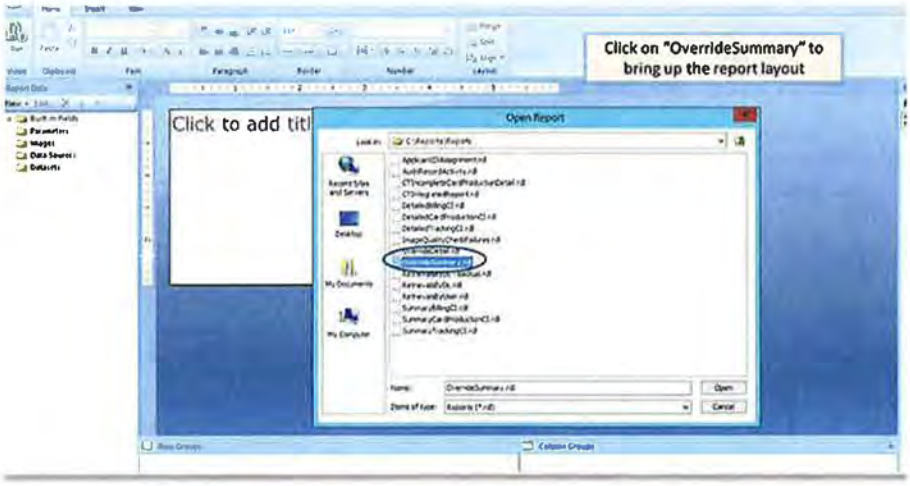


Figure 224: Choose the report to modify

6. Click on the field to add; then drag-and-drop it into the proper position (Figure 225).

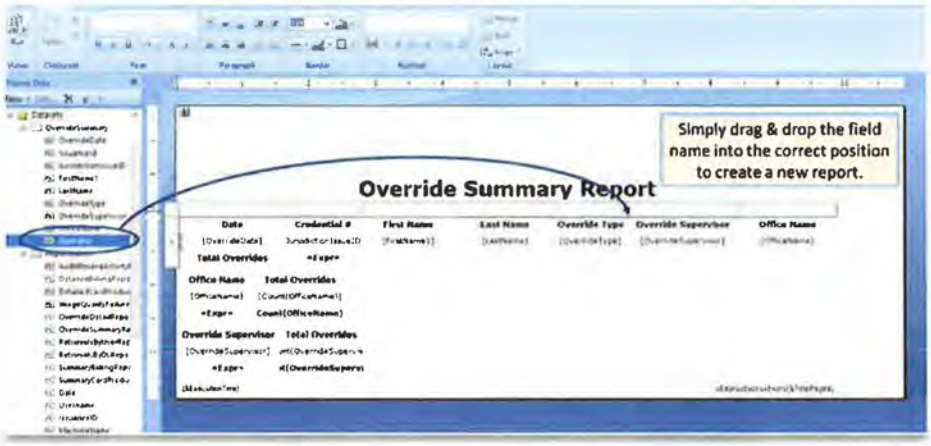


Figure 225: Drag-and-drop to insert a column

7. "Operator" is now part of the report (Figure 226).

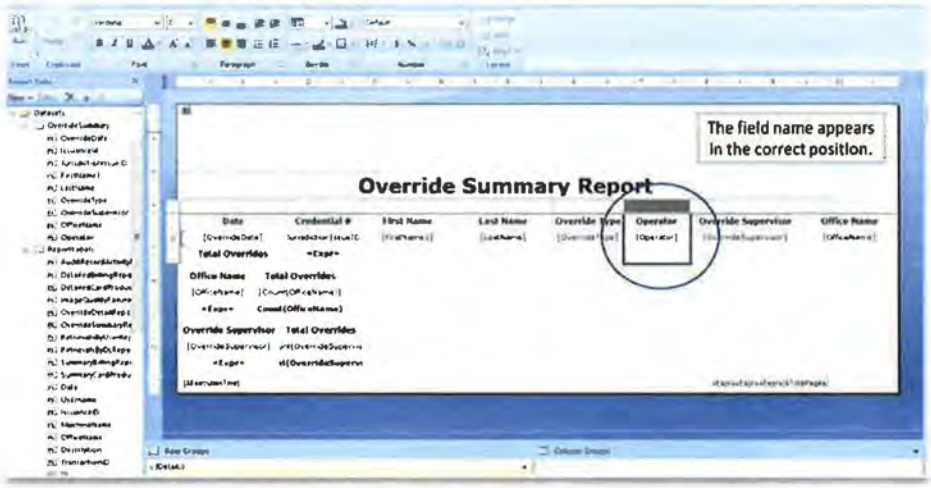


Figure 226: The column in place for the new report

8. The next step is to run the report to see if there are differences. The report in Figure 227 below shows that proper procedures have not been followed, as the same person overriding is also doing the approval

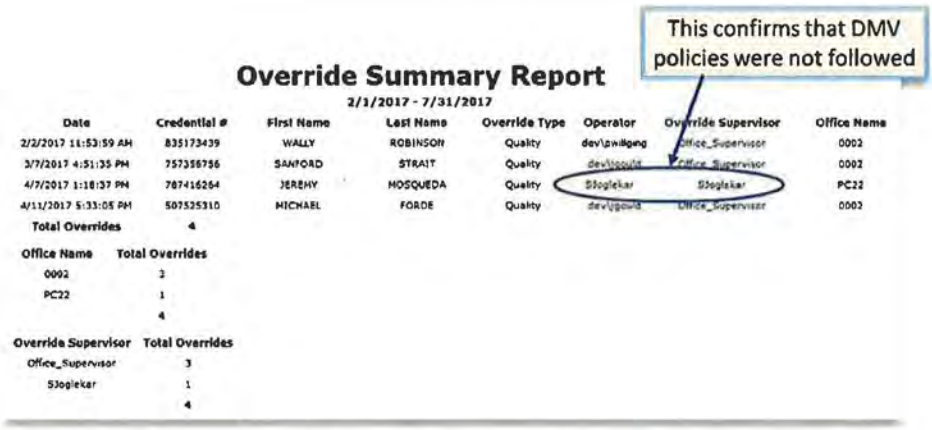


Figure 227: The new report shows the operator and the person doing the override.

9. The next step is to save the report for future use (Figure 228).

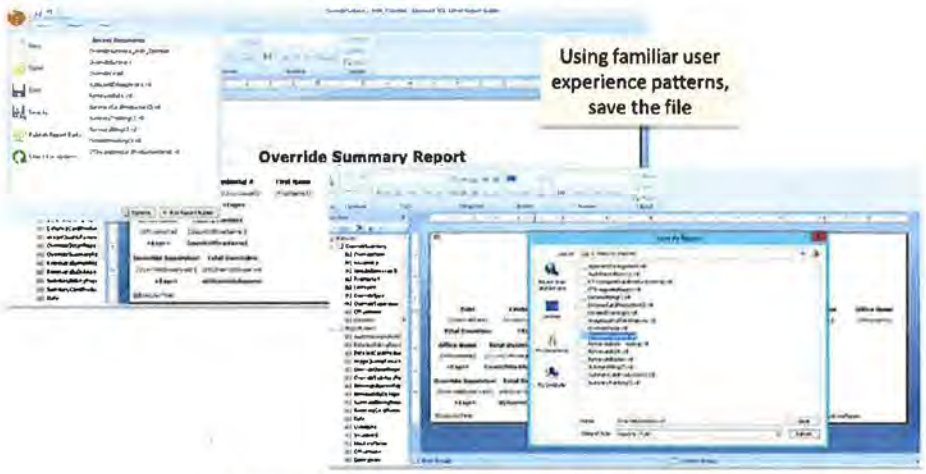


Figure 228: Save the report for future use

10. Finally, publish the report by uploading it to the portal (Figure 229).

Figure 229: Make the report available to other users by uploading it to the website/portal

11. The new report is now available for future use by other authorized DMV personnel (Figure 230).

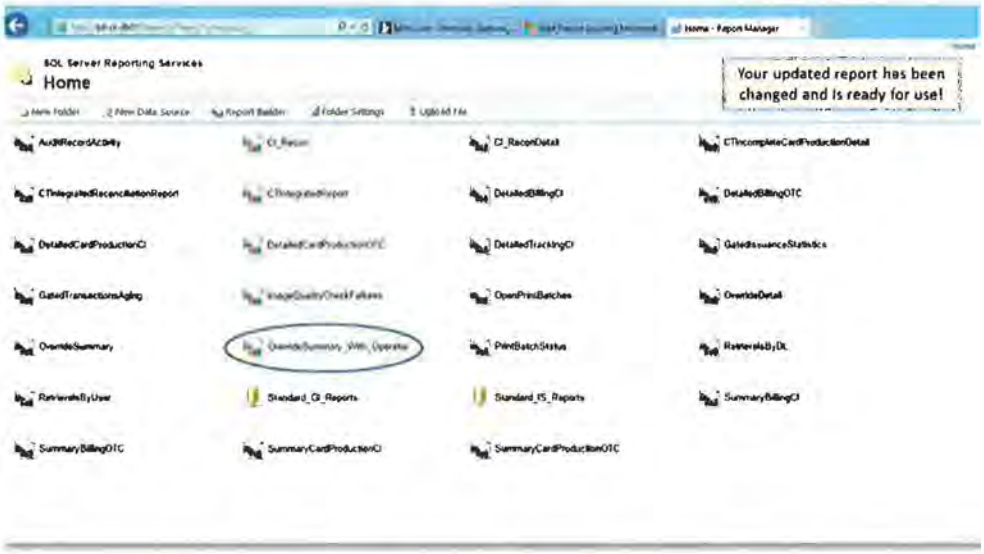


Figure 230: The new report is available for authorized users

Creating a report from scratch follows the same interactive drag-and-drop pattern. Even people without extensive report building experience can make these changes.

Mobile Device Integration

For even greater flexibility and usability, if the DMV wants to make reports available for mobile devices, our solution also includes SQL Server Mobile Report Publisher **at no additional cost**. With SQL Server Mobile Report Publisher, DMV staff can create or modify reports specifically optimized for mobile devices such as iPads, iPhones, Android phones and tablets, and other form factors including Windows 10 devices. Mobile reports facilitate decision making using flexible visualization of data varying from time, category, and comparison charts to tree maps and custom maps. Figure 231 shows standard reports formatted to display DMV production data on an iPhone or iPad.

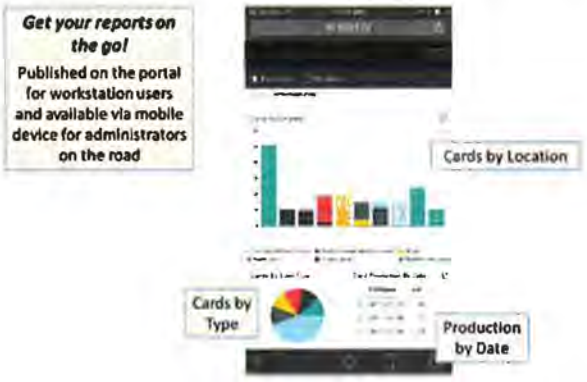


Figure 231: Mobile Platform Reports

Providing reports on a mobile platform makes information more accessible.

2. Reporting tools shall be accessible from within CATS. Authorized examiners should have the ability to generate select reports from local data only, unless the DMV grants an examiner security authorization to generate reports based on system-wide data.

Reports across our suite of products for issuance, facial recognition, knowledge testing, and skills testing are created using Microsoft SSRS. This provides a common interface for your users and makes support easier for your staff. Users simply browse to a shared reporting portal where reports reside. Active Directory controls access to the portal, and DMV users only see those reports for which they have permission. For example, someone who has access to facial recognition reports would likely not be allowed to run knowledge test reports.

Extending End-User Reporting

All of our standard reports extend their use by offering a combination of pull-down menus and free form text fields that allow a report to be filtered by the most commonly used criteria:

- Office location
- Date (individual or range)
- User
- Transaction type
- Card type

End-users can report on local data by filtering report results by office. This functionality extends to custom reports as well. If a DMV branch manager wants to gain more insight about the throughput of the office or county on a particular day, they can use a simple drop-down menu to filter the results.

Figure 232 shows the Detailed Billing Report for all offices. Results also can be filtered by office or credential type, (e.g., REAL ID or non-REAL ID)

Figure 232: Drop-down menus and filters make customizing – even custom reports – easy.

For auditing purposes, our solution maintains a history of when reports are run and by whom.

3. Generate informative, user-friendly reports detailing test and system usage and user statistics.

4. Compile and print reports to be utilized by employees who are not computer programmers. The operation of the reporting functions must be presented in an intuitive and simple-to-use format appropriate for the skill level of a casual computer user.

Our report-generation tools are intuitive and allow authorized DMV personnel to generate reports using a simple, easy-to-use interface. Using Microsoft SSRS, our solution provides reports such as test and system usage and user statistics as part of our standard offering; they need only to be formatted according to the DMV's requirements. We will work with the DMV to design and develop reports according to your specifications.

All of our standard reports offer a combination of pull-down menus and free-form text fields that allow a report to be filtered by the most commonly used criteria such as user, date (individual or date range), office location, transaction type, and card type. End-users can filter report results according to specific needs, helping them to solve problems easily and quickly. For example, if a DMV administrator has concerns about the frequency of overrides, he/she can select the office or user in question and run the report, as shown Figure 233.

Figure 233: Answers to questions are right at your fingertips

Consistent pull down menus and free form text give end-users intuitive access to information.

5. Generate reports on-demand as frequently as desired.

In order to achieve optimal system performance while running reports on-demand as frequently as desired, we recommend the DMV implement a dedicated reporting server, which has been scoped into the virtual machine (VM) map for our solution. This configuration follows industry best practices by separating reporting data and activity from production data and activity to make sure that resource-heavy custom reports do not affect user response times.

6. Generate reports automatically at pre-designated intervals and times that can be printed on any standard printer or can be placed in a folder on a designated computer.

Meeting the DMV needs, our reporting systems allows reports to be:

- Run interactively
- Scheduled to run automatically at pre-designated intervals and time
- Emailed to select recipients (automatically or on-demand)
- Printed on any standard printer
- Placed in a designated computer folder
- Posted on the reporting website (portal) for future use or for collaborative reporting

T. Reporting Capabilities

b. Card Issuance

148. Describe how you will meet the Card Issuance reporting requirements.

✓ **IDEMIA USA complies.**

Our standard reporting solution allows the DMV to issue Card Issuance Reports regularly, as often as desired. Published on the reporting portal, DMV staff can generate these reports within CATS.

Table 30 describes the standard card issuance reports and lists the query fields for each report that DMV administrators can use to create customized reports. All of our standard reports offer a combination of pull-down menus and free-form text fields that allow a report to be filtered by the most commonly used criteria such as user, date (individual or date range), office location, transaction type, and card type.

Table 30: Standard Card Issuance Reports

Report Name	Purpose	Information In Report
Daily Production Detailed Report	Contains information on the production of credentials on a given day	Issuance agent county number; issuance agent county site; issue date; print request type (30-day interim receipt or permanent card); print request date/time; DL number; document type; document class; customer first and last name; customer middle name (if applicable); customer suffix (if applicable); workstation ID; Examining Staff badge number; Examining Staff county number; Examining Staff station number; overall total
Production Summary Report	Contains similar data to the Daily Production Detailed Report except in table format; allows the user to enter any date range as input.	Issue date; document types; Examining Staff county number; Examining Staff station number; overall total; county totals
Override Report	Contains details of all transactions involving an override for any valid date range; provides detailed information on a per-card basis as to why a particular image was of insufficient quality; returns the reason as well as the facility and location at which the image was captured.	Date/time of transaction or cancellation request; Examining Staff county number; Examining Staff station number; DL number; override reason; type; customer Name; workstation ID; Examining Staff badge number

Our suite of standard reports currently does not include a Production Tracking Report. However, we will create this report as part of the new CATS implementation.

T. Reporting Capabilities

c. System reports

149. Describe how you will meet the CATS System Reports reporting requirements.

✓ **IDEMIA USA complies.**

As part of the ongoing review of our reporting capabilities, we have new reports on the Issuance 360 Back Office roadmap, including those to support system administration. Our solution will meet the CATS System Reports reporting requirements detailed in the RFP. With respect to response time reporting, it is important to note that because our solution is Web-based, response time is measured from the time the request hits the Web service to the time the response is sent back.

T. Reporting Capabilities

d. Ticketing reports

150. Describe how you will meet the Help Desk Ticketing System reporting requirements.

✓ **IDEMIA USA complies.**

Our solution allows the DMV to track individual and aggregate status of Help Desk tickets. Our 24x7 self-serve Customer Portal allows the DMV to create, update, and track Help Desk tickets. The DMV is able to see tickets layered in geographical locations and can customize the dashboard to see data related to their organization and products by location only.

Our Incident Tracking System will assign a unique incident tracking number for each reported problem and will record the following information:

- Date/time of call (initial time-stamp)
- Customer name
- Customer phone number
- Description of problem
- Attempted fix operations by Help Desk technician
- Escalation to Sustaining Support Team based on complexity and severity of reported problem
- Escalation to Sustaining Engineering Team as required
- Call closure time

Our solution allows the DMV to create a report by setting date ranges, user requests, age of ticket, and other ways of identifying responsiveness. All of our standard reports extend their use by offering a combination of pull-down menus and free-form text fields that allow a report to be filtered by the most commonly used criteria, including date/time, user, and location.

The Help Desk will work with the DMV to define all appropriate report formats for scheduled reports and will create templates that will be available to DMV team members to run whenever desired through the Web-based portal. Help Desk staff are available to assist the DMV in creating or updating reports at any time should reporting parameters change.

All service reports can be customized to report by facility, product, and date range. Service report types include:

- Monthly Service Availability
- Monthly Mean Time to Repair
- Monthly Mean Time to Respond
- Monthly Mean Time to Close
- Hardware Failure reporting per location/State trends
- Inventory Tracking

T. Reporting Capabilities

e. Knowledge test reports

151. Describe how you will meet the Knowledge Test reporting requirements.

✓ **IDEMIA USA complies.**

Below are our responses to meet the Knowledge Test reporting requirements described in Section V. Project Description and Scope of Work, T. Reporting Capabilities, 10. Knowledge Test Reports.

a. *DMV staff must have the ability to assign tests, monitor test progress, display test results, review tests, print test results, and print statistical reports via non-Knowledge Test computers.*

As AutoTest is a Web-based application, it allows DMV staff to assign tests, monitor test progress, display test results, review tests, print test results, and print statistical reports via non-Knowledge Test computers via the Examiner and Administrator interfaces.

b. *The DMV must have the capability to print the pool of test questions with answers and photos.*

At any time, authorized DMV administrators can print a pool of test questions with answers and photos via the Administrator interface.

c. *The Knowledge Test system shall generate at least four standard reports providing the following information:*

AutoTest allows all four standard reports described in the RFP—as well as several other reports—via the Administrator interface. From the Reports button on the Administrator home screen, DMV administrators can

generate and print statistical and audit reports. Each report also can be exported to Excel for further analysis using tools such as pivot tables. Table 31 describes the standard AutoTest Administrator reports and lists the query fields for each report that DMV administrators can use to create customized reports.

Table 31: Standard AutoTest Administrator Reports

Report Name	Purpose	Information in Report
Service Centers Report (Standard Report 1)	Overview of test activity at a single location or at all locations for any specified time period	Local office name (if not all locations), test category, test type, language, report time period, number of tests taken, number of tests passed, number of tests failed, average time to complete tests, number of tests cancelled, report generation date
Test Log Report (Standard Report 2)	Provides a detailed list of all tests taken within a particular time period. The report can be constrained by date, location, test category, test type, language, pass/fail/cancelled	Local office name (if not all locations), report time period, Client name and/or id, test date, start/end time, test station ID, test category, test type, language, test score, pass/fail status, report generation date
Applicant History Report (Standard Report 3)	Provides test history and results for individual applicants.	Applicant name and ID, test names for all tests taken, test type (on-screen, oral, written), test start/end times, test location, test station ID, language for each test taken, total number of questions for each test, total number of questions answered correctly, score for each test (%), final status for each test
Questions Report (Standard Report 4)	Provides detailed analyses of the active question pool; can be generated for individual questions, for all questions within any knowledge domain, or for all questions making up any previously administered test.	Question ID, display of associated visual (this information is helpful in identifying poor quality or misleading graphics), total question usage, number of times answered and each distracter has been selected, average time taken by applicants to answer the question, number of times question has been skipped by applicants
Test Activity Report	Test activity sorted by test type, including number of tests, average time, and test results	Start and End Dates of test activity, Service Center, Language, Test Type, Test Category
Test Activity Summary Report	Applicant number and test information including date, type of test, results, service center, and examiner name	Start and End Dates of test activity
Custom Messages Report	Allows administrators to create and manage system messages, such as safety messages, in multiple languages through the Administrator application	
Examiner Activity Report	All test activity for an examiner sorted by test type, including number of tests, average time, and test results	Start and End Dates of Examiner activity, User ID, Language, Test Type, Test Category
Audit Trail Report	Complete details of the AutoTest user account	User ID, Start and End Dates of the audit period
Cancelled Test Report	All cancelled tests, including date, applicant information, test information, service center, and reason for cancellation	Start and End Dates of test activity, Service Center, Language, Test Type, Test Category

Item Bank Analysis Report	Test response results for specific questions, including the percent correct, incorrect, or skipped	Knowledge Domain, Question ID, Test ID

T. Reporting Capabilities

f. Skills test reports

152. Describe how you will meet the Skills Test reporting requirements.

✓ **IDEMIA USA complies.**

Below are our responses to meet the Knowledge Test reporting requirements described in Section V. Project Description and Scope of Work, T. Reporting Capabilities, 11. Skills Test Reports.

a. The Skills Testing system shall provide scheduled reports, including:
i. Daily, weekly, monthly, and annual activities by location, user, and test type.
ii. Pass/Fail rates by location, user, and test type.

RoadTest has Web-based reporting capabilities and can be configured to produce scheduled reports such as:

- Daily, weekly, monthly, and annual activities by location, user, and test type
- Pass/fail rates by location, user, and test type

This standard information can be found in one of the five reports available to DMV users with appropriate authority (typically a DMV supervisor):

- Applicant History
- RoadTest Activity
- Examiner Summary
- Location Summary
- Daily Summary

b. The Skills Testing system shall produce detailed maps displaying the route(s) driven in relationship to the test administered using GPS capabilities.

RoadTest will record GPS information automatically as part of the skills test and will include that information in the completed test results. The GPS tracking functionality will allow the DMV to identify possible instances of fraud in the skills testing process by logging and retaining the exact driven test route map with recorded vehicle speeds. The GPS function allows pre-defined standard routes to be used, tracks the test's progress on the map, and detects route deviations. In addition, all infractions committed by the applicant during the test and marked by the skills test examiner are noted on the GPS map with time, location, speed, and description. All GPS-related information (e.g., selected standard route, actual route taken with recorded vehicle speeds, notations of infractions, etc.) is retained and stored as part of the test record. This GPS data is then displayed on the saved file, as shown in Figure 234.

Figure 234: Map Depicting GPS Tracking of Skills Test

DMV examiners for skills tests can view the map during the test and save it with the permanent test results, which can be viewed later.

c. *The Skills Testing system shall report any deviation from the pre-approved test route on a map using GPS capabilities.*

As noted above, RoadTest records any deviation from a DMV pre-approved test route automatically into the test record via GPS tracking.

d. *The Skills Testing system shall provide a reporting and analysis tool for DMV management to create ad hoc reports.*

RoadTest's Web-based reporting capabilities allow authorized DMV management to create ad hoc reports. Standard reports can be printed to a network printer or saved/exported to a common file share in Excel format for further manipulation and customization by the user. Five standard Web reports are available to those with appropriate authority (typically a supervisor):

- Applicant History
- RoadTest Activity
- Examiner Summary
- Location Summary
- Daily Summary

e. *The Skills Testing system shall provide the capability for the DMV to retrieve and review all historical driver test data and photos.*

All GPS-related information (e.g., selected standard route, actual route taken with recorded vehicle speeds, notations of infractions, etc.) is retained and stored as part of the test record in RoadTest. The DMV will be able to retrieve and review all historical driver test data and photos at any time.

f. *The Skills Testing system reports shall be equipped with software to view all tests which should include being able to view the actual score sheet, map captured from GPS, and any photos taken.*

Immediately following the completion of a skills test, administrators can retrieve, review, and print all drive test data, GPS mapping, score sheets, and photos of the applicant as needed. RoadTest stores these items in a readable file format to a directory on the tablet so they may be viewed later or directed to a printer. Once the test administrator uploads the test results to the system, it stores completed test sheets and other data more permanently on the RoadTest server and is accessible to authorized users for viewing at any time, even long after the test is completed. Additionally, any skills test forms and reports can be printed directly from the tablet or from a RoadTest Administrator workstation at any time.

T. Reporting Capabilities

g. Facial recognition reports

153. Describe how you will meet the Facial Recognition System Reports reporting requirements.

✓ **IDEMIA USA complies.**

Our solution provides the facial recognition system reports listed in RFP V. Project Description and Scope of Work, T. Reporting Capabilities, 12. Facial Recognition Reports.

When researching a case or when an outside agency requests information, an investigator can create a dossier to report on a particular person or issuance. Authorized DMV investigators have options to create three types of dossier reports: 1:N, 1:R, or side-by-side. Figure 235 shows the popup for generating a dossier of any of these types. Figure 236 shows a sample 1:N dossier, and Figure 237 shows a sample side-by-side dossier.

Figure 235: Generate Dossier Screen

LEAD REPORT - 100000009

Top 3 Matching **Candidates**
Threshold: 3000

Score: 6142.00
Name: ART MCDAVIS
DLN: 10001000
Person ID: 10001000
Source: DMV

Score: 5830.00
Name: han SOLO
DLN: newhope
Person ID: newhope
Source: DMV

Score: 5111.00
Name: MARK A WILLIS
DLN: 140000561
Person ID: WILLIMA20203
Source: DMV

Demographics	
Name	clancy obrien
DLN	10001004
Person ID	10001004
Source	DMV

Notes
No notes have been created

Figure 236: 1:N dossier

COMPARISON REPORT

Demographics	
Name	clancy obrien
Date of Birth	02/02/1980
DLN	10001004
Person ID	10001004
Source	DMV

Residential Address
300 WAKE FOREST ROAD, DURHAM, WEST_VIRGINIA 39393

Mailing Address

Demographics	
Name	ART MCDAVIS
Date of Birth	01/01/1970
DLN	10001000
Person ID	10001000
Source	DMV

Residential Address
123 MAIN STREET, WHEELING, WEST_VIRGINIA 77489

Mailing Address

Notes
No notes have been created

Notes
No notes have been created

Figure 237: Side-by-Side Dossier

We provide the three RFP-required facial recognition reports, which are detailed below.

a. Cases Report

The Cases Report (seen in Figure 238) provides a summary view of cases, including those listed in the RFP:

- All cases
- Multi-jurisdiction cases
- Active Cases Report (Figure 239)
- Investigations Report
- Case Load and Throughput Report
- Cases resulting from automated identification
- Manually generated cases
- Cases generated from ad hoc queries shown below in detail and summary

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Cases Report

11/2/2016 to 11/3/2016

User ID: All Case Origin: All Workflow Type: All Sorted By: Create Date

Card Number	Case ID	Operator	Last Name	First Name	User ID	Case Origin	Identity Type	Workflow Type	Assigned Date	Create Date
81944251	1526		MARTINEZ	LAWRENCE	test	M	M	Lead	11-02-2016	11-02-2016
81944251	1527		MARTINEZ	LAWRENCE	test	M	M	Lead	11-02-2016	11-02-2016
81944251	1528		MARTINEZ	LAWRENCE	test	M	M	Lead	11-02-2016	11-02-2016
81944251	1529		MARTINEZ	LAWRENCE	test	M	M	Lead	11-02-2016	11-02-2016
81944251	1530		MARTINEZ	LAWRENCE	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1531		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1532		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1533		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1534		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1535		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1536		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1537		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1538		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1539		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1540		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1541		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1542		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1543		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1544		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1545		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1546		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1547		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1548		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1549		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1550		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1551		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1552		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1553		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1554		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1555		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1556		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1557		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016
15538744	1558		MCDONALD	BEVERLY	test	M	M	Lead	11-02-2016	11-02-2016

Figure 238: Cases Report

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Case Activity Report

10/3/2016 to 11/3/2016

User ID	Active	Closed with Issues	Closed	Total
test	180	0	5	190
Total	185	0	5	190

Biometric Identification v4.9.0.0

Generated on 11-03-2016 02:45:46 PM by test

Page 1 of 1

Figure 239: Case Activity Report

b. Enrollment Status Report

Our Enrollment Status Report (shown in Figure 240) provides a list of those records that did not enroll in the Facial Recognition System successfully.

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Enrollment Status Report

11/2/2015 to 11/3/2016 Auto Enroll: Any Manual Enroll: Any

Date	Card Number	Enroll Status	Manual Enroll	Capture Office
11-02-2015	79696764	Y	N	
11-02-2015	91321589	Y	N	
11-02-2015	35686597	Y	N	
11-02-2015	59344049	Y	N	
11-02-2015	65758370	Y	N	
11-02-2015	63450084	Y	N	
11-02-2015	45134499	Y	N	
11-02-2015	94312306	Y	N	
11-02-2015	93223461	Y	N	
11-02-2015	43255800	Y	N	
11-02-2015	05028438	Y	N	
11-02-2015	87718327	Y	N	
11-02-2015	81138506	Y	N	
11-02-2015	30068298	Y	N	
11-02-2015	30597719	Y	N	
11-03-2015	82442724	Y	N	
11-03-2015	28361178	Y	N	
11-03-2015	47006928	Y	N	

Figure 240: Enrollment Status Report

c. Audit Report

Our standard audit report offering includes auditing of various aspects of the system, as shown below.

Audit Activity Report

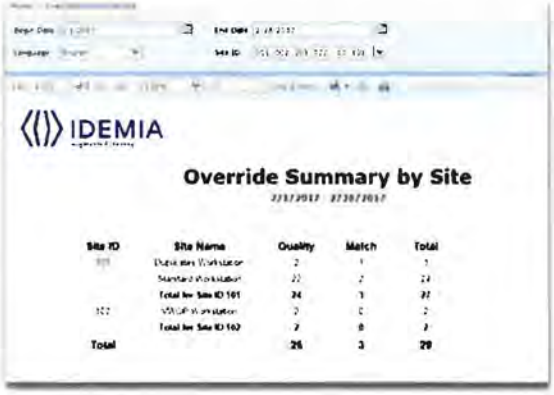
Provides detailed reporting on every touch to an applicant's record. Queried data includes folio creations, deletions, insertions, retrievals, and updates; gated issuance operations; Issuance 360 Back Office application events; image sharing errors published; portfolio creations, deletions, insertions, retrievals, and updates; date; location; username; and card type. Queries can be filtered by date, office, and record type.

Detailed Flagged For Investigation Report

Provides a list of records that have been flagged for further Investigation for a defined date range. By default, the date range specified is the most recent complete month.

Override Summary

Summarizes image overrides on a per-office basis during a user-specified date range. The reason for the override is listed for each license upon which an image was overridden.

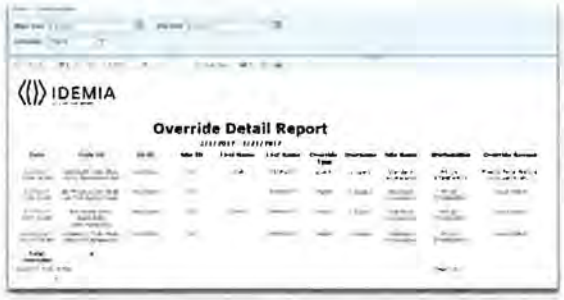


Override Summary by Site

Summarizes image overrides on a per-facility basis during a user-specified date range. The summary is broken out by type of override (quality or match) and total overrides.

Override Summary by User

Summarizes image overrides on a per-facility basis during a user-specified date range. The summary is broken out by kind of override (Quality or Match) and total overrides.

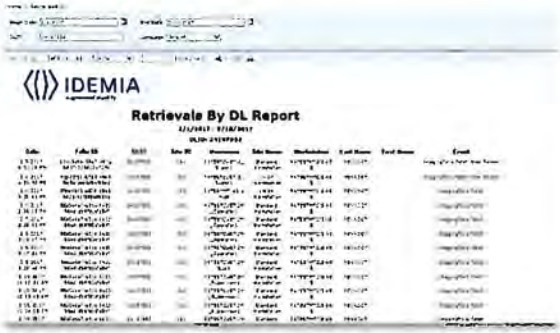


Override Detail

Provides detailed information on a per card basis as to why a particular image was of insufficient quality. The reason, as well as the facility and location at which the image was captured, is returned in this report.

Retrievals By DL

Shows all user access to a specific license record. Anytime the license record is accessed, an audit record is generated historically chronicling the access by operator over a user-specified date range.



Retrievals By User

Shows all document access for a specific user/operator over a given period. This is useful in determining who is retrieving records and when.

Summary Flagged For Investigation by Username Report

Provides production summary data by username for the number of records that have been flagged for investigation for a user-defined date range. In this report, date is defined as the application date.

Summary Record Deleted Report by Username

Provides production summary data by summing the quantities of records that were deleted by username for a user-defined date range. In this report, date is defined as the processing date for the transaction.

T. Reporting Capabilities

h. User experience

154. Will reports be generated from a single reporting utility? If not, please explain where and how users will have to navigate different reporting functions for different reports.

✓ **IDEMIA USA complies.**

Reports across our suite of products for issuance, facial recognition, knowledge testing, and skills testing are created using Microsoft SSRS. For ease of access and support, they are published on a common reporting portal, shown in Figure 241. This provides a common interface for your users and makes support easier for DMV staff. Users simply browse to the portal and click the desired report. Users only have visibility and access to reports as determined by roles within Active Directory, and for auditing purposes, our solution maintains a history of when reports are run and by whom. Users can perform the following functions:

- Apply filters to published reports to refine or localize results
- Display reports interactively then print them
- Schedule the running of reports for automatic posting on the portal or email distribution
- Export reports to familiar formats such as PDF, PowerPoint, Word, Excel, Tiff, and CSV

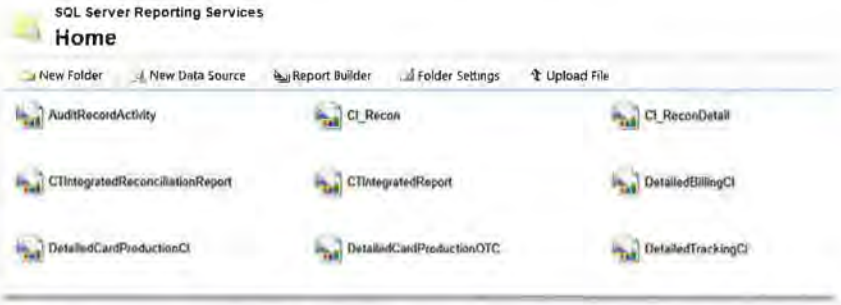


Figure 241: A common repository for reports improves access, supportability, and control

U. Administrative Functions

a. Integration

155. Describe how the pre-production verification is integrated with your entire solution, including all interfaces. How does the data flow seamlessly between functions/modules and how does the user move between functions/modules in this area to and from other functions/modules?

✓ **IDEMIA USA complies.**

IDEMIA USA's pre-production verification process is a seamless, integral part of Issuance 360 Back Office with the data flowing from front office capture through to back office storage, adjudication, and issuance. Issuance 360 Back Office employs a workflow manager engine that allows the DMV to establish and configure multiple "gates." These gates function similar to how the Gated Issuance system works today on the DMV's current Image Server, except that **it all happens within one integrated system**. In order for an issuance to be released to the factory for production, it must clear one or more configurable, preset gates. These gates qualify the applicant's authenticity and eligibility before releasing it for credential production, thereby reducing fraud and managing exceptions without affecting customer service.

The most well-known gate is facial recognition. Issuance Manager holds an applicant's record until it passes the duplicate 1:N check, thereby ensuring that no one is using a different demographic identity the same face. To fight fraud, we recommend the DMV continue to use the two facial recognition gates in use today:

- **1:History** – comparing a new applicant image to all historical images for that person
- **1:N** – comparing a new applicant to other faces in the database

To inquire about the status of an applicant's record, authorized DMV investigators can see at a glance where an applicant is in the process, as shown in Figure 242.

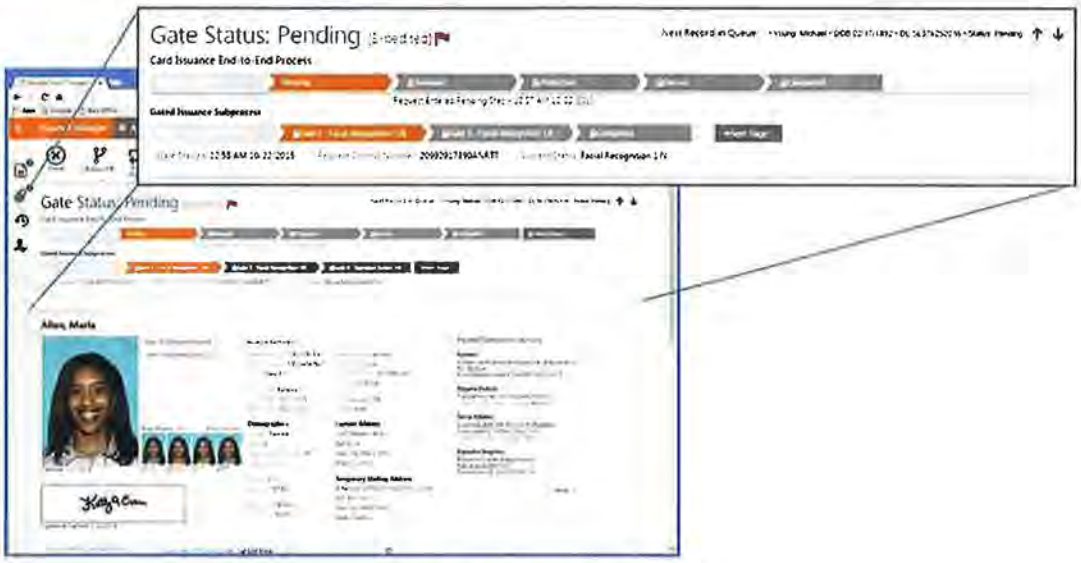


Figure 242: Transaction Details

Issuance 360 Back Office provides users with a complete view of the status for each credential transaction. The visual overview enables easy determination of where the credential is within the overall workflow

Issuance 360 Back Office allows the DMV to manage the entire DL/ID issuance process efficiently by:

- Automating the time-consuming task of manually finding and managing exceptions for greater efficiency, freeing staff to focus on other priorities and initiatives
- Tracking operations metrics for compliance reporting and process improvement analysis through

standard reports with valuable information on volumes, trends, and patterns that support informed decision-making, including a consolidated list of daily exceptions enabling immediate follow up and resolution

- Providing real-time visibility across key steps in processing issuance transactions and producing DL/ID credentials

For greatest flexibility, the system processes issuance gates sequentially or in parallel depending on specific State requirements. Once all the gates are passed, the issuance transaction is released to the card facility for production.

Only DMV users with the proper authority and security levels can release an applicant credential from a gate. Configured according to your business rules, gates can be time limited by the DMV so that credentials don't wait too long for adjudication. During the design phase of the project, we will work with the DMV to determine the most effective implementation of the gate configuration.

Issuance 360 Back Office exchanges image data (e.g., portrait, signature, and document scans) with capture workstations and manages the transaction lifecycle, including storage of the data.

Once a transaction is initiated, Issuance 360 Back Office maintains the current status of all cards and batches throughout the issuance process and runs cards through one or more preset "gates" used to qualify the applicant, before the cards are produced. One common gate is Biometric Identification, where the portrait is run through Issuance 360 Back Office's Biometric Identification subsystem (facial recognition) for enrollment and identification. Only if an applicant's record passes this step will the credential be sent to the factory for production.

Figure 243 shows the architecture of the Issuance Manager component of our Issuance 360 Back Office solution and how it integrates with the overall solution.

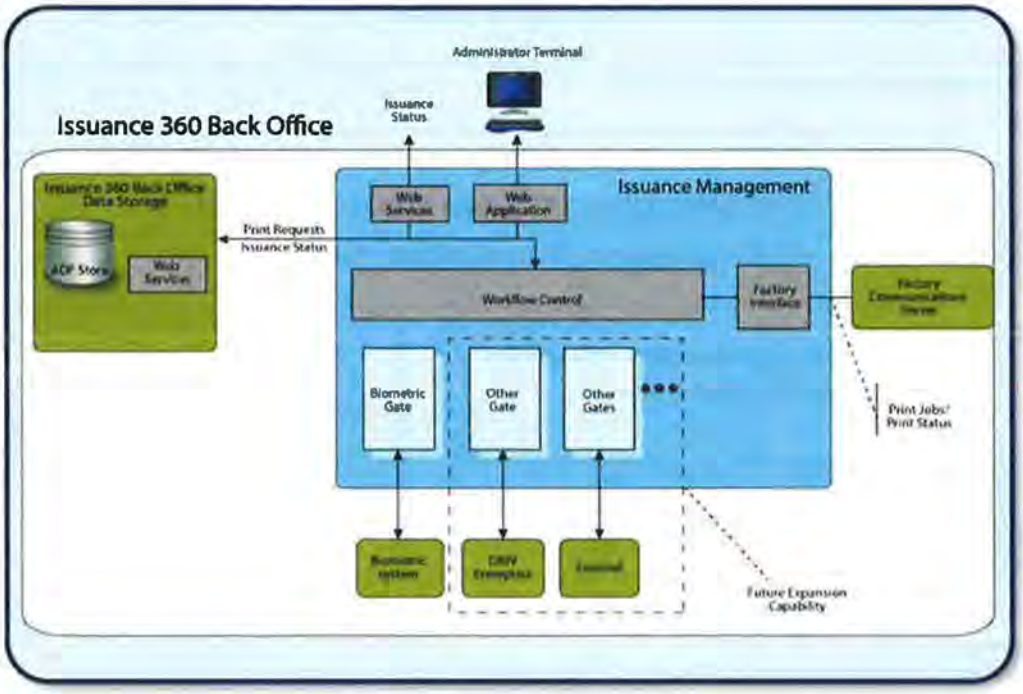


Figure 243: Issuance Manager Solution and Architecture provides integration between key system components and allows for configurable issuance gates

Once approved through the configured "gates," the transaction is added to the job to be sent over a secure Virtual Private Network (VPN) to the manufacturing facility. Jobs containing document transactions for permanent document production and delivery are sent through the Factory Management System (FMS), which can divert transactions to the secondary factory if required. Production results are received from the factory and forwarded to the State system of record to complete final processing.

U. Administrative Functions
b. Specific requirements

156. Describe how your solution meets the requirements in Section V. Project Description and Scope of Work, U. Administrative Functions, 2 through 7 and address each requirement separately.

✓ **IDEMIA USA complies.**

Below are our responses to the requirements described in Section V. Project Description and Scope of Work, U. Administrative Functions, 2 through 7:

2. *Provide access to documents with exceptions blocking card production.*
3. *Allow DMV staff with administrator privileges access to deny issuance or override exceptions allowing production of the card.*
4. *Allow DMV staff with administrator privileges to deny issuance of a document up to the point the document is printed.*

Starting at the My Tasks dashboard, authorized DMV users with proper administrative privileges can access exception queues to inquire about or adjudicate exceptions (Figure 244).

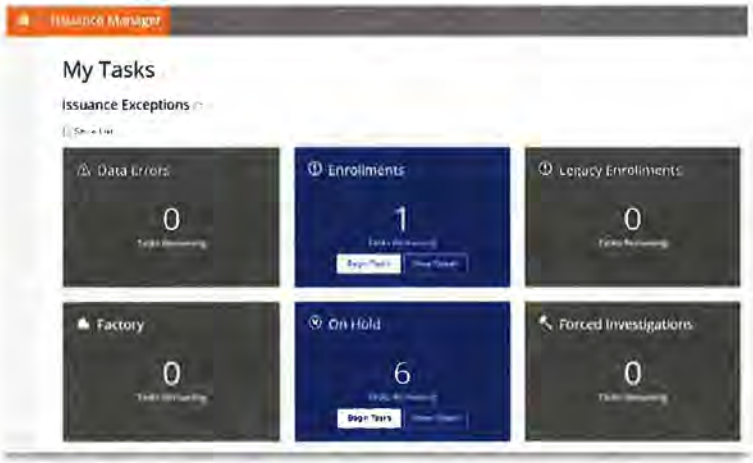


Figure 244: The "My Tasks" dashboards organizes assigned work into exception queues

When encountering an exception, DMV users have three options, shown in Figure 245. They may:

- Deny the issuance
- Override exceptions by removing a hold which allows the issuance to proceed to card production (assuming it's the next step in the workflow)
- Assign the issuance to an investigator

Figure 245: Issuance processing is simple and intuitive

5. *Allow DMV staff with administrator privileges to restart the production process of a document after denied.*
6. *Allow DMV staff with administrator privileges to void images associated with a record holder.*

In the normal course of events, an issuance is provisionally denied until a user with administrator privileges either permanently denies (shown in Figure 246), voids (permanently denies and un-enrolls), or removes a hold, thus restarting the production process.

Figure 246: Fraudulent issuances can be permanently denied with the click of a button

7. *Allow DMV staff with administrative privileges to adjust the threshold utilized for 1:1,1:history, and 1:Many facial recognition processes.*

The Administration area of Issuance 360 Back Office allows DMV users with the proper authority to modify the threshold for 1:1,1:History, and 1:Many facial recognition processes, as shown in Figure 247.

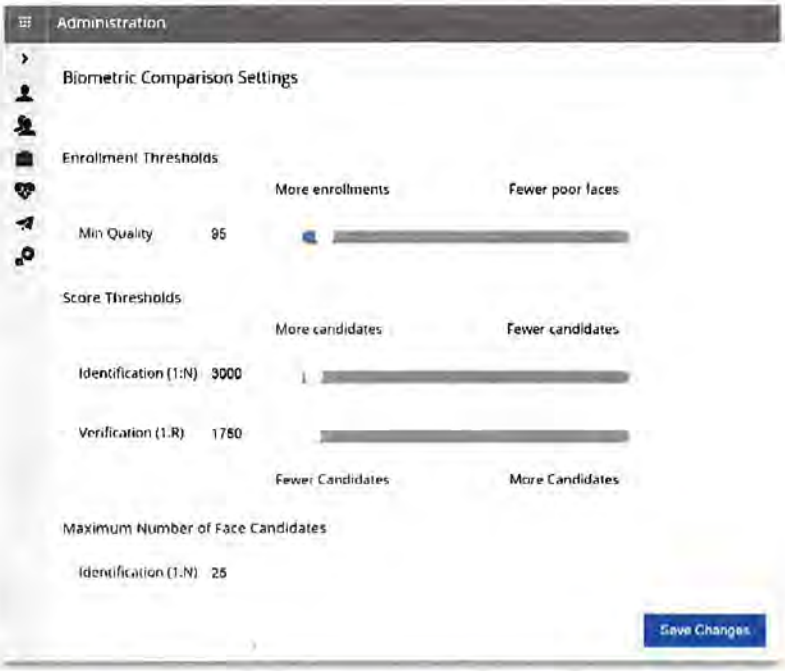


Figure 247: Configurable thresholds help manage the number of potential issuance holds

Although easily changed, we recommend that once set, the threshold remains. During the design phase, we will work with the DMV to set a threshold that best balances your staff vs the potential for fraud.

U. Administrative Functions

c. Security

SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL. Answers shall be included in the bid package in a separate sealed envelope (separate from any other components).

157. How will your solution support the requirement that undercover law enforcement licenses are kept from moving through the facial recognition process?

✓ **IDEMIA USA complies.**

Please see our separate, sealed envelope titled "SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL" for details regarding how will our solution supports the requirement that undercover law enforcement licenses are kept from moving through the facial recognition process.

V. Independent Features of the Credentialing Solution

a. Approach

158. Describe how your solution meets the requirements in Section V. Project Description and Scope of Work, V. Independent Features of the Credentialing Solution.

✓ **IDEMIA USA complies.**

Below are our responses to the requirements described in Section V. Project Description and Scope of Work, V. Independent Features of the Credentialing Solution:

1. *The solution shall have the capability to view one or all historical valid and voided images and signatures via a stand-alone web application.*

Our solution allows DMV staff to view one or all historical valid or voided images and signatures. Because Issuance 360 Back Office focuses on the person rather than the transaction, it allows the DMV to navigate easily between the search results list, individual detail records, and back to the search results list (see Figure 248) without searching again.

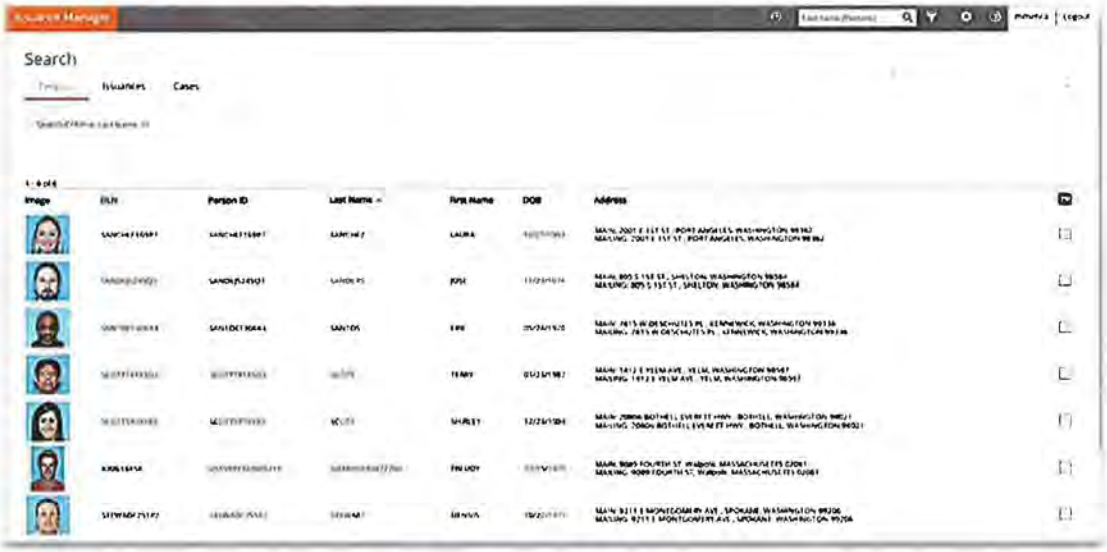


Figure 248: Search Results

Search results are shown in an easy-to-read format.

By clicking on a transaction, Issuance 360 Back Office displays detailed information about the applicant. Figure 249 shows an applicant record using the "card view" to display the historical issuances.

Figure 249: History View

A DMV user can click on "Show List" or "Show Photos" to get a different view of the data quickly, as shown in Figure 250.

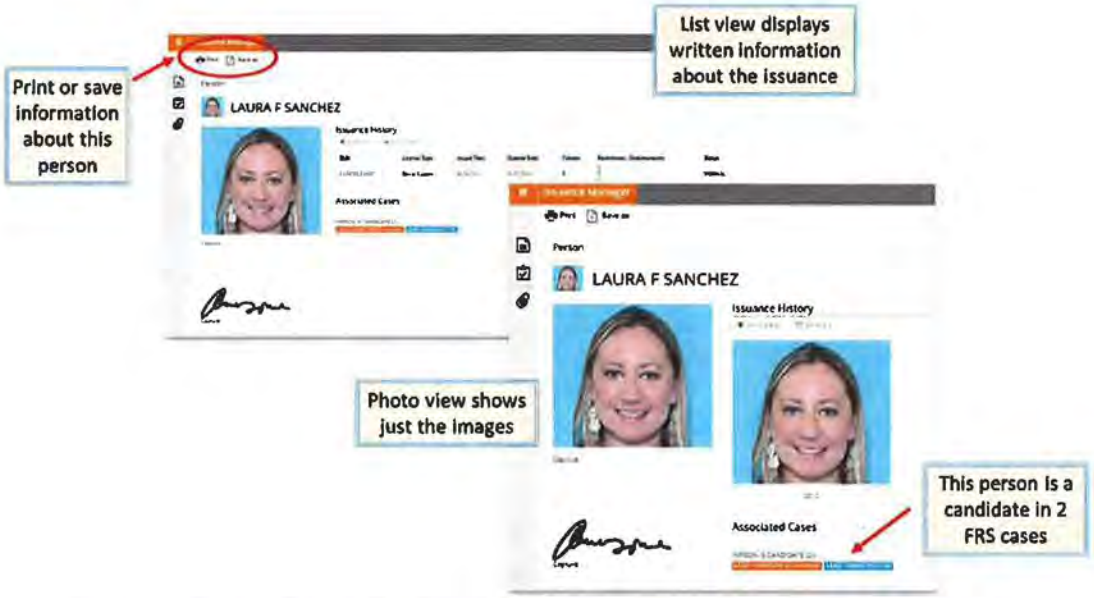


Figure 250: Issuance 360 Back Office makes it easy to find information about an applicant

Shown in Figure 251, the default search result is the most recent historical issuance (shown here in "card view") along with all historical issuances. If the DMV user wants to look at the other issuances, he/she simply clicks on the other card, and that record will be displayed. The default view is configurable, and we will work with the DMV to design the most suitable method the supports your business needs.

Figure 251: Issuance History makes it easy to find current and historical issuance data

2. *This solution shall be capable of comparing images and signatures of one applicant against another on the database.*

Our solution is capable of comparing images and signatures of one applicant against another on the database. The 1:N facial recognition function generates a list of applicants whose identity needs to be investigated further (known as probe candidates). This process renders a numerical match score to show the likelihood of a match. Records that exceed a configurable threshold indicate possible fraud and populate a queue for manual review.

The list of probe candidates can be sorted in ascending or descending order by clicking on a configurable column heading. In Figure 252, the list is sorted by last name. The DMV has the ability to sort by multiple fields that are defined by the State.

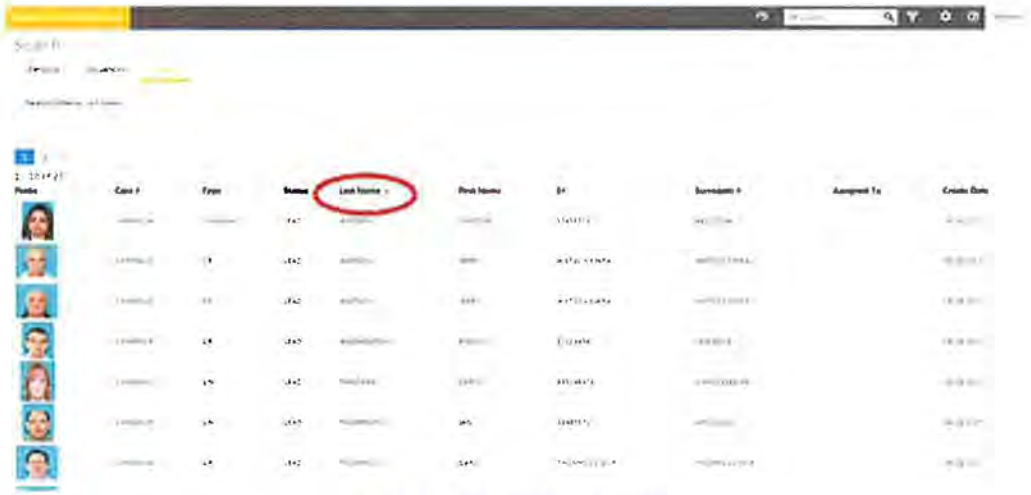


Figure 252: Search Cases

DMV staff can click on the heading title to format search criteria in either ascending for descending order. The sorted field is circled in red.

When an authorized user clicks on one of the probe images, he/she can view the results for that specific record. Images are organized in descending order of match score, where the closest match is displayed first. Differences between the demographic data in the record are highlighted in the image compare (as shown below in Figure 253) in order to show the DMV user where the red flags are quickly, improving his/her productivity.

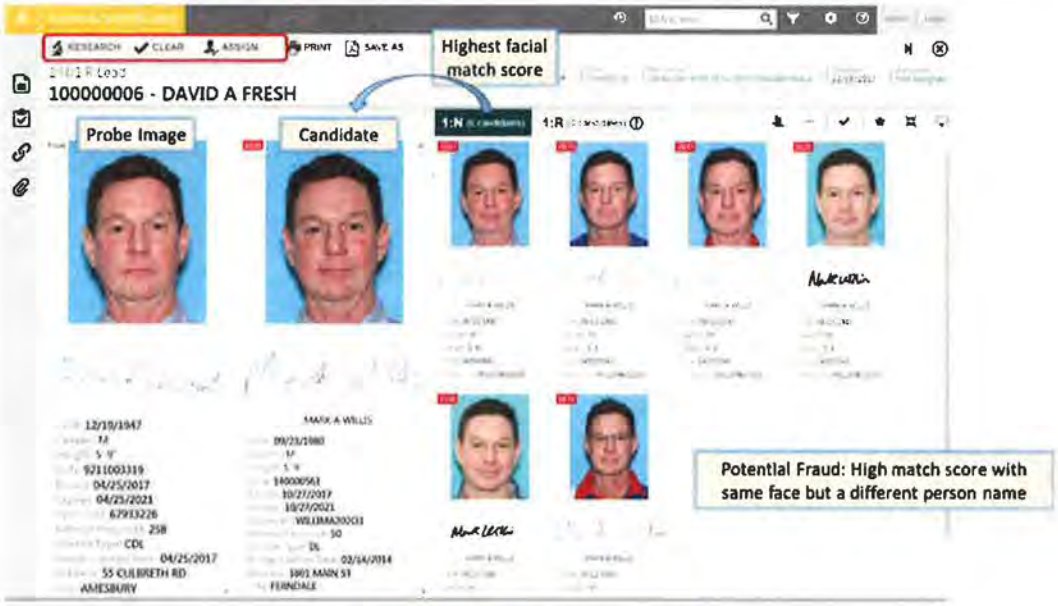


Figure 253: Image Comparison

Highlighted differences in demographic data speed the investigative process.

DMV investigators can choose facial images of subjects that are potential matches for side-by-side comparisons. The system allows the user to overlay images (as shown in Figure 254) to perform the following functions:

- Assess vertical and horizontal aspects of subject images
- Zoom in on images for a closer look at moles, scars, laugh lines, and other facial features
- Rotate images to thwart the mind's tendency to look for likenesses instead of differences
- Adjust image colors to highlight skin tones and textures

Figure 254: Dynamic Image Compare

Dynamic Image Compare provides investigators with detailed controls to zoom, rotate, color shift, and overlay images to facilitate rapid decision-making.

3. *The solution shall allow saving and/or printing results of the views described above.*

Authorized DMV users can very simply save or print the results of a comparison from the Lead, Case, or Investigation screens in the Biometric Identification section of Issuance 360 Back Office. At the top of each screen are icons (shown in Figure 255) for the DMV investigator to generate a dossier as a PDF, which can be saved for later use and/or printed.

Figure 255: Save and Print Dossier

Authorized DMV investigators have options to create three types of dossiers: 1:N, 1:R, or side-by-side. Figure 256 shows the popup for generating a dossier of any of these types, Figure 257 shows a sample 1:N dossier, and Figure 258 shows a sample side-by-side dossier.

Figure 256: Generate Dossier Screen

LEAD REPORT - 100000009

Top 3 Matching Candidates
Threshold: 3000

Score: 6142.00
Name: ART MCDAVIS
DLN: 10001000
Person ID: 10001000
Source: DMV

Score: 5830.00
Name: han SOLO
DLN: newhope
Person ID: newhope
Source: DMV

Score: 5111.00
Name: MARK A WILLIS
DLN: 140000561
Person ID: WILLIMA20203
Source: DMV

Demographics	
Name	clancy obrien
DLN	10001004
Person ID	10001004
Source	DMV

Notes
No notes have been created

Figure 257: 1:N Dossier

COMPARISON REPORT

Demographics	
Name	clancy obrien
Date of Birth	02/02/1980
DLN	10001004
Person ID	10001004
Source	DMV

Residential Address
300 WAKE FOREST ROAD, DURHAM, WEST_VIRGINIA 39393

Mailing Address

Demographics	
Name	ART MCDAVIS
Date of Birth	01/01/1970
DLN	10001000
Person ID	10001000
Source	DMV

Residential Address
123 MAIN STREET, WHEELING, WEST_VIRGINIA 77489

Mailing Address

Notes
No notes have been created

Notes
No notes have been created

Figure 258: Side-by-Side Dossier

W. Project Planning and Management

a. Schedule

159. Provide a proposed project schedule for this project including a timeline identifying all major tasks.

✓ **IDEMIA USA complies.**

We have developed the following detailed Draft Project Work/Implementation Schedule that identifies key project phases, activities, and tasks as well as other critical information, including estimates of activity duration, project team responsibilities, and dependencies between project tasks and milestones. A final schedule will be provided at the end of the Project Initiation and Planning phase.

The following page contains our detailed draft project schedule for the Nebraska CATS solution. We will work collaboratively with the DMV to finalize and agree upon an attainable schedule.

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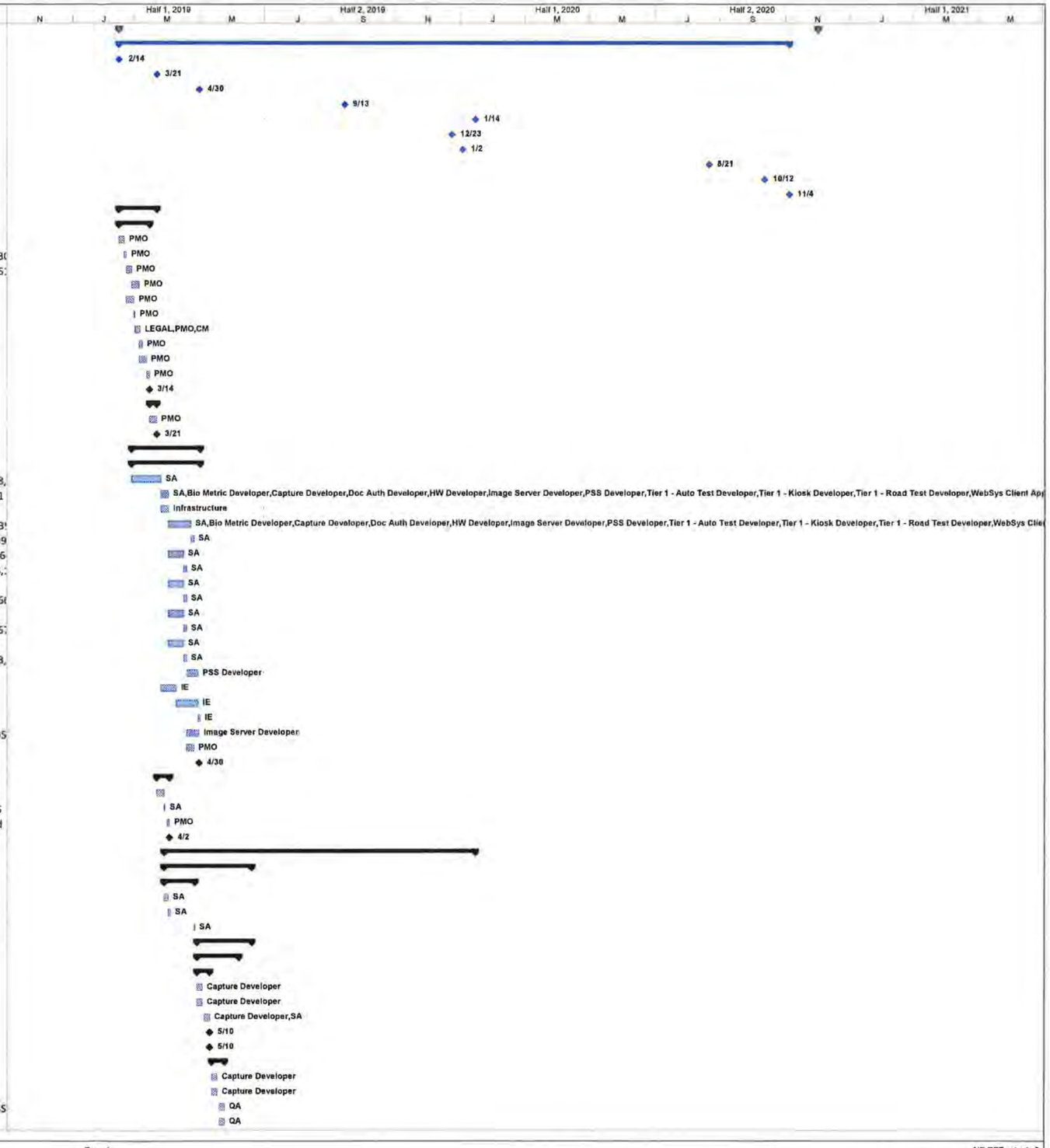
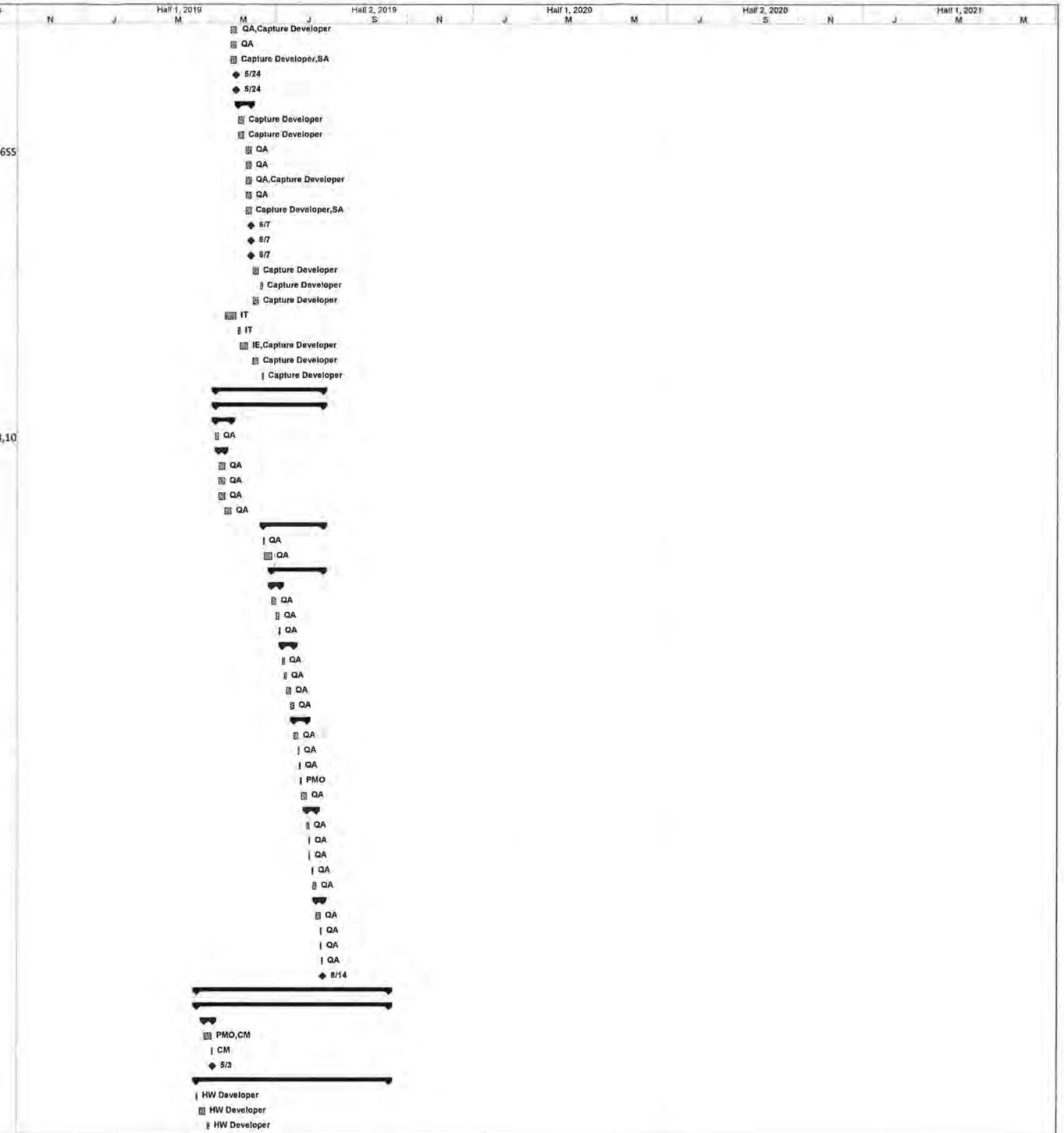
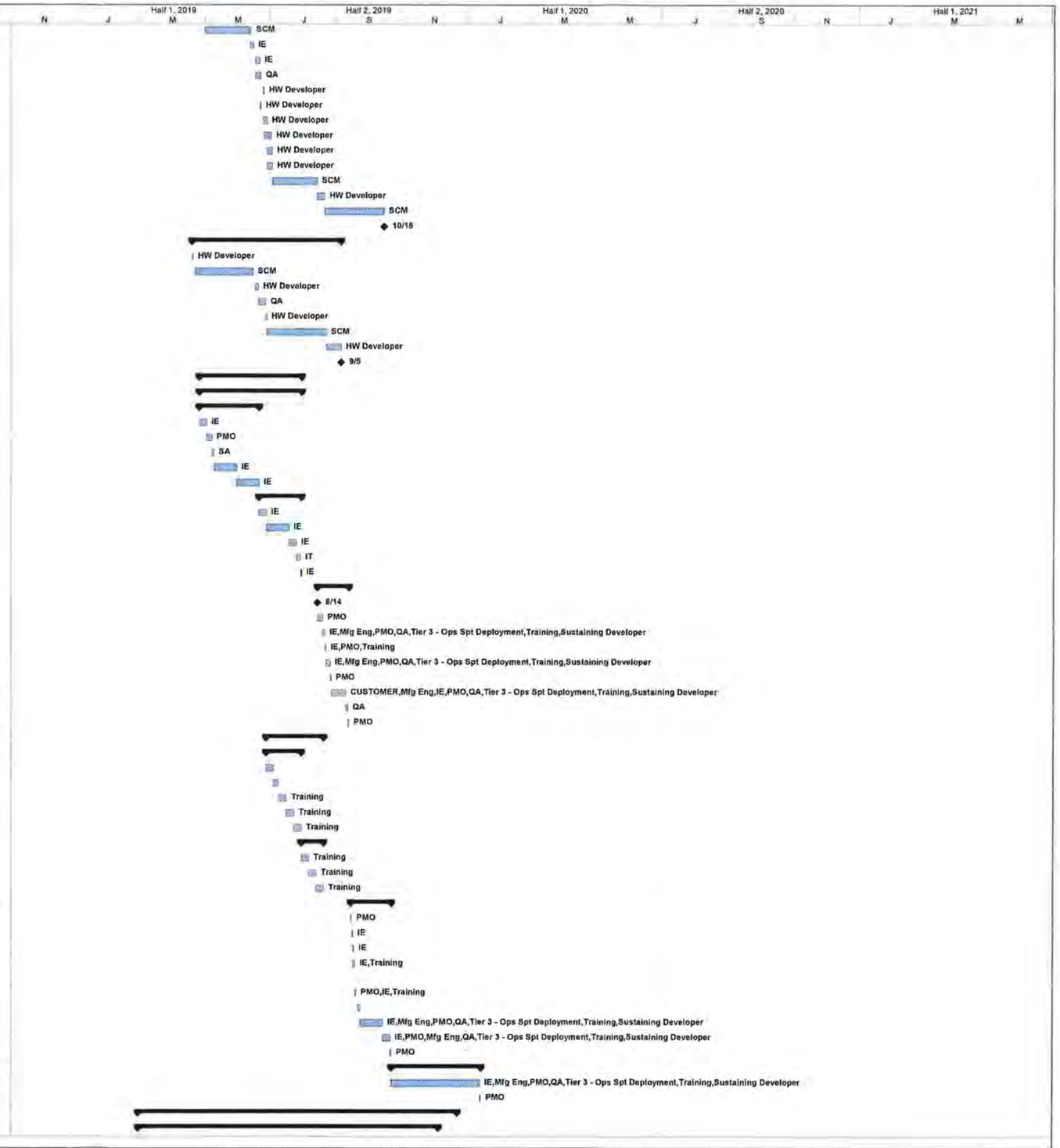
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
0	**Nebraska CATS**	**469 d**	**Thu 2/14/19**	**Tue 12/1/20**		
1	**Key Milestones**	**450 d**	**Thu 2/14/19**	**Wed 11/4/20**		
2	Contract Award	0 d	Thu 2/14/19	Thu 2/14/19	14SS	
3	Planning Complete	0 d	Thu 3/21/19	Thu 3/21/19	27	
4	Requirements Complete	0 d	Tue 4/30/19	Tue 4/30/19	49	
5	Phase 1 UAT Complete	0 d	Fri 9/13/19	Fri 9/13/19	194	
6	Phase 1 Deployment Complete	0 d	Tue 1/14/20	Tue 1/14/20	218	
7	Phase 2 Deployment Complete	0 d	Mon 12/23/19	Mon 12/23/19	219	
8	Card Design Complete	0 d	Thu 1/2/20	Thu 1/2/20	531	
9	Phase 3 UAT Complete	0 d	Fri 8/21/20	Fri 8/21/20	194,770	
10	Phase 3 Deployment Complete	0 d	Mon 10/12/20	Mon 10/12/20	218,804	
11	Transition to Ops	0 d	Wed 11/4/20	Wed 11/4/20	817	
12	**Planning**	**26 d**	**Thu 2/14/19**	**Thu 3/21/19**		
13	**Program Initiation, Planning & On-Going Project Management**	**21 d**	**Thu 2/14/19**	**Thu 3/14/19**		
14	Review Gate 4 package and material (including materiality review)	3 d	Thu 2/14/19	Mon 2/18/19		15,22,25S
15	Contract Execution - task renamed	2 d	Tue 2/19/19	Wed 2/20/19	14	16,19,821,18,3
16	Define contractually obligated key milestones/deliverables, including SOW	3 d	Thu 2/21/19	Mon 2/25/19	15	174,17,21,30,5
17	Prepare Project Workbook/Project Management Plans	5 d	Tue 2/26/19	Mon 3/4/19	16	21
18	Set up Team Meetings and time codes with Finance per the latest revised WBS/BBS structu	5 d	Thu 2/21/19	Wed 2/27/19	15	19
19	Kick off Project	1 d	Thu 2/28/19	Thu 2/28/19	15,18	20,22
20	Review & ensure Compliance with escrow agreements, if applicable	3 d	Fri 3/1/19	Tue 3/5/19	19	821,732
21	Obtain Customer signoff on all contractualy obligated deliverables, including SOW	3 d	Tue 3/5/19	Thu 3/7/19	16,17	22SS,26,413
22	Develop Full MS project schedule using std pmo template	5 d	Tue 3/5/19	Mon 3/11/19	21SS,19,14	23
23	Obtain Customer approval of schedule	3 d	Tue 3/12/19	Thu 3/14/19	22	24,26
24	Program Management Tasks thru period of performance	0 d	Thu 3/14/19	Thu 3/14/19	23	824
25	**Gate 5**	**5 d**	**Fri 3/15/19**	**Thu 3/21/19**		
26	Prepare and Conduct Gate 5 Startup Review	5 d	Fri 3/15/19	Thu 3/21/19	21,23	27,51
27	Gate 5 Startup Complete	0 d	Thu 3/21/19	Thu 3/21/19	26	3
28	**Requirements and Preliminary System Design**	**47 d**	**Tue 2/26/19**	**Wed 5/1/19**		
29	**Requirements**	**47 d**	**Tue 2/26/19**	**Wed 5/1/19**		
30	Perform Requirement Analysis	20 d	Tue 2/26/19	Mon 3/25/19	15SS,16	31,33,35,37,48,
31	Develop High level System Design Architecture	5 d	Tue 3/26/19	Mon 4/1/19	30	33,35,37,39,41
32	Develop Infrastructure Design	5 d	Tue 3/26/19	Mon 4/1/19	30	33,35
33	Develop Functional Specification	15 d	Tue 4/2/19	Mon 4/22/19	31,30,32	34,35SS,37SS,3
34	Functional Specification Document & Customer Sign-Off Obtained	3 d	Tue 4/23/19	Thu 4/25/19	33	60,141,174,199
35	Develop Platform Specification	10 d	Tue 4/2/19	Mon 4/15/19	31,33SS,30,32	36,37SS,631,66
36	Platform Specification Customer Sign-Off Obtained	3 d	Tue 4/16/19	Thu 4/18/19	35	60,142,174,48,
37	Develop Network Architecture Document (NAD)	10 d	Tue 4/2/19	Mon 4/15/19	31,33SS,35SS,	38
38	NAD Customer Sign-Off Obtained	3 d	Tue 4/16/19	Thu 4/18/19	37	60,48,49,570,6
39	Develop Interface Control Document	10 d	Tue 4/2/19	Mon 4/15/19	31,33SS	40,667,104
40	Interface Control Document & Customer Sign-Off Obtained	3 d	Tue 4/16/19	Thu 4/18/19	39	60,48,49,545,5
41	Develop Data Dictionary	10 d	Tue 4/2/19	Mon 4/15/19	31,33SS	42,667,104
42	Data Dictionary Internal Review / Approval	3 d	Tue 4/16/19	Thu 4/18/19	41	47,48,60,49,43,
43	Creation of XSD Schema	7 d	Fri 4/19/19	Mon 4/29/19	42	572
44	Develop Data Conversion Plan and Mapping	10 d	Tue 3/26/19	Mon 4/8/19	30	45,639
45	Data converison Plan Review,Updates, Feedback by Customer	15 d	Tue 4/9/19	Mon 4/29/19	44	46
46	Data Conversion Plan Customer Sign-Off Obtained	2 d	Tue 4/30/19	Wed 5/1/19	45	
47	Obtain/Develop Reference Folio and Sample Folio (Factory)	8 d	Fri 4/19/19	Tue 4/30/19	42	49,545,668,105
48	Validate Detail Schedule and Baseline for changes	5 d	Fri 4/19/19	Thu 4/25/19	36,40,42,38,3	60,570
49	Requirements Complete	0 d	Tue 4/30/19	Tue 4/30/19	34,36,38,40,42	4
50	**Preliminary Design Review (PDR)**	**8 d**	**Fri 3/22/19**	**Tue 4/2/19**		
51	Prepare PDR	5 d	Fri 3/22/19	Thu 3/28/19	16,26	52
52	Conduct PDR	1 d	Fri 3/29/19	Fri 3/29/19	51	53,58SS,568SS
53	Obtain PDR Team Approval	2 d	Mon 4/1/19	Tue 4/2/19	52	54,564FS+20 d
54	Preliminary Design Review Complete	0 d	Tue 4/2/19	Tue 4/2/19	53	
55	**Phase 1 Web Enrollment Front Office**	**208 d**	**Fri 3/29/19**	**Tue 1/14/20**		
56	**Front Office Software Development**	**59 d**	**Fri 3/29/19**	**Wed 6/19/19**		
57	**System Detail Design**	**21 d**	**Fri 3/29/19**	**Fri 4/26/19**		
58	Prepare a development plan and approach	2 d	Fri 3/29/19	Mon 4/1/19	52SS	59
59	Develop System (Detail) Design	2 d	Tue 4/2/19	Wed 4/3/19	58	60
60	Obtain System (Detail) Design Team Approval	1 d	Fri 4/26/19	Fri 4/26/19	36,40,42,59,3	464
61	**Issuance Front Office - Enrollment/Capture Systems**	**38 d**	**Mon 4/29/19**	**Wed 6/19/19**		
62	**Issuance Front Office - Enrollment/Capture Systems**	**30 d**	**Mon 4/29/19**	**Fri 6/7/19**		
63	**Sprint 1 - Interface/Workflow Design**	**10 d**	**Mon 4/29/19**	**Fri 5/10/19**		
64	Front Office Interfaces	5 d	Mon 4/29/19	Fri 5/3/19	60	65SS
65	Front Office Workflows	5 d	Mon 4/29/19	Fri 5/3/19	64SS	66
66	Backlog Refinement	5 d	Mon 5/6/19	Fri 5/10/19	65	70,67
67	Product Requirements Implementation (x out of y Requirements)	0 d	Fri 5/10/19	Fri 5/10/19	66	68SS
68	Product Requirements Test Status	0 d	Fri 5/10/19	Fri 5/10/19	67SS	
69	**Sprint 2 - Interface/Workflow Implementation**	**10 d**	**Mon 5/13/19**	**Fri 5/24/19**		
70	Front Office Interfaces	5 d	Mon 5/13/19	Fri 5/17/19	66	71SS,72
71	Front Office Workflows	5 d	Mon 5/13/19	Fri 5/17/19	70SS	72
72	Functional Testing	5 d	Mon 5/20/19	Fri 5/24/19	70,71	74SS,75SS,76SS
73	Performance Testing	5 d	Mon 5/20/19	Fri 5/24/19	72SS	77,78



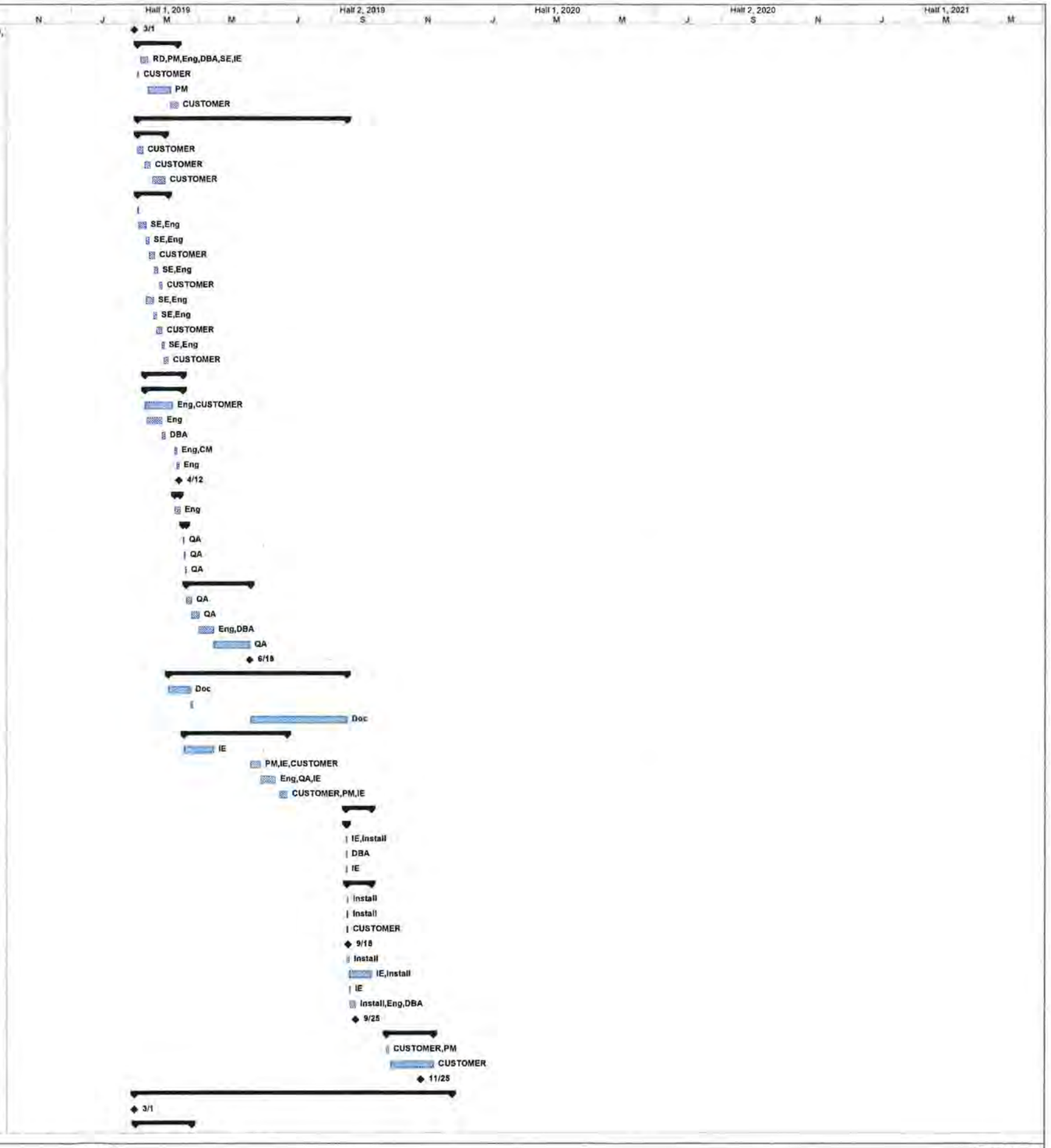
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
74	Bug Fixing	5 d	Mon 5/20/19	Fri 5/24/19	72SS	
75	Automated Data Verification	5 d	Mon 5/20/19	Fri 5/24/19	72SS	
76	Backlog Refinement	5 d	Mon 5/20/19	Fri 5/24/19	72SS	80
77	Product Requirements Implementation (x out of y Requirements)	0 d	Fri 5/24/19	Fri 5/24/19	72,73	
78	Product Requirements Test Status	0 d	Fri 5/24/19	Fri 5/24/19	72,73	
79	**Sprint 3 - Final Interface/Workflow Implementation**	**10 d**	**Mon 5/27/19**	**Fri 6/7/19**		
80	Front Office Interfaces	5 d	Mon 5/27/19	Fri 5/31/19	76	81SS,82
81	Front Office Workflows	5 d	Mon 5/27/19	Fri 5/31/19	80SS	82
82	Functional Testing	5 d	Mon 6/3/19	Fri 6/7/19	80,81	84SS,85SS,86SS
83	Performance Testing	5 d	Mon 6/3/19	Fri 6/7/19	82SS	87,88
84	Bug Fixing	5 d	Mon 6/3/19	Fri 6/7/19	82SS	
85	Automated Data Verification	5 d	Mon 6/3/19	Fri 6/7/19	82SS	
86	Backlog Refinement	5 d	Mon 6/3/19	Fri 6/7/19	82SS	
87	Product Requirements Implementation (x out of y Requirements)	0 d	Fri 6/7/19	Fri 6/7/19	82,83	
88	Product Requirements Test Status	0 d	Fri 6/7/19	Fri 6/7/19	82,83	89
89	Enrollment/ Capture Systems Development Complete	0 d	Fri 6/7/19	Fri 6/7/19	88	90,92,96
90	Integrate Enrollment / Capture Systems Development	5 d	Mon 6/10/19	Fri 6/14/19	89	91,97
91	Fortify Scan Audit & Remediation	2 d	Mon 6/17/19	Tue 6/18/19	90	97
92	Complete Enrollment/Capture system documentation	5 d	Mon 6/10/19	Fri 6/14/19	89	814
93	Review Customer Provided Artifacts	8 d	Wed 5/15/19	Fri 5/24/19	34FS+13 d	94
94	Conduct H/W & S/W Readines Review	2 d	Mon 5/27/19	Tue 5/28/19	93	95
95	Load & Configure S/W Application in DevInt Environment	5 d	Wed 5/29/19	Tue 6/4/19	94	97
96	System integration test with IS	5 d	Mon 6/10/19	Fri 6/14/19	89	97
97	Turnover Enrollment/Capture Systems to QA	1 d	Wed 6/19/19	Wed 6/19/19	96,91,90,95	108
98	**QA Testing**	**73 d**	**Mon 5/6/19**	**Wed 8/14/19**		
99	**QA S/W Testing**	**73 d**	**Mon 5/6/19**	**Wed 8/14/19**		
100	**Program Test Specification and Tools Development**	**11 d**	**Mon 5/6/19**	**Mon 5/20/19**		
101	Develop QA Test plan	3 d	Mon 5/6/19	Wed 5/8/19	566,16,33,35	703,105,103,10
102	**Develop SW Test Tools**	**4 d**	**Thu 5/9/19**	**Tue 5/14/19**		
103	Develop Data generator	4 d	Thu 5/9/19	Tue 5/14/19	101	545
104	Develop Load & Performance Scripts	4 d	Thu 5/9/19	Tue 5/14/19	39,41,101	109
105	Develop QA Test Specification (Test Cases)	4 d	Thu 5/9/19	Tue 5/14/19	101,36,40,47,4	106
106	Develop UAT Specification (Customer Acceptance Test (CAT) Cases)	4 d	Wed 5/15/19	Mon 5/20/19	105	814
107	**Program Testing**	**40 d**	**Thu 6/20/19**	**Wed 8/14/19**		
108	Receive Turnover from Development (QA Checklist)	1 d	Thu 6/20/19	Thu 6/20/19	97	109
109	Program Set up, Configuration, and Installation	5 d	Fri 6/21/19	Thu 6/27/19	104,108,36	112,197
110	**QA System Testing**	**34 d**	**Fri 6/28/19**	**Wed 8/14/19**		
111	**Test Round 1: Module Functional Testing**	**6 d**	**Fri 6/28/19**	**Fri 7/5/19**		
112	Conduct Design/Unit Testing Verification	2 d	Fri 6/28/19	Mon 7/1/19	109	113
113	Conduct Round 1 Bug's Fixes	3 d	Tue 7/2/19	Thu 7/4/19	112	114,116
114	Conduct Defects Verification and Design Validation	1 d	Fri 7/5/19	Fri 7/5/19	113	116
115	**Test Round 2: System End-to-End Testing**	**9 d**	**Mon 7/8/19**	**Thu 7/18/19**		
116	Conduct System Functional Testing	2 d	Mon 7/8/19	Tue 7/9/19	113,114	117
117	Conduct Performance & Load Testing	2 d	Wed 7/10/19	Thu 7/11/19	116	118,121
118	Conduct Legacy Conversion Testing	2 d	Fri 7/12/19	Mon 7/15/19	117	119
119	Conduct Round 2 Bug's Fixes	3 d	Tue 7/16/19	Thu 7/18/19	118	121
120	**Test Round 3: Defects Verification & System Regression Testing, UAT Builds**	**8 d**	**Fri 7/19/19**	**Tue 7/30/19**		
121	Conduct UAT Candidates Builds Certification	2 d	Fri 7/19/19	Mon 7/22/19	117,119	122
122	Release to Customer Audit Report: QA Turnover to UAT	1 d	Tue 7/23/19	Tue 7/23/19	121	123,766
123	Release UAT Builds to IE /CM	1 d	Wed 7/24/19	Wed 7/24/19	122	124
124	Obtain Customer Approval of UAT Spec	1 d	Thu 7/25/19	Thu 7/25/19	123	125
125	Conduct Round 3 Bug's Fixes	3 d	Fri 7/26/19	Tue 7/30/19	124	127
126	**Test Round 4: Defects Verification & System Regression Testing, Pilot Builds**	**7 d**	**Wed 7/31/19**	**Thu 8/8/19**		
127	Conduct Pilot Candidates Builds Certification	2 d	Wed 7/31/19	Thu 8/1/19	125	128,129
128	Release to Customer Audit Report: QA Handoff to Pilot	1 d	Fri 8/2/19	Fri 8/2/19	127	799
129	Report Fortify Remediation Completion to CM	1 d	Fri 8/2/19	Fri 8/2/19	127	130
130	Release Pilot Builds to IE /CM	1 d	Mon 8/5/19	Mon 8/5/19	129	131,784
131	Conduct Round 4 Bug's Fixes	3 d	Tue 8/6/19	Thu 8/8/19	130	133
132	**Test Round 5: Defects Verification & System Regression Testing, Rollout Builds**	**4 d**	**Fri 8/9/19**	**Wed 8/14/19**		
133	Conduct Production Candidates Builds Certification	2 d	Fri 8/9/19	Mon 8/12/19	131	134,135
134	Release to customer Audit Report: QA Handoff to Production	1 d	Tue 8/13/19	Tue 8/13/19	133	803
135	Report Fortify Remediation Completion to CM	1 d	Tue 8/13/19	Tue 8/13/19	133	136
136	Release Rollout/Production Builds to IE /CM	1 d	Wed 8/14/19	Wed 8/14/19	135	186,137
137	QA complete	0 d	Wed 8/14/19	Wed 8/14/19	136	
138	Integration and Test	**128 d**	**Fri 4/19/19**	**Tue 10/15/19**		
139	**Platform Build**	**128 d**	**Fri 4/19/19**	**Tue 10/15/19**		
140	**Bill of Bills**	**6 d**	**Fri 4/26/19**	**Fri 5/3/19**		
141	Develop Bill of Bills	5 d	Fri 4/26/19	Thu 5/2/19	34	142
142	Obtain Bill of Bills Approval	1 d	Fri 5/3/19	Fri 5/3/19	141,36	143
143	Bill of Bills Complete	0 d	Fri 5/3/19	Fri 5/3/19	142	167
144	**Front Office Equipment**	**128 d**	**Fri 4/19/19**	**Tue 10/15/19**		
45	Review Purchase Req to purchase Dev/QA Quantity	1 d	Fri 4/19/19	Fri 4/19/19	36	146
146	Obtain Purchase Req Approval - Dev/QA Quantity	5 d	Mon 4/22/19	Fri 4/26/19	145	147
147	Submit PO To Vendor(s) - Dev/QA Quantity	2 d	Mon 4/29/19	Tue 4/30/19	146	148



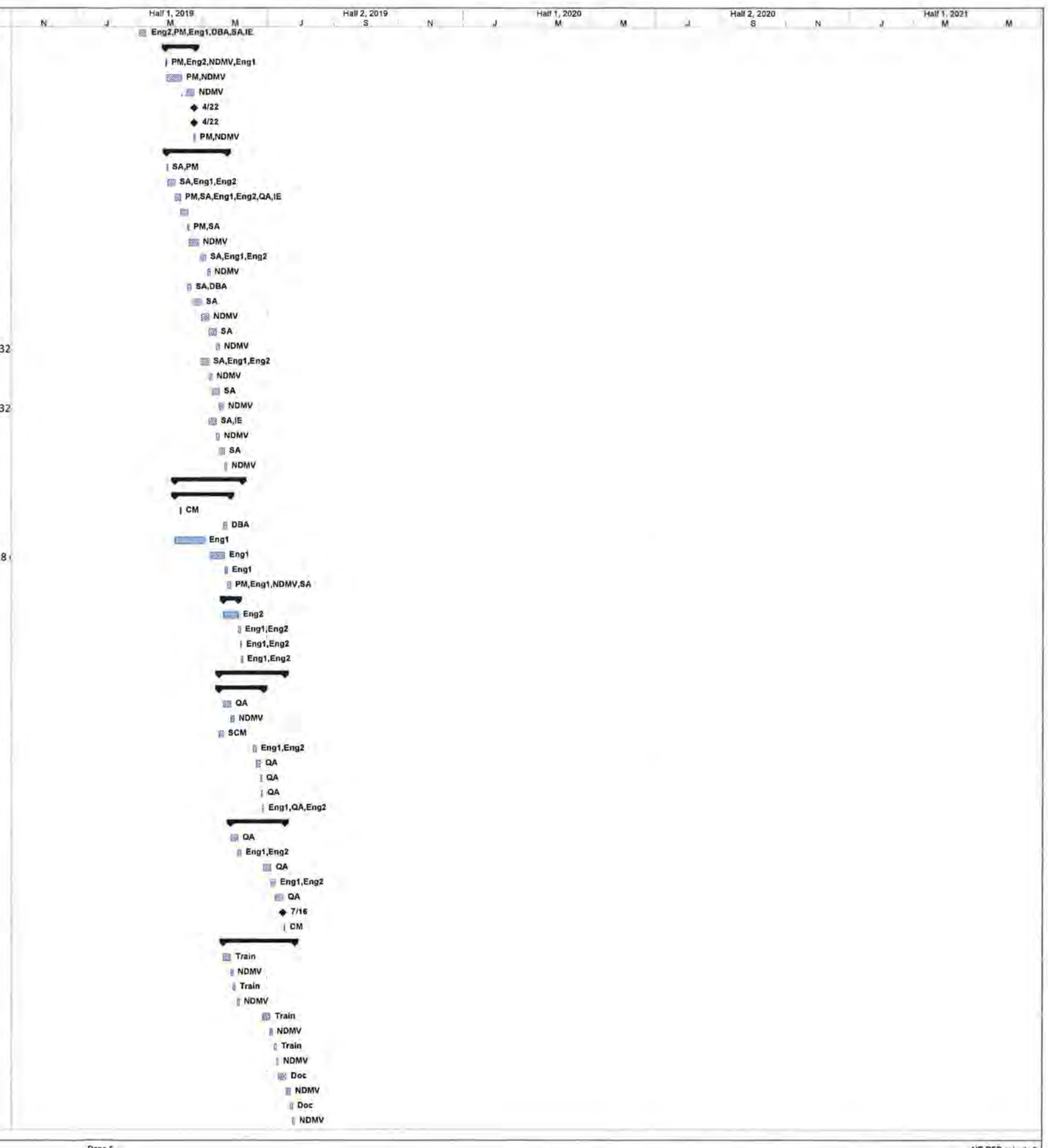
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
148	Purchase Workstations & Peripherals - Dev/QA Quanity	30 d	Wed 5/1/19	Tue 6/11/19	147	149
149	Setup / Audit Workstations & Peripherals - Dev/QA Quantity	3 d	Wed 6/12/19	Fri 6/14/19	148	150,151
150	Document Power & I/O Connections for I & C Guide	4 d	Mon 6/17/19	Thu 6/20/19	149	153
151	Conduct QA Testing & Remediate Issues - Dev/QA Quantity	5 d	Mon 6/17/19	Fri 6/21/19	149	152
152	Handoff Workstations & Peripherals - Dev/QA Quantity to IE	1 d	Mon 6/24/19	Mon 6/24/19	151	155
153	Conduct First Review I & C Guide	1 d	Fri 6/21/19	Fri 6/21/19	150	154
154	Document & Update Power & I/O Connections for I & C Guide	4 d	Mon 6/24/19	Thu 6/27/19	153	156,157
155	Create New Agile PN (as needed)	5 d	Tue 6/25/19	Mon 7/1/19	152	
156	Review Platform Spec (as needed)	3 d	Fri 6/28/19	Tue 7/2/19	154	
157	Conduct Second Review I & C Guide	3 d	Fri 6/28/19	Tue 7/2/19	154	158
158	Purchase Workstations & Peripherals - UAT Quanity	30 d	Wed 7/3/19	Tue 8/13/19	157	159
159	Generate PO Req Workstations & Peripherals - Production Quanity	5 d	Wed 8/14/19	Tue 8/20/19	158	160
160	Purchase Workstations & Peripherals - Production Quantity	40 d	Wed 8/21/19	Tue 10/15/19	159	161
161	Handoff Workstations & Peripherals - Production Quantity to Pilot	0 d	Tue 10/15/19	Tue 10/15/19	160	
162	**Mobile Case**	**100 d**	**Fri 4/19/19**	**Thu 9/5/19**		
163	Identify & Select - Qualified vs Not Qualified - Preliminary approval of Mobile Case per	1 d	Fri 4/19/19	Fri 4/19/19	36	164
164	Procure Preliminary Mobile Cases w/ Pur Req	40 d	Mon 4/22/19	Fri 6/14/19	163	165
165	Development Testing Preliminary Mobile Cases	3 d	Mon 6/17/19	Wed 6/19/19	164	166
166	QA Testing Preliminary Mobile Cases	5 d	Thu 6/20/19	Wed 6/26/19	165	167
167	Obtain Mobile Case BOM Line item Release FULL	1 d	Thu 6/27/19	Thu 6/27/19	166,143	168
168	Procure Full contract quantity Mobile Cases	40 d	Fri 6/28/19	Thu 8/22/19	167	169
169	Perform Mobile Case Set up	10 d	Fri 8/23/19	Thu 9/5/19	168	170
170	Handoff Mobile Cases to Deployment	0 d	Thu 9/5/19	Thu 9/5/19	169	
171	**Pre-UAT Platform Test / Demo**	**68 d**	**Fri 4/26/19**	**Tue 7/30/19**		
172	**Integration Engineering**	**68 d**	**Fri 4/26/19**	**Tue 7/30/19**		
173	**Integration Engineering Planning & Workstations**	**40 d**	**Fri 4/26/19**	**Thu 6/20/19**		
174	Develop UAT Plan	5 d	Fri 4/26/19	Thu 5/2/19	16,36,34	175
175	Obtain Customer Approval of UAT Plan	3 d	Fri 5/3/19	Tue 5/7/19	174	176
176	Obtain Test Environment Site Requirements	2 d	Wed 5/8/19	Thu 5/9/19	175	177
177	Perform Preliminary Workstation System Integration & Testing	15 d	Fri 5/10/19	Thu 5/30/19	176	178
178	Workstation assembly & SW installation (inc. mfg beta build, ghost PC, etc)	15 d	Fri 5/31/19	Thu 6/20/19	177	180
179	**Integration Engineering Environment**	**28 d**	**Fri 6/21/19**	**Tue 7/30/19**		
180	Prepare Environment Specification, internal environment	5 d	Fri 6/21/19	Thu 6/27/19	178	181
181	Conduct Full system integration & testing	15 d	Fri 6/28/19	Thu 7/18/19	180	182
182	Develop & Deliver installation & configuration documents (full I&C and version for d	5 d	Fri 7/19/19	Thu 7/25/19	181	183
183	Remove Temporary QA/Staging Network Routing prior to UAT	2 d	Fri 7/26/19	Mon 7/29/19	182	184
184	Turnover to UAT	1 d	Tue 7/30/19	Tue 7/30/19	183	
185	**UAT**	**22 d**	**Wed 8/14/19**	**Fri 9/13/19**		
186	Receive Handoff HW from Platform Build	0 d	Wed 8/14/19	Wed 8/14/19	136	187
187	Conduct UAT Dry Run	3 d	Thu 8/15/19	Mon 8/19/19	186	188
188	Fix issues from the UAT Dry Run	2 d	Tue 8/20/19	Wed 8/21/19	187	189
189	Prepare / Conduct Gate 6 UAT Readiness Review - GO-NO GO decision	1 d	Thu 8/22/19	Thu 8/22/19	188	190
190	Fix issues from Test Readiness	2 d	Fri 8/23/19	Mon 8/26/19	189	191
191	Release UAT environment to Customer	1 d	Tue 8/27/19	Tue 8/27/19	190	192
192	Customer conducts UAT	10 d	Wed 8/28/19	Tue 9/10/19	191	193,810,811
193	Validate Card Design Specifications with Customer	2 d	Wed 9/11/19	Thu 9/12/19	192	194
194	Obtain UAT Customer Sign Off	1 d	Fri 9/13/19	Fri 9/13/19	193	207,213,9,5
195	**End User Documentation, Training**	**38 d**	**Fri 6/28/19**	**Tue 8/20/19**		
196	**End User Documentation**	**23 d**	**Fri 6/28/19**	**Tue 7/30/19**		
197	Develop Documentation and Training Plan	5 d	Fri 6/28/19	Thu 7/4/19	109	198
198	Review and Approve Documentaion and Training Plan with Customer	3 d	Fri 7/5/19	Tue 7/9/19	197	199
199	Prepare Draft User Manuals (UAT version)	5 d	Wed 7/10/19	Tue 7/16/19	34FS+1 d,198	200
200	Prepare Final User Manuals	5 d	Wed 7/17/19	Tue 7/23/19	199	201
201	Prepare Training Materials - ppt and participant pdf guide	5 d	Wed 7/24/19	Tue 7/30/19	200	203
202	**Training**	**15 d**	**Wed 7/31/19**	**Tue 8/20/19**		
203	Conduct Pre-UAT Training	5 d	Wed 7/31/19	Tue 8/6/19	201	204
204	Conduct Training (TTT or End-User)	5 d	Wed 8/7/19	Tue 8/13/19	203	205
205	Conduct Internal Training, if needed	5 d	Wed 8/14/19	Tue 8/20/19	204	207
206	**Pilot**	**28 d**	**Mon 9/16/19**	**Wed 10/23/19**		**273SS,388SS**
207	Prepare Pilot & Deployment Plan & Schedule	1 d	Mon 9/16/19	Mon 9/16/19	194,205	208
208	Install Production Environment Patching & Configuration	1 d	Tue 9/17/19	Tue 9/17/19	207	209,210
209	Prepare Production Pilot Environment	1 d	Wed 9/18/19	Wed 9/18/19	208	212
210	Conduct Deployment Training (demonstrate/dry-run of field office installation for installers)	2 d	Wed 9/18/19	Thu 9/19/19	208	211
211	Prepare / Conduct Gate 7 Pilot / Roll Out Readiness Review - GO-NO GO decision	1 d	Fri 9/20/19	Fri 9/20/19	210	212
212	Conduct Pilot Training & Installation	2 d	Mon 9/23/19	Tue 9/24/19	209,211	213
213	Conduct Pilot / Go Live	15 d	Wed 9/25/19	Tue 10/15/19	212,194	214
214	Resolve Pilot Issues	5 d	Wed 10/16/19	Tue 10/22/19	213	215
215	Obtain Pilot Customer Sign Off	1 d	Wed 10/23/19	Wed 10/23/19	214	217
216	Deployment	**59 d**	**Thu 10/24/19**	**Tue 1/14/20**		**288SS,400SS**
217	Conduct Field Deployment for Remaining Offices	58 d	Thu 10/24/19	Mon 1/13/20	215	816,818,218
218	Obtain Field Deployment Customer Signoff	1 d	Tue 1/14/20	Tue 1/14/20	217	812,10,6
219	**Phase 2 AutoTest / RoadTest**	**212 d**	**Fri 3/1/19**	**Mon 12/23/19**		**7**
220	**AutoTest Refresh Delivery Program**	**201 d**	**Fri 3/1/19**	**Fri 12/6/19**		



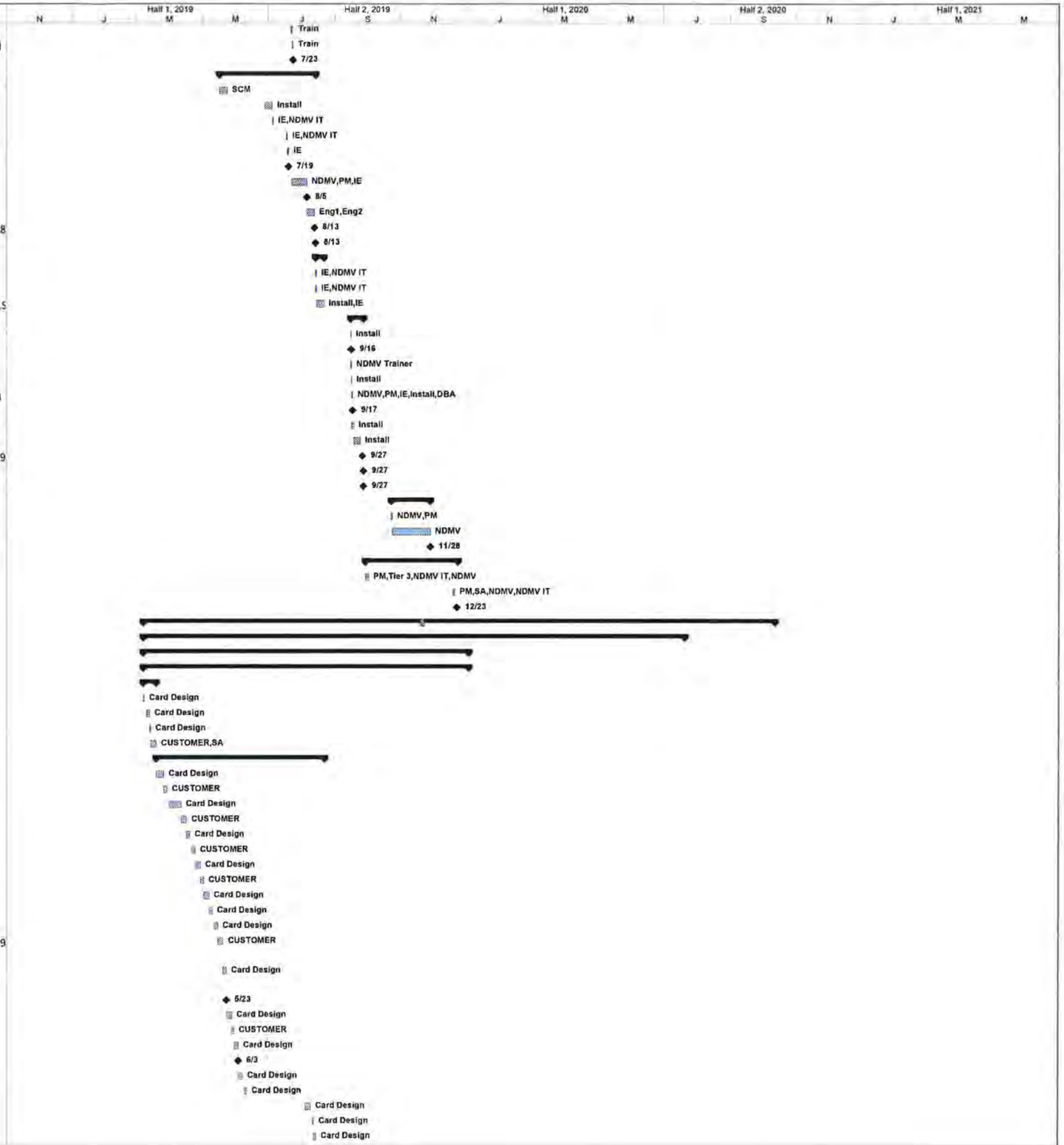
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
221	Kickoff	1 d	Fri 3/1/19	Fri 3/1/19		223FS+3 d,229,
222	**Project Planning**	**28 d**	**Mon 3/4/19**	**Wed 4/10/19**		
223	IDEMIA Team Meetings	5 d	Thu 3/7/19	Wed 3/13/19	221FS+3 d	225
224	VPN Access Granted to Dev team	1 d	Mon 3/4/19	Mon 3/4/19	221	225
225	Develop Project Plan	15 d	Thu 3/14/19	Wed 4/3/19	221,223,224	226
226	Project Plan Approval by customer	5 d	Thu 4/4/19	Wed 4/10/19	225	
227	**System Development**	**141 d**	**Mon 3/4/19**	**Mon 9/16/19**		
228	**Hardware VM Setup (customer)**	**20 d**	**Mon 3/4/19**	**Fri 3/29/19**		
229	VM Setup for Test and Production	5 d	Mon 3/4/19	Fri 3/8/19	221	230,246,247
230	Install SQL Server (iso delivered for IDEMIA install)	5 d	Mon 3/11/19	Fri 3/15/19	229	231
231	Setup sample TS hardware for IDEMIA install/config	10 d	Mon 3/18/19	Fri 3/29/19	230	
232	**Requirements and Documentation**	**21 d**	**Mon 3/4/19**	**Mon 4/1/19**		**265**
233	Provide Development with NE AT specifics (Test type matrix, Itembank, web config)	1 d	Mon 3/4/19	Mon 3/4/19	221	247,234
234	Update Functional Specification	5 d	Tue 3/5/19	Mon 3/11/19	233	235,239
235	Internal Review of FS	3 d	Tue 3/12/19	Thu 3/14/19	234	236
236	Initial Customer Review of FS	3 d	Fri 3/15/19	Tue 3/19/19	235	237
237	Final Internal Review of FS	3 d	Wed 3/20/19	Fri 3/22/19	236	238
238	Review and Signoff FS	2 d	Mon 3/25/19	Tue 3/26/19	237	247FF
239	Develop Interface Control Document (ICD)	5 d	Tue 3/12/19	Mon 3/18/19	234	240
240	Internal Review of ICD	3 d	Tue 3/19/19	Thu 3/21/19	239	241
241	Initial Customer Review of ICD	3 d	Fri 3/22/19	Tue 3/26/19	240	242
242	Final Internal Review of ICD	2 d	Wed 3/27/19	Thu 3/28/19	241	243,246FF
243	Review and Signoff ICD	2 d	Fri 3/29/19	Mon 4/1/19	242	
244	**Software Development and Configuration**	**26 d**	**Mon 3/11/19**	**Mon 4/15/19**		
245	**Develop Customizations**	**26 d**	**Mon 3/11/19**	**Mon 4/15/19**		
246	Interface development and testing	20 d	Mon 3/11/19	Fri 4/5/19	229,242FF	253,249
247	Customer Configuration for TS	10 d	Wed 3/13/19	Tue 3/26/19	229,233,238FF	248,249
248	Update Database Conversion Scripts	3 d	Wed 3/27/19	Fri 3/29/19	247	
249	Create Tinderbox Build	2 d	Mon 4/8/19	Tue 4/9/19	246,247	250
250	Install on MorphoTrust Development Platform	2 d	Wed 4/10/19	Thu 4/11/19	249	251
251	Development Smoke Test	2 d	Fri 4/12/19	Mon 4/15/19	250	255
252	**Itembank updates**	**5 d**	**Mon 4/8/19**	**Fri 4/12/19**		
253	Verify and Integrate new translations/audio	5 d	Mon 4/8/19	Fri 4/12/19	246	259
254	**Hardware Setup for Quality Assurance**	**3 d**	**Tue 4/16/19**	**Thu 4/18/19**		
255	Load Software on Test Station	1 d	Tue 4/16/19	Tue 4/16/19	251	256,257,269
256	Load Examiner and Admin Station	1 d	Wed 4/17/19	Wed 4/17/19	255	257
257	System Development and Setup Complete	1 d	Thu 4/18/19	Thu 4/18/19	255,256	259
258	**Quality Assurance**	**43 d**	**Fri 4/19/19**	**Tue 6/18/19**		
259	Unit Testing	3 d	Fri 4/19/19	Tue 4/23/19	253,257	260,261
260	Interface Testing	5 d	Wed 4/24/19	Tue 4/30/19	259	261
261	Bug Fixes and Update Build	10 d	Wed 5/1/19	Tue 5/14/19	259,260	262
262	Final Unit and Interface Testing	23 d	Wed 5/15/19	Mon 6/17/19	261	263
263	Ready for UAT	1 d	Tue 6/18/19	Tue 6/18/19	262	267,270
264	**Training Materials**	**120 d**	**Tue 4/2/19**	**Mon 9/16/19**		
265	Prepare User Manuals	15 d	Tue 4/2/19	Mon 4/22/19	232	267,266
266	Provide on-site TS, Examiner, and Admin Training	2 d	Tue 4/23/19	Wed 4/24/19	265	267FF
267	Provide Manuals to customer	5 d	Wed 6/19/19	Mon 9/16/19	263,265,266FF	
268	**Integration and User Acceptance Testing**	**69 d**	**Wed 4/17/19**	**Mon 7/22/19**		
269	Create Test Station update script	20 d	Wed 4/17/19	Tue 5/14/19	255	270
270	Customer User Acceptance Testing against Test System	7 d	Wed 6/19/19	Thu 6/27/19	263,269	271
271	Fix and Retest UAT issues (if req)	10 d	Fri 6/28/19	Thu 7/11/19	270	272
272	Customer Final User Acceptance Testing	5 d	Fri 7/12/19	Mon 7/22/19	271	275,276
273	**Pilot**	**18 d**	**Mon 9/16/19**	**Wed 10/9/19**	**206SS**	**290,291**
274	**Production Build Preparation**	**1 d**	**Mon 9/16/19**	**Mon 9/16/19**		
275	Install UAT Software on Production System	1 d	Mon 9/16/19	Mon 9/16/19	272	280
276	Run scripts to pull in legacy data	1 d	Mon 9/16/19	Mon 9/16/19	272	277SS
277	Create Test Station Install script with Customer	1 d	Mon 9/16/19	Mon 9/16/19	276SS	279
278	**Office System**	**17 d**	**Tue 9/17/19**	**Wed 10/9/19**		
279	Install Examiner/Test Station with Production Image	1 d	Tue 9/17/19	Tue 9/17/19	277	280SS
280	Smoke Test Pilot System and Production Backend	1 d	Tue 9/17/19	Tue 9/17/19	275,279SS	281SS
281	Customer User Acceptance Testing against Production System	1 d	Tue 9/17/19	Tue 9/17/19	280SS	282,283SS
282	Go-Live with Pilot System	1 d	Wed 9/18/19	Wed 9/18/19	281	
283	Support Pilot System (on-site)	2 d	Tue 9/17/19	Wed 9/18/19	281SS	284,285
284	Update Software in Test and Production environments with Bug Fixes (if req)	15 d	Thu 9/19/19	Wed 10/9/19	283	
285	Install Examiner bug fixes at West O	1 d	Thu 9/19/19	Thu 9/19/19	283	286
286	Support Pilot (remote)	3 d	Fri 9/20/19	Tue 9/24/19	285	287
287	Pilot Complete with Evaluation Test Station/Examiner Images	1 d	Wed 9/25/19	Wed 9/25/19	286	289
288	**Rollout**	**32 d**	**Thu 10/24/19**	**Fri 12/6/19**	**216SS**	
289	Deployment Schedule Finalized	2 d	Thu 10/24/19	Fri 10/25/19	287	290
290	Remaining Examiners/Test Stations Rolled Out	30 d	Mon 10/28/19	Fri 12/6/19	273,289	291FF
291	Production Support Transition	10 d	Mon 11/25/19	Fri 12/6/19	273,290FF	
292	**Nebraska Electronic Road Testing System Project**	**212 d**	**Fri 3/1/19**	**Mon 12/23/19**		
293	Contract Fully Signed	1 d	Fri 3/1/19	Fri 3/1/19		295
294	**Project Management**	**37 d**	**Fri 3/1/19**	**Tue 4/23/19**		



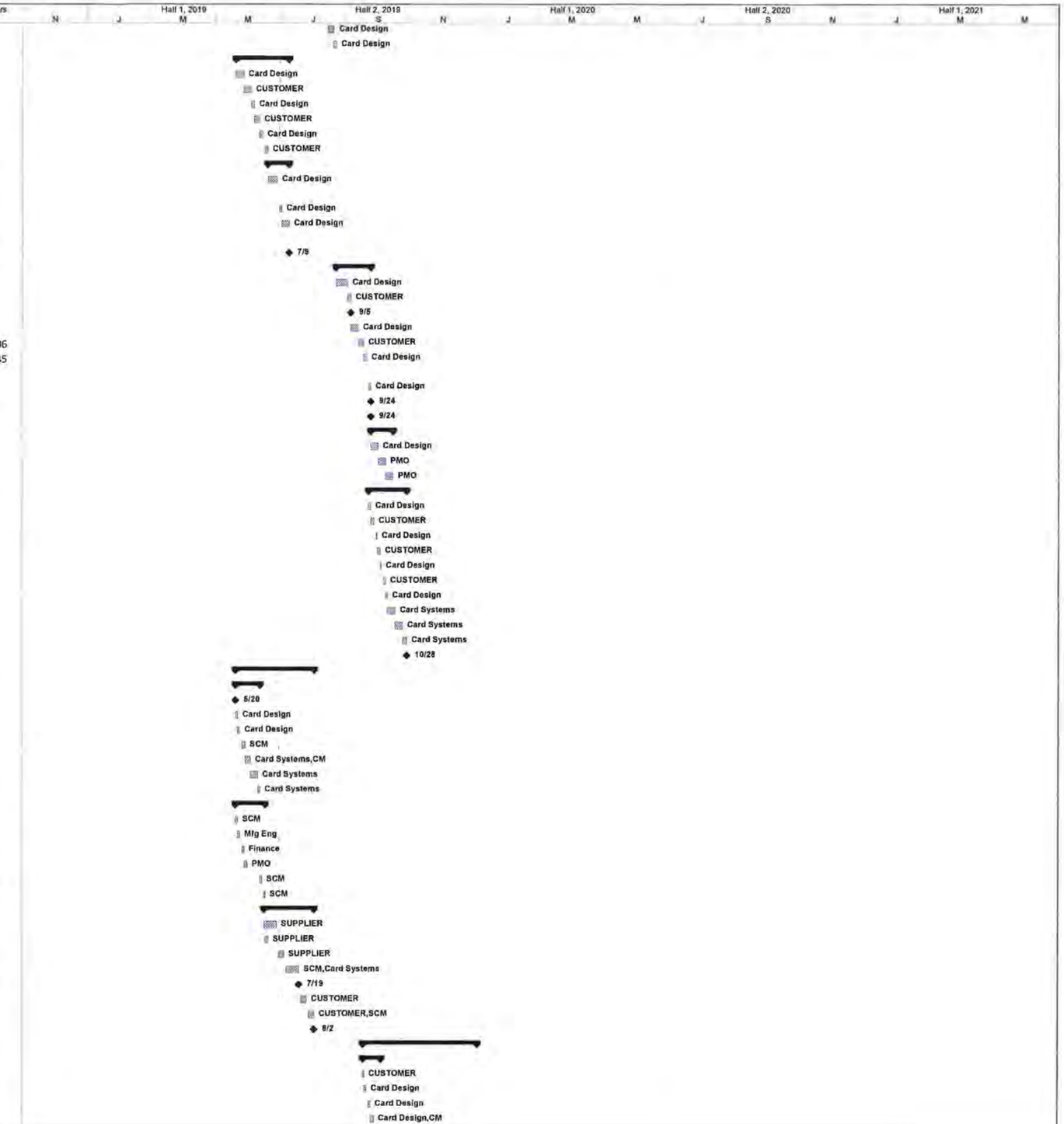
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
295	IDEMIA Project Team Meetings	4 d	Fri 3/1/19	Thu 3/7/19	293	297FS+13 d
296	**Project Planning**	**20 d**	**Wed 3/27/19**	**Tue 4/23/19**		
297	Kickoff Meeting & technical working sessions (In NE)	1 d	Wed 3/27/19	Wed 3/27/19	295FS+13 d	298,304
298	Develop Final Project Schedule and Management Plans	10 d	Thu 3/28/19	Wed 4/10/19	297	299
299	Review Project Schedule	5 d	Thu 4/11/19	Mon 4/22/19	298	300
300	Project Schedule Accepted	0 d	Mon 4/22/19	Mon 4/22/19	299	301,302
301	Detailed Design and Implementation Schedule Milestone	0 d	Mon 4/22/19	Mon 4/22/19	300	
302	Setup Weekly Team Meetings	1 d	Tue 4/23/19	Tue 4/23/19	300	
303	**Analysis and Design**	**41 d**	**Wed 3/27/19**	**Thu 5/23/19**		
304	Receive Input from NE on Working Session Open Items	1 d	Wed 3/27/19	Thu 3/28/19	297	305
305	First Internal Draft of RoadTest Functional Specification (FS)	5 d	Fri 3/29/19	Thu 4/4/19	304	329,306
306	Internal Review of FS	3 d	Fri 4/5/19	Tue 4/9/19	305	327,307
307	Complete Final Draft of FS	5 d	Wed 4/10/19	Tue 4/16/19	306	308,312
308	Provide Draft of FS to Customer	1 d	Wed 4/17/19	Wed 4/17/19	307	309
309	Customer Review of FS	7 d	Thu 4/18/19	Fri 4/26/19	308	310
310	Update RoadTest FS	5 d	Mon 4/29/19	Fri 5/3/19	309	311
311	Final Review and Signoff of FS Updates	2 d	Mon 5/6/19	Tue 5/7/19	310	340,357,330
312	Develop Draft Platform Specification (PS) for Hardware Equipment	3 d	Wed 4/17/19	Fri 4/19/19	307	313
313	Complete Final Draft of PS	6 d	Mon 4/22/19	Mon 4/29/19	312	317,314
314	Review PS	5 d	Tue 4/30/19	Mon 5/6/19	313	320,324,315
315	Update PS	5 d	Tue 5/7/19	Mon 5/13/19	314	316
316	Final Review and Signoff of PS	3 d	Tue 5/14/19	Thu 5/16/19	315	373,320,357,32
317	Develop Interface Control Document (ICD)	5 d	Tue 4/30/19	Mon 5/6/19	313	321,318
318	Customer Review of ICD	3 d	Tue 5/7/19	Thu 5/9/19	317	319
319	Update ICD	5 d	Fri 5/10/19	Thu 5/16/19	318	320
320	Final Review and Signoff of ICD	2 d	Fri 5/17/19	Mon 5/20/19	314,316,319	340,357,334,32
321	Develop Network Architecture Document (NAD)	5 d	Tue 5/7/19	Mon 5/13/19	317	322
322	Customer Review NAD	3 d	Tue 5/14/19	Thu 5/16/19	321	323
323	Update NAD	3 d	Fri 5/17/19	Tue 5/21/19	322	324
324	Final Review and Signoff of NAD	2 d	Wed 5/22/19	Thu 5/23/19	314,316,323	375
325	**Software Development**	**46 d**	**Fri 4/5/19**	**Fri 6/7/19**		**344**
326	**Develop NE Customizations**	**36.8 d**	**Fri 4/5/19**	**Mon 5/27/19**		
327	Source Code and TestTrack Setup	1 d	Wed 4/10/19	Wed 4/10/19	306	330
328	RT Database	3 d	Tue 5/21/19	Thu 5/23/19	320	
329	Begin RT Form Development	20 d	Fri 4/5/19	Thu 5/2/19	305	330
330	Complete RT Forms	10 d	Wed 5/8/19	Tue 5/21/19	311,327,329	349,331FS+0.8
331	Update Web Reports (to open PDF)	2 d	Wed 5/22/19	Fri 5/24/19	330FS+0.8 d	332
332	Form Review Session	1 d	Fri 5/24/19	Mon 5/27/19	331	349
333	**Develop Interfaces to NE**	**10 d**	**Tue 5/21/19**	**Mon 6/3/19**		
334	RT Interface to NE	10 d	Tue 5/21/19	Mon 6/3/19	320	351,335
335	Fortify Remediation (if necessary)	2 d	Tue 6/4/19	Wed 6/5/19	334	336
336	Install on IDEMIA Development Platforms	1 d	Thu 6/6/19	Thu 6/6/19	335	337
337	Development Smoke Test Passed	1 d	Fri 6/7/19	Fri 6/7/19	336	
338	**Quality Assurance**	**44 d**	**Fri 5/17/19**	**Wed 7/17/19**		
339	**QA Prep**	**30 d**	**Fri 5/17/19**	**Thu 6/27/19**		
340	Develop Quality Plan for Acceptance Testing	5 d	Tue 5/21/19	Mon 5/27/19	311,320	341
341	Review and Signoff of Quality Plan	3 d	Tue 5/28/19	Thu 5/30/19	340	379
342	Purchase Hardware for Internal Dev/Testing	2 d	Fri 5/17/19	Mon 5/20/19	316	343FS+20 d
343	Receive Hardware	3 d	Tue 6/18/19	Thu 6/20/19	342FS+20 d	345,344
344	Load Server Software	2 d	Fri 6/21/19	Mon 6/24/19	325,343	346,345
345	Load Software on Tablet	1 d	Tue 6/25/19	Tue 6/25/19	343,344	346
346	System Development and Setup Complete	1 d	Wed 6/26/19	Wed 6/26/19	344,345	347,361
347	Confirm VPN Connectivity between MorphoTrust and NE	1 d	Thu 6/27/19	Thu 6/27/19	346	351
348	**Internal Testing**	**37.2 d**	**Mon 5/27/19**	**Wed 7/17/19**		
349	Test Sprint 1 (CDL, M)	5 d	Mon 5/27/19	Mon 6/3/19	330,332	350
350	Bug Fixes and Update Build 1	3 d	Mon 6/3/19	Thu 6/6/19	349	351
351	Test Sprint 2 (with Interfaces)	5 d	Fri 6/28/19	Thu 7/4/19	334,347,350	352
352	Bug Fixes and Update Build 2	2 d	Fri 7/5/19	Mon 7/8/19	351	353
353	Test Sprint 3	5 d	Tue 7/9/19	Mon 7/15/19	352	354
354	Ready for UAT	1 d	Tue 7/16/19	Tue 7/16/19	353	355
355	CM Release Request and ECO	1 d	Wed 7/17/19	Wed 7/17/19	354	370,376
356	**Training and Documentation**	**49 d**	**Tue 5/21/19**	**Fri 7/26/19**		
357	Prepare Training Plan	5 d	Tue 5/21/19	Mon 5/27/19	311,316,320	358
358	Review Training Plan	2 d	Tue 5/28/19	Wed 5/29/19	357	359
359	Update Training Plan	2 d	Thu 5/30/19	Fri 5/31/19	358	360
360	Signoff on Training Plan	2 d	Mon 6/3/19	Tue 6/4/19	359	361,365
361	Prepare Training Materials	5 d	Thu 6/27/19	Wed 7/3/19	346,360	362
362	Review Training Materials	2 d	Thu 7/4/19	Fri 7/5/19	361	363
363	Update Training Materials	2 d	Mon 7/8/19	Tue 7/9/19	362	364
364	Signoff on Training Materials	2 d	Wed 7/10/19	Thu 7/11/19	363	365,370
365	Update RoadTest User Documentation	5 d	Fri 7/12/19	Thu 7/18/19	360,364	366
366	Review User Documentation	2 d	Fri 7/19/19	Mon 7/22/19	365	367
367	Refine and Complete User Documentation	2 d	Tue 7/23/19	Wed 7/24/19	366	368
368	Signoff on User Documentation	2 d	Thu 7/25/19	Fri 7/26/19	367	



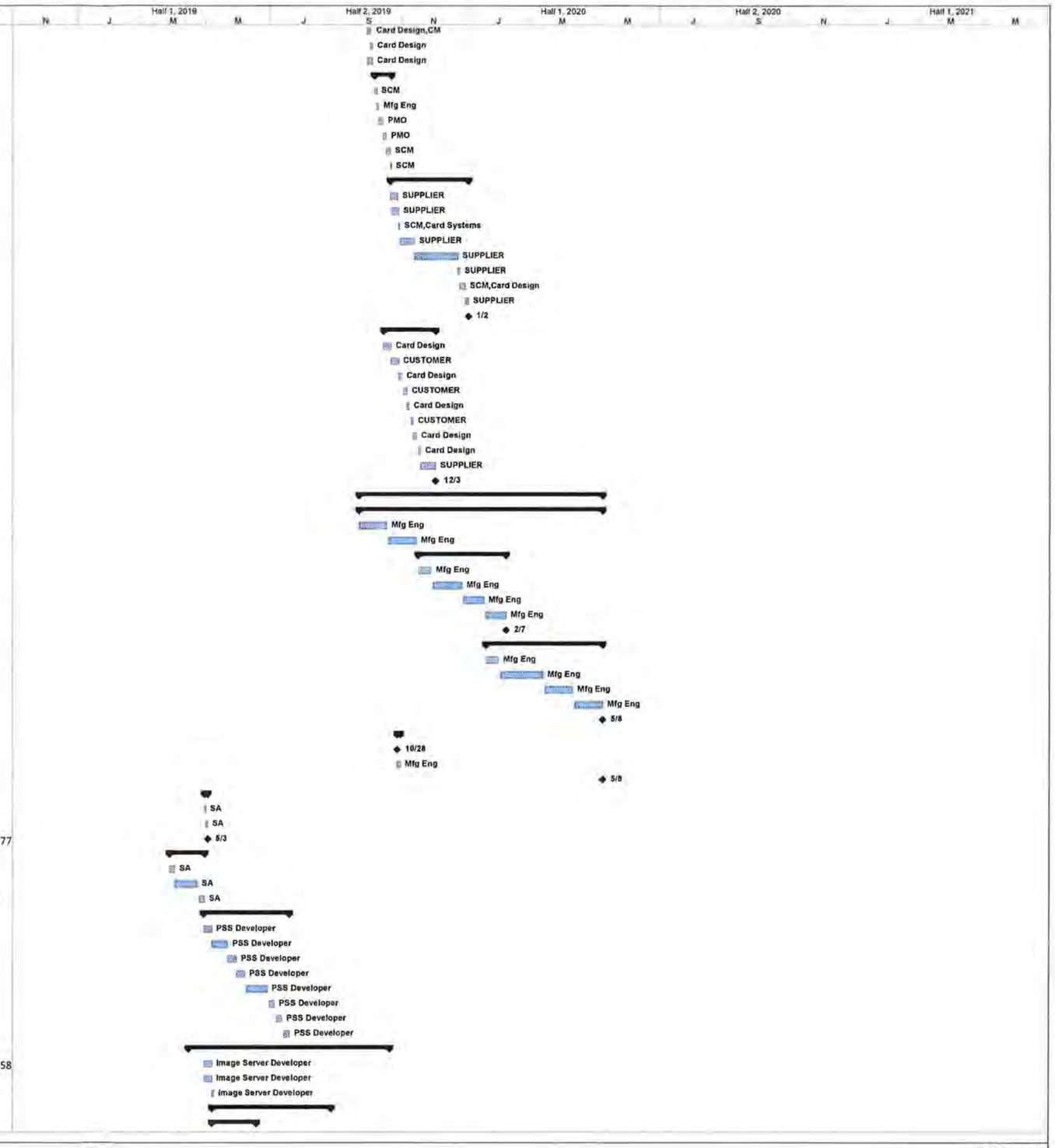
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
369	Perform UAT Training	1 d	Mon 7/22/19	Mon 7/22/19	377	379,370
370	Perform "Train the Trainer" End User and Admin Training	1 d	Tue 7/23/19	Tue 7/23/19	355,364,369	371,391FS+3 d
371	Training Milestone	0 d	Tue 7/23/19	Tue 7/23/19	370	
372	**User Acceptance Testing**	**63 d**	**Fri 5/17/19**	**Tue 8/13/19**		
373	Procure Hardware for UAT and Production	5 d	Fri 5/17/19	Thu 5/23/19	316	374FS+25 d
374	Receive Hardware	5 d	Fri 6/28/19	Thu 7/4/19	373FS+25 d	375
375	Setup Hardware at NE for Dev/Testing/Support	1 d	Fri 7/5/19	Fri 7/5/19	324,374	376
376	Configure UAT Servers/Workstations with QA Build	1 d	Thu 7/18/19	Thu 7/18/19	355,375	377
377	Smoke Test UAT System	1 d	Fri 7/19/19	Fri 7/19/19	376	369,378,379
378	Configuration of Server and Software Installation Milestone	0 d	Fri 7/19/19	Fri 7/19/19	377	
379	NE User Acceptance Testing	10 d	Tue 7/23/19	Mon 8/5/19	341,369,377	380,381
380	System Delivery and Initial Testing Milestone	0 d	Mon 8/5/19	Mon 8/5/19	379	
381	Contingency: Fix and Retest UAT issues	5 d	Tue 8/6/19	Mon 8/12/19	379	382
382	System Acceptance Signoff	1 d	Tue 8/13/19	Tue 8/13/19	381	385,386,401,38
383	Software per Handheld Device (upon user acceptance) Milestone	0 d	Tue 8/13/19	Tue 8/13/19	382	
384	**Production Build Preparation**	**6 d**	**Wed 8/14/19**	**Wed 8/21/19**		
385	Install UAT Software on PROD	1 d	Wed 8/14/19	Wed 8/14/19	382	389
386	Create Master Tablet Image with NE	1 d	Wed 8/14/19	Wed 8/14/19	382	387
387	RT HW staging (cloning, naming, & domain join, functional testing)	5 d	Thu 8/15/19	Wed 8/21/19	386	389SS+1 d,3915
388	**Pilot Office Validation Testing**	**10 d**	**Mon 9/16/19**	**Fri 9/27/19**	**206SS**	
389	Deliver/Install Tablets with Production Image to Pilot Location	0.5 d	Mon 9/16/19	Mon 9/16/19	385,387SS+1 d	392,390
390	System Pilot Milestone	0 d	Mon 9/16/19	Mon 9/16/19	389	
391	Train RT Examiners/Supervisors	1 d	Mon 9/16/19	Mon 9/16/19	370FS+3 d,387	393
392	Smoke Test Pilot System and PROD Backend (after hours)	0.5 d	Mon 9/16/19	Mon 9/16/19	389	393,395
393	Go-Live with Pilot System (West Omaha)	1 d	Tue 9/17/19	Tue 9/17/19	391,392	397FS+7 d,394
394	System Implementation Milestone	0 d	Tue 9/17/19	Tue 9/17/19	393	
395	Support Pilot System (on-site)	2 d	Tue 9/17/19	Wed 9/18/19	392	396
396	Deliver/Install Tablets with Production Image to All Other Locations	4 d	Thu 9/19/19	Tue 9/24/19	395	402
397	Pilot Complete at Main Office	1 d	Fri 9/27/19	Fri 9/27/19	393FS+7 d	402,405,398,39
398	System Acceptance Milestone	0 d	Fri 9/27/19	Fri 9/27/19	397	
399	Handheld Devices (upon full delivery) Milestone	0 d	Fri 9/27/19	Fri 9/27/19	397	
400	**Roll Out**	**26 d**	**Thu 10/24/19**	**Thu 11/28/19**	**216SS**	
401	NE and IDEMIA agree on final Implementation schedule	1 d	Thu 10/24/19	Thu 10/24/19	382	402
402	Rolling Training and Go-Live with All Locations	25 d	Fri 10/25/19	Thu 11/28/19	396,397,401	403
403	Roll Out Complete	0 d	Thu 11/28/19	Thu 11/28/19	402	406FS+15 d
404	**Post Implementation Support**	**61 d**	**Mon 9/30/19**	**Mon 12/23/19**		
405	Transition Support to Tier 3 Operations	3 d	Mon 9/30/19	Wed 10/2/19	397	406
406	Project Delivery Closeout Meeting and Lessons Learned	1 d	Fri 12/20/19	Fri 12/20/19	403FS+15 d,40	407
407	Project Close Out	1 d	Mon 12/23/19	Mon 12/23/19	406	
408	**Phase 3 DL Back Office**	**417 d**	**Fri 3/8/19**	**Mon 10/12/20**		
409	**Back Office Software Development and Card Design**	**358 d**	**Fri 3/8/19**	**Tue 7/21/20**		
410	Card Design	**215 d**	**Fri 3/8/19**	**Thu 1/2/20**		
411	**EE Card Design - CI - Preprinted EE CARD with Tri-Color Laminate (Option)**	**215 d**	**Fri 3/8/19**	**Thu 1/2/20**		
412	**Pre-Design Activities**	**8 d**	**Fri 3/8/19**	**Tue 3/19/19**		
413	Confirm Design Specifications/Features - Final Contracted Card Matrix Rec'd	1 d	Fri 3/8/19	Fri 3/8/19	21	414
414	Prep for Con-Call Kick Off - Create PP Presentation	3 d	Mon 3/11/19	Wed 3/13/19	413	415
415	Conduct Customer Kick-off Meeting	1 d	Thu 3/14/19	Thu 3/14/19	414	416
416	Customer Response to Kick off Meeting for Design Themes (if applicable)	3 d	Fri 3/15/19	Tue 3/19/19	415	418
417	**Develop Card & Laminate Design**	**112 d**	**Wed 3/20/19**	**Thu 8/22/19**		
418	Create 1st Draft Card Concepts - Softcopy Proof	5 d	Wed 3/20/19	Tue 3/26/19	416	419
419	Customer 1st Draft Review/Edits	3 d	Wed 3/27/19	Fri 3/29/19	418	420
420	Create 2nd Draft Card Concepts - Softcopy Proof	9 d	Mon 4/1/19	Thu 4/11/19	419	421
421	Customer 2nd Draft Review/Edits	3 d	Fri 4/12/19	Tue 4/16/19	420	422,430
422	Create Draft Laminate Design - Softcopy Proof	3 d	Wed 4/17/19	Fri 4/19/19	421	423
423	Customer Laminate Design Review/Edits	3 d	Mon 4/22/19	Wed 4/24/19	422	424
424	Create 3rd Draft Card Concepts - Softcopy Proof	3 d	Thu 4/25/19	Mon 4/29/19	423	425
425	Customer 3rd Draft Review (Approval to move to Teslin Approval Doc)	3 d	Tue 4/30/19	Thu 5/2/19	424	426
426	Create ID/DL for AAMVA Standard Verfication (Internal Only)	3 d	Fri 5/3/19	Tue 5/7/19	425	427
427	DRAFT Manufacturing Tolerance Review (Internal Only)	3 d	Wed 5/8/19	Fri 5/10/19	426	428
428	Create Preprint/Teslin Artwork Approval Document (TAD)	3 d	Mon 5/13/19	Wed 5/15/19	427	429
429	Customer Approval Preprint/Teslin Artwork Approval Document (TAD) - link to SCM	3 d	Thu 5/16/19	Mon 5/20/19	428	430,444,483,49
430	DRAFT EE Card Developer Specifications Handoff (Data Layout Files, Draft Dev Notes w/ Stakeholder Meetnig #1) - Handoff #1 to Factory Dev	3 d	Tue 5/21/19	Thu 5/23/19	421,429	431,545
431	Laser Perf Design File Handoff (Internal)	0 d	Thu 5/23/19	Thu 5/23/19	430	432
432	Create Card Quality Standard	3 d	Fri 5/24/19	Tue 5/28/19	431	433
433	Review Card Quality Standard with Customer	2 d	Wed 5/29/19	Thu 5/30/19	432	434
434	Finalize Silkscreen Artwork Files (Reid)	2 d	Fri 5/31/19	Mon 6/3/19	433	435
435	Silkscreen Laminate Design File Handoff (Internal)	0 d	Mon 6/3/19	Mon 6/3/19	434	436
436	Create 21up Teslin Print Files	4 d	Tue 6/4/19	Fri 6/7/19	435	437,456
437	DWM Artwork/SNR Testing	2 d	Mon 6/10/19	Tue 6/11/19	436	438
438	Receipt of 21up Teslin at Factory for PERF Feature Application	5 d	Mon 8/5/19	Fri 8/9/19	437,505	439
439	Receipt EE Card of 21up Perfed Teslin finish Billerica	1 d	Mon 8/12/19	Mon 8/12/19	438	440
440	Personalize Teslin	2 d	Tue 8/13/19	Wed 8/14/19	439	441



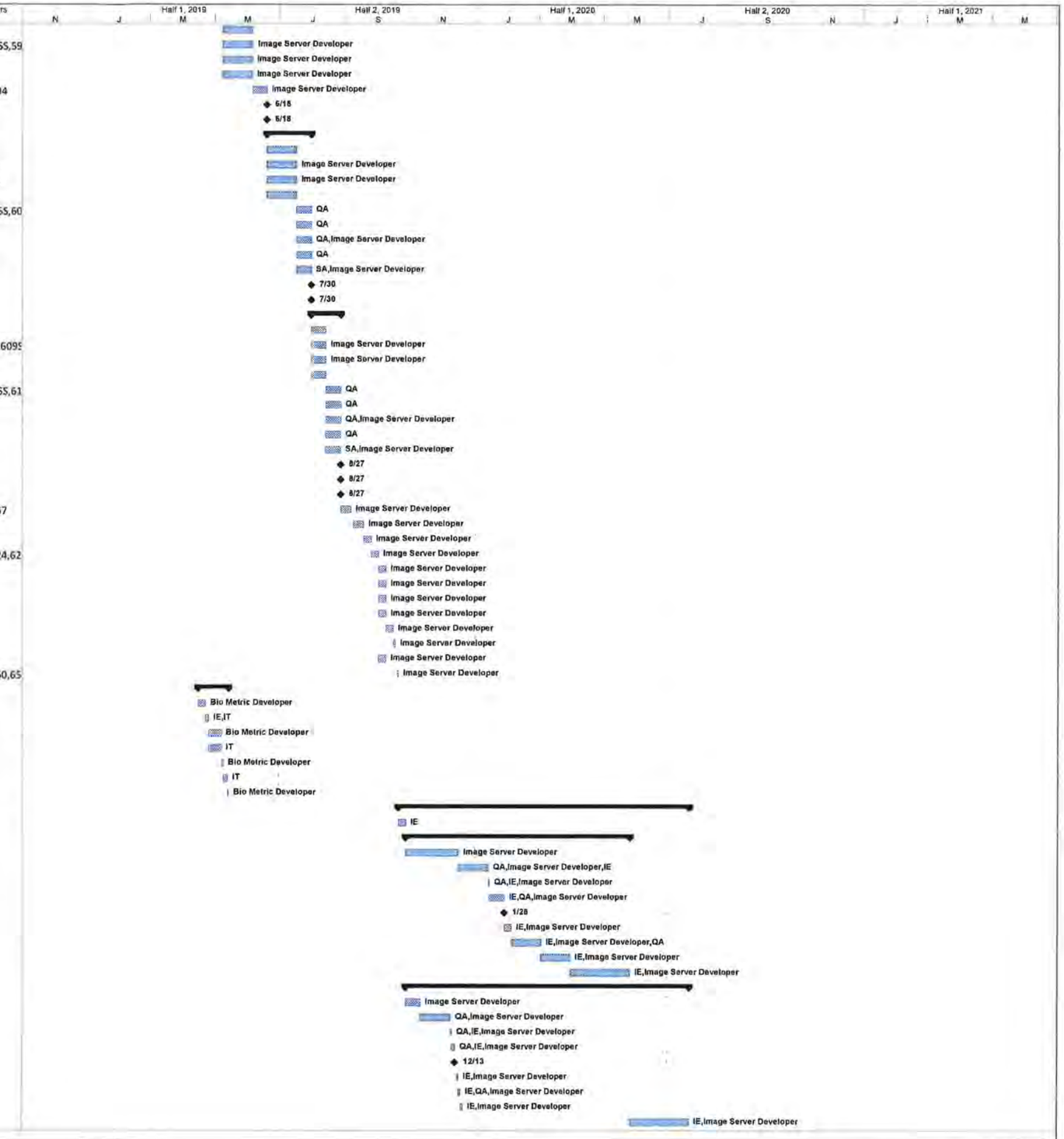
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
441	Vendor Silkscreen Run	3 d	Thu 8/15/19	Mon 8/19/19	440	442
442	Laminate, Diecut & Laser Engrave Card Samples for Inclusion in FINAL CDAD	3 d	Tue 8/20/19	Thu 8/22/19	441	456
443	**Develop Interim Document Design (If Applicable)**	**36 d**	**Tue 5/21/19**	**Tue 7/9/19**		
444	Create 1st Draft Interim Card Concepts - Softcopy Proofs	5 d	Tue 5/21/19	Mon 5/27/19	429	445
445	Customer 1st Draft Review/Edits	5 d	Tue 5/28/19	Mon 6/3/19	444	446
446	Create 2nd Draft Interim Card Concepts - Softcopy Proofs	3 d	Tue 6/4/19	Thu 6/6/19	445	447
447	Customer 2nd Draft Review (Approval to Move to Interim Preprint Approval Doc)	3 d	Fri 6/7/19	Tue 6/11/19	446	448
448	Create Interim Paper Approval Document (IPAD) (if applicable)	3 d	Wed 6/12/19	Fri 6/14/19	447	449
449	Customer Approval Interim Paper Approval Document (IPAD) - Link to SCM	3 d	Mon 6/17/19	Wed 6/19/19	448	451
450	**SVG Badge File Creation (All Card Formats)**	**14 d**	**Thu 6/20/19**	**Tue 7/9/19**		
451	SVG Step 1 EE Card - Create Master Adult, Minor, and Back Badges with Draft Dev. Notes - Handoff #1 to PSS	7 d	Thu 6/20/19	Fri 6/28/19	449	452
452	SVG Step 2 EE Card - Print Testing - Print Badges, Edit If Needed	2 d	Mon 7/1/19	Tue 7/2/19	451	453
453	SVG Step 3 EE Card - Provide Balance of Badges with Developer Notes - Handoff #2 to PSS	5 d	Wed 7/3/19	Tue 7/9/19	452	454
454	Receipt of Interim paper stock from 1st article run	0 d	Tue 7/9/19	Tue 7/9/19	453	459
455	**Card Design Approval Documents (CDAD)**	**23 d**	**Fri 8/23/19**	**Tue 9/24/19**		
456	Create DRAFT Card Design Approval Document (CDAD)	7 d	Fri 8/23/19	Mon 9/2/19	436,442	457
457	Customer Review/Edits of DRAFT Document	3 d	Tue 9/3/19	Thu 9/5/19	456	458
458	Stakeholder Meeting #2 -Review of DRAFT CDAD (Internal - CD, PM, PSS, QA)	0 d	Thu 9/5/19	Thu 9/5/19	457	459
459	Edit Card Design Document per Customer Review - Create & Ship Final CDAD	5 d	Fri 9/6/19	Thu 9/12/19	454,458	460
460	Customer Approval / FINAL Card Design Specification Doc. (CDAD) - link to SCM	3 d	Fri 9/13/19	Tue 9/17/19	459	508,461,706
461	FINAL EE Card Developer Specifications Handoff - Includes Robust DWM Artwork (Data Layout Files, etc.) - Handoff #2 to Factory Dev	3 d	Wed 9/18/19	Fri 9/20/19	460	462,470,545
462	Create QC Inspection Standard	2 d	Mon 9/23/19	Tue 9/24/19	461	463
463	Production Laminate Design File Handoff (Internal)	0 d	Tue 9/24/19	Tue 9/24/19	462	464
464	Provide CDAD samples to Doc Auth for early training	0 d	Tue 9/24/19	Tue 9/24/19	463	466
465	**Level 3 Design Dossier**	**15 d**	**Wed 9/25/19**	**Tue 10/15/19**		
466	Create Draft Level 3 Design Dossier	5 d	Wed 9/25/19	Tue 10/1/19	464	467
467	VP Approval for Release	5 d	Wed 10/2/19	Tue 10/8/19	466	468
468	Hand Carry to customer	5 d	Wed 10/9/19	Tue 10/15/19	467	533
469	**Carrier Design**	**26 d**	**Mon 9/23/19**	**Mon 10/28/19**		
470	Create 1st Draft Card Concepts - Softcopy Proof	2 d	Mon 9/23/19	Tue 9/24/19	461	471
471	Customer 1st Draft Review/Edits	3 d	Wed 9/25/19	Fri 9/27/19	470	472
472	Create 2nd Draft Card Concepts - Softcopy Proof	1 d	Mon 9/30/19	Mon 9/30/19	471	473
473	Customer 2nd Draft Review/Edits	3 d	Tue 10/1/19	Thu 10/3/19	472	474
474	Create Carrier Approval Document (CAD)	1 d	Fri 10/4/19	Fri 10/4/19	473	475
475	Customer Approval Carrier Approval Document (CAD)	2 d	Mon 10/7/19	Tue 10/8/19	474	476
476	Carrier Spec Inputs Provided to CM	2 d	Wed 10/9/19	Thu 10/10/19	475	477
477	Carrier Spec Control Drawings Generated	5 d	Fri 10/11/19	Thu 10/17/19	476	478
478	Carrier Documents Circulated for Beta Approval	5 d	Fri 10/18/19	Thu 10/24/19	477	479
479	Carrier Documents Released at Beta	2 d	Fri 10/25/19	Mon 10/28/19	478	480
480	Carrier Developer Specifications - Handoff to Factory Development	0 d	Mon 10/28/19	Mon 10/28/19	479	560
481	**Teslin Production**	**54 d**	**Mon 5/20/19**	**Fri 8/2/19**		
482	**Generate Beta Teslin documentation**	**17 d**	**Mon 5/20/19**	**Wed 6/12/19**		
483	Customer Approval of Preprint - TAD	0 d	Mon 5/20/19	Mon 5/20/19	429	484
484	Generate Supplier Artwork Files	2 d	Tue 5/21/19	Wed 5/22/19	483	485
485	Teslin Spec Inputs Provided to CM	2 d	Thu 5/23/19	Fri 5/24/19	484	486
486	Forensic Link Part Number (vpn) Assigned, Request Drawdown	3 d	Mon 5/27/19	Wed 5/29/19	485	487
487	Teslin Spec Control Drawings Generated	3 d	Thu 5/30/19	Mon 6/3/19	486	488
488	Teslin / (S)FCPS documents circulated for Beta approval	5 d	Tue 6/4/19	Mon 6/10/19	487	489
489	Teslin / (S)FCPS documents released at Beta	2 d	Tue 6/11/19	Wed 6/12/19	488	495
490	**Place Teslin PO**	**20 d**	**Tue 5/21/19**	**Mon 6/17/19**		
491	Confirm Vendor Pricing; Cost Model, Request Quote	2 d	Tue 5/21/19	Wed 5/22/19	429	492
492	Generate PO Req(s) in Sharepoint System	2 d	Thu 5/23/19	Fri 5/24/19	491	493
493	Finance Approval/Coding	2 d	Mon 5/27/19	Tue 5/28/19	492	494
494	Management Approval	3 d	Wed 5/29/19	Fri 5/31/19	493	495
495	Place Purchase Order(s)	2 d	Thu 6/13/19	Fri 6/14/19	489,494	496,498
496	Provide Artwork Files & SCDs to Supplier	1 d	Mon 6/17/19	Mon 6/17/19	495	499
497	**Teslin Lead Time**	**35 d**	**Mon 6/17/19**	**Fri 8/2/19**		
498	Forensic Ink Lead Time	10 d	Mon 6/17/19	Fri 6/28/19	495	500
499	Lo-res Color Proof Approval (Internal Approval Only)	3 d	Tue 6/18/19	Thu 6/20/19	496	500
500	Press Proof Generated via Security Printing Run	5 d	Mon 7/1/19	Fri 7/5/19	498,499	501
501	Bond Testing	10 d	Mon 7/8/19	Fri 7/19/19	500	502
502	Below Min Requirements Bond Test Requires Exec Approval	0 d	Fri 7/19/19	Fri 7/19/19	501	503,504
503	Customer Approval of Press Proof /Includes Min/Max Densities (aka 1st Article)	5 d	Mon 7/22/19	Fri 7/26/19	502	504
504	1st Article Inspection & Report	5 d	Mon 7/29/19	Fri 8/2/19	502,503	505
505	1st Article available to create CDAD samples - link back to Card Design	0 d	Fri 8/2/19	Fri 8/2/19	504	438
506	**Laminate Production**	**77 d**	**Wed 9/18/19**	**Thu 1/2/20**		
507	**Generate Beta Laminate documentation**	**13 d**	**Wed 9/18/19**	**Fri 10/4/19**		
508	Customer Approval of Laminate Design via CDAD	1 d	Wed 9/18/19	Wed 9/18/19	460	509
509	Generate Supplier Artwork Files	2 d	Thu 9/19/19	Fri 9/20/19	508	510
510	Laminate Spec Inputs Provided to CM	2 d	Mon 9/23/19	Tue 9/24/19	509	511
511	Laminate Spec Control Drawing Generated	3 d	Wed 9/25/19	Fri 9/27/19	510	512,514



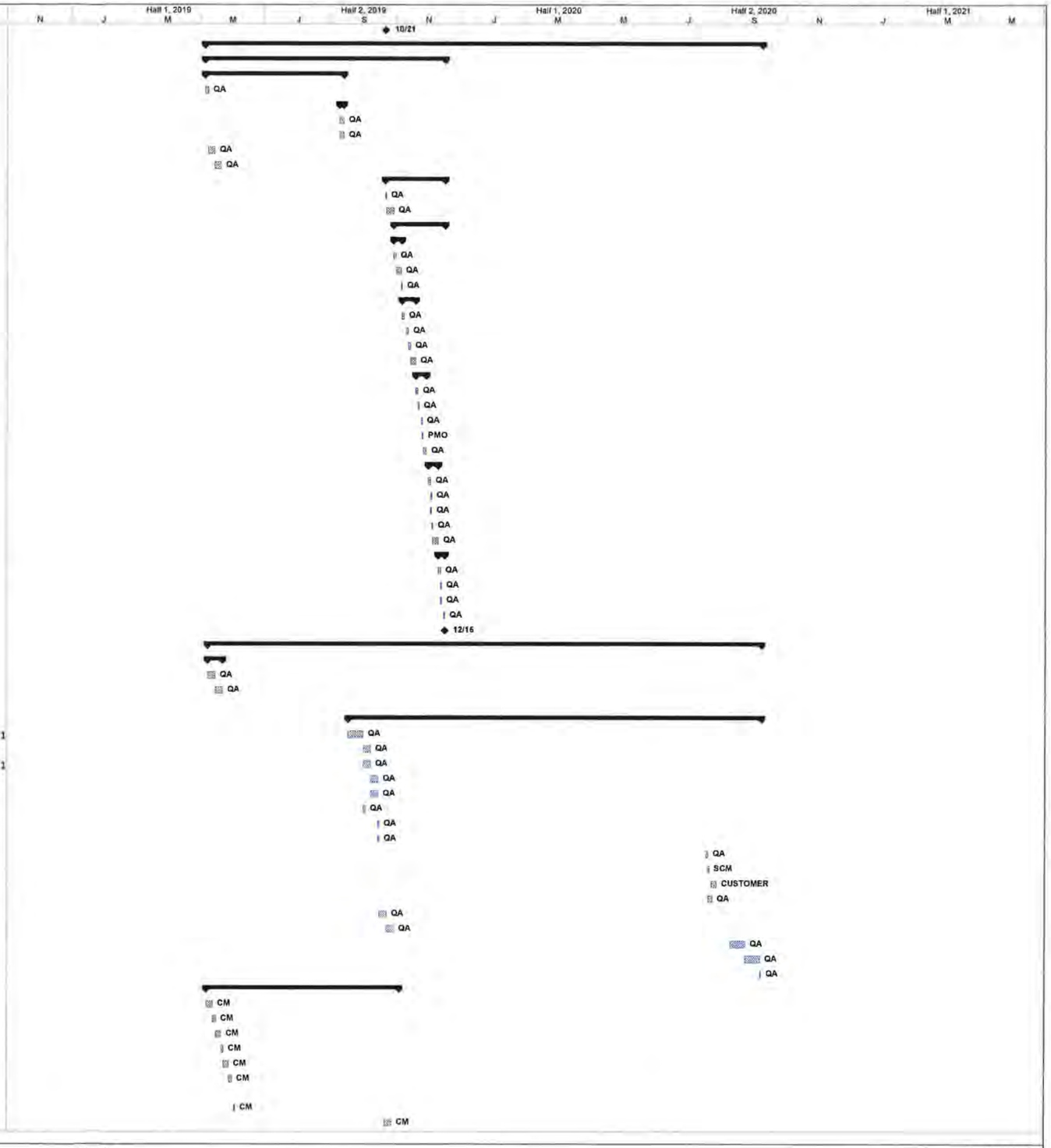
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
512	Laminate / FCPS Documents Circulated for Approval	3 d	Mon 9/30/19	Wed 10/2/19	511	513
513	Laminate / FCPS documents released at Beta/Beta-2	2 d	Thu 10/3/19	Fri 10/4/19	512	516
514	Finished Card Production spec Beta-2 generated	5 d	Mon 9/30/19	Fri 10/4/19	511	520
515	**Place Laminate PO**	**12 d**	**Mon 10/7/19**	**Tue 10/22/19**		
516	Confirm vendor pricing; cost model	2 d	Mon 10/7/19	Tue 10/8/19	513	517
517	Generate PO Req(s) in Sharepoint system	2 d	Wed 10/9/19	Thu 10/10/19	516	518
518	Finance Approval/Coding	2 d	Fri 10/11/19	Mon 10/14/19	517	519
519	Management Approval	3 d	Tue 10/15/19	Thu 10/17/19	518	520
520	Place Purchase Order(s)	2 d	Fri 10/18/19	Mon 10/21/19	514,519	521,523
521	Provide Artwork Files & SCDs to Supplier	1 d	Tue 10/22/19	Tue 10/22/19	520	524
522	**Laminate Lead Time**	**53 d**	**Tue 10/22/19**	**Thu 1/2/20**		
523	Acquire Cylinder Bases	5 d	Tue 10/22/19	Mon 10/28/19	520	526
524	Generate Cylinder Artwork Proof	5 d	Wed 10/23/19	Tue 10/29/19	521	525
525	Lo-res Color Proof Approval (Internal Approval Only)	1 d	Wed 10/30/19	Wed 10/30/19	524	526
526	Etch cylinders	10 d	Thu 10/31/19	Wed 11/13/19	523,525	527
527	Press Run	28 d	Thu 11/14/19	Mon 12/23/19	526	528
528	1st Article Sample Rolls to Billerica	2 d	Tue 12/24/19	Wed 12/25/19	527	529
529	1st Article Inspection & Report	3 d	Thu 12/26/19	Mon 12/30/19	528	530
530	1st Article EE Card available - Freight transit to Card Factory	3 d	Tue 12/31/19	Thu 1/2/20	529	531
531	Card Design - CI - EE Complete	0 d	Thu 1/2/20	Thu 1/2/20	530	8
532	**Brochure Design (If Applicable)**	**35 d**	**Wed 10/16/19**	**Tue 12/3/19**		
533	Create 1st Draft Brochure Concept	5 d	Wed 10/16/19	Tue 10/22/19	468	534
534	Customer 1st Draft Bochure Edits/Changes	5 d	Wed 10/23/19	Tue 10/29/19	533	535
535	Create 2nd Draft Brochure Concept	3 d	Wed 10/30/19	Fri 11/1/19	534	536
536	Customer 2nd Draft Bochure Edits/Changes	3 d	Mon 11/4/19	Wed 11/6/19	535	537
537	Create Brochure Design Approval Document (BDAD)	2 d	Thu 11/7/19	Fri 11/8/19	536	538
538	Customer Approval Brochure Approval Document (BDAD)	2 d	Mon 11/11/19	Tue 11/12/19	537	539,540
539	Brochure Production Artwork Created	3 d	Wed 11/13/19	Fri 11/15/19	538	540
540	PO for Brochure Processed	2 d	Mon 11/18/19	Tue 11/19/19	538,539	541
541	Vendor Proofing / Prepress / Brochure Print Run (QTY)	10 d	Wed 11/20/19	Tue 12/3/19	540	542
542	Card Design CI - EE Brochure Complete	0 d	Tue 12/3/19	Tue 12/3/19	541	
543	Factory Development	**165 d**	**Mon 9/23/19**	**Fri 5/8/20**		
544	**Factory Development (EE Card Option)**	**165 d**	**Mon 9/23/19**	**Fri 5/8/20**		
545	Compose Programming	20 d	Mon 9/23/19	Fri 10/18/19	430,461,42,40	546
546	Data Automation Programming	20 d	Mon 10/21/19	Fri 11/15/19	545	548
547	**Primary Location**	**60 d**	**Mon 11/18/19**	**Fri 2/7/20**		
548	Factory Install of Compose / Data Automation - Primary Location	10 d	Mon 11/18/19	Fri 11/29/19	546	549
549	Personalization Programming - Primary Location	20 d	Mon 12/2/19	Fri 12/27/19	548	550
550	Bug Fix Iterations - Primary Location	15 d	Mon 12/30/19	Fri 1/17/20	549,706	551,554
551	End to End / LRIP Testing & UAT / PCAD - Primary Location	15 d	Mon 1/20/20	Fri 2/7/20	550	552
552	Ready for UAT / Pilot - Primary Location	0 d	Fri 2/7/20	Fri 2/7/20	551	562,768
553	**Backup Location**	**80 d**	**Mon 1/20/20**	**Fri 5/8/20**		
554	Factory Install of Compose / Data Automation - Backup Location	10 d	Mon 1/20/20	Fri 1/31/20	550	555
555	Personalization Programming - Backup Location	30 d	Mon 2/3/20	Fri 3/13/20	554	556
556	Bug Fix Iterations - Backup Location	20 d	Mon 3/16/20	Fri 4/10/20	555	557
557	End to End / LRIP Testing & UAT / PCAD - Backup Location	20 d	Mon 4/13/20	Fri 5/8/20	556	558
558	Ready for UAT / Pilot - Backup Location	0 d	Fri 5/8/20	Fri 5/8/20	557	799,562
559	Carrier Development	**3 d**	**Mon 10/28/19**	**Thu 10/31/19**		
560	Receive Handoff from Carrier Design	0 d	Mon 10/28/19	Mon 10/28/19	480	561
561	Develop Carrier	3 d	Tue 10/29/19	Thu 10/31/19	560	799
562	Factory Development Complete	0 d	Fri 5/8/20	Fri 5/8/20	552,558	761
563	**Critical Design Review (CDR)**	**3 d**	**Wed 5/1/19**	**Fri 5/3/19**		
564	Conduct CDR	1 d	Wed 5/1/19	Wed 5/1/19	30,53FS+20 d	565
565	Obtain CDR Team Approval	2 d	Thu 5/2/19	Fri 5/3/19	564	566
566	Critical Design Review Complete	0 d	Fri 5/3/19	Fri 5/3/19	565	764,664,742,77
567	**System Detail Design**	**23 d**	**Fri 3/29/19**	**Tue 4/30/19**		
568	Prepare a development plan and approach	3 d	Fri 3/29/19	Tue 4/2/19	525S	569
569	Develop System (Detail) Design	15 d	Wed 4/3/19	Tue 4/23/19	568	570
570	Obtain System (Detail) Design Team Approval	3 d	Fri 4/26/19	Tue 4/30/19	569,36,40,42,3	581,582,728
571	**Factory Management System (FMS) - Revelation**	**59 d**	**Tue 4/30/19**	**Fri 7/19/19**		
572	Creation of Sample Folios & Customer Documentation	6 d	Tue 4/30/19	Tue 5/7/19	43	573
573	Integration with Customer Back Office	11 d	Wed 5/8/19	Wed 5/22/19	572	574
574	Deployment of Relay FCS	6 d	Thu 5/23/19	Thu 5/30/19	573	575
575	Integration bewtween FCS & FMS App	6 d	Fri 5/31/19	Fri 6/7/19	574	576
576	FMS Reports Creation	15 d	Mon 6/10/19	Fri 6/28/19	575	577
577	FMS Development Testing	5 d	Mon 7/1/19	Fri 7/5/19	576	578
578	FMS Installation & Testing in UAT - Handoff to UAT	5 d	Mon 7/8/19	Fri 7/12/19	577	579
579	FMS Installation & Testing in PROD - Handoff to PROD	5 d	Mon 7/15/19	Fri 7/19/19	578	799
580	**Issuance Back Office - Issuance and Search Engine**	**135 d**	**Tue 4/16/19**	**Mon 10/21/19**		
581	Generate mini-design spec for delta from product	5 d	Wed 5/1/19	Tue 5/7/19	570	727,618,724,58
582	Setup integration environment (VMs)	5 d	Wed 5/1/19	Tue 5/7/19	570	583
583	Generate build scripts	2 d	Wed 5/8/19	Thu 5/9/19	582	
584	**Issuance Back Office - Issuance and Biometrics**	**80 d**	**Wed 5/8/19**	**Tue 8/27/19**		
585	**Sprint 1 - Interface Design**	**30 d**	**Wed 5/8/19**	**Tue 6/18/19**		



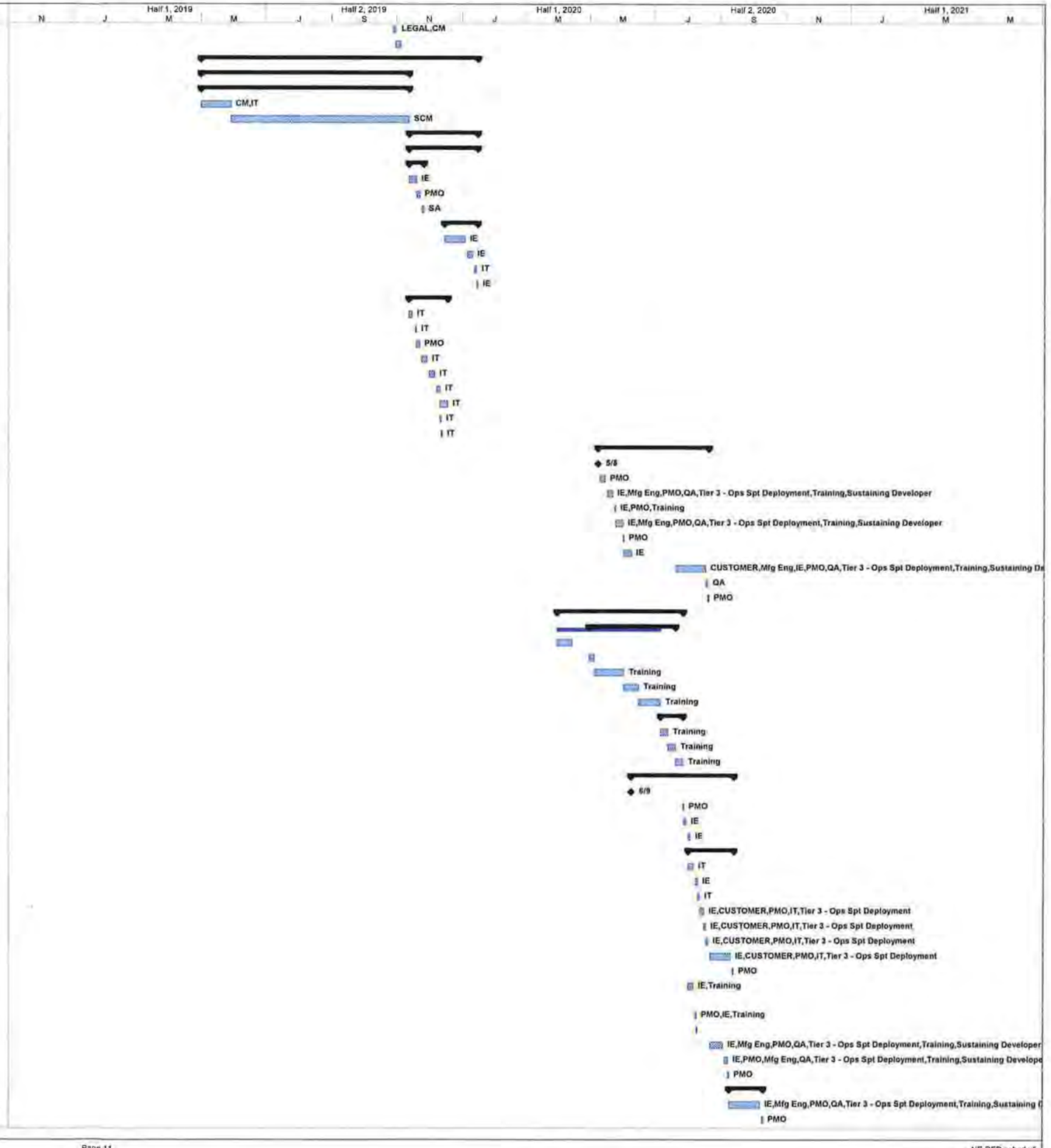
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
586	System of Record Interfaces	20 d	Wed 5/8/19	Tue 6/4/19	581	590
587	Factory Interfaces	20 d	Wed 5/8/19	Tue 6/4/19	581	588SS,589SS,59
588	Web Interfaces	20 d	Wed 5/8/19	Tue 6/4/19	587SS	590
589	Jurisdiction Specific Workflows	20 d	Wed 5/8/19	Tue 6/4/19	587SS	590
590	Backlog Refinement	10 d	Wed 6/5/19	Tue 6/18/19	586,587,588,5	595,591,594
591	Product Requirements Implementation (x out of y Requirements)	0 d	Tue 6/18/19	Tue 6/18/19	590	592SS
592	Product Requirements Test Status	0 d	Tue 6/18/19	Tue 6/18/19	591SS	
593	**Sprint 2 - Implementation**	**30 d**	**Wed 6/19/19**	**Tue 7/30/19**		
594	System of Record Interfaces	20 d	Wed 6/19/19	Tue 7/16/19	590	598
595	Factory Interfaces	20 d	Wed 6/19/19	Tue 7/16/19	590	596SS,598
596	Web Interfaces	20 d	Wed 6/19/19	Tue 7/16/19	595SS	598,597SS
597	Jurisdiction Specific Workflows	20 d	Wed 6/19/19	Tue 7/16/19	596SS	598
598	Functional Testing	10 d	Wed 7/17/19	Tue 7/30/19	594,595,596,5	600SS,601SS,60
599	Performance Testing	10 d	Wed 7/17/19	Tue 7/30/19	598SS	603,604
600	Bug Fixing	10 d	Wed 7/17/19	Tue 7/30/19	598SS	
601	Automated Data Verification	10 d	Wed 7/17/19	Tue 7/30/19	598SS	
602	Backlog Refinement	10 d	Wed 7/17/19	Tue 7/30/19	598SS	607,606
603	Product Requirements Implementation (x out of y Requirements)	0 d	Tue 7/30/19	Tue 7/30/19	598,599	
604	Product Requirements Test Status	0 d	Tue 7/30/19	Tue 7/30/19	598,599	
605	**Sprint 3 - Final Implementation**	**20 d**	**Wed 7/31/19**	**Tue 8/27/19**		
606	System of Record Interfaces	10 d	Wed 7/31/19	Tue 8/13/19	602	
607	Factory Interfaces	10 d	Wed 7/31/19	Tue 8/13/19	602	608SS,610,609S
608	Web Interfaces	10 d	Wed 7/31/19	Tue 8/13/19	607SS	610
609	Jurisdiction Specific Workflows	10 d	Wed 7/31/19	Tue 8/13/19	607SS	
610	Functional Testing	10 d	Wed 8/14/19	Tue 8/27/19	607,608	612SS,613SS,61
611	Performance Testing	10 d	Wed 8/14/19	Tue 8/27/19	610SS	615,616
612	Bug Fixing	10 d	Wed 8/14/19	Tue 8/27/19	610SS	
613	Automated Data Verification	10 d	Wed 8/14/19	Tue 8/27/19	610SS	
614	Backlog Refinement	10 d	Wed 8/14/19	Tue 8/27/19	610SS	
615	Product Requirements Implementation (x out of y Requirements)	0 d	Tue 8/27/19	Tue 8/27/19	610,611	
616	Product Requirements Test Status	0 d	Tue 8/27/19	Tue 8/27/19	610,611	617
617	Back Office Development Complete	0 d	Tue 8/27/19	Tue 8/27/19	616	624,618
618	Develop XSD (Reference folio)	8 d	Wed 8/28/19	Fri 9/6/19	581,617	619,666,667
619	Develop input adapter	8 d	Mon 9/9/19	Wed 9/18/19	618	620
620	Develop send to factory from Back Office	5 d	Thu 9/19/19	Wed 9/25/19	619	621
621	Configure Back Office	5 d	Thu 9/26/19	Wed 10/2/19	620	622,623,624,62
622	Configure Reports	5 d	Thu 10/3/19	Wed 10/9/19	621	629
623	Develop installer for Back Office	5 d	Thu 10/3/19	Wed 10/9/19	621	629
624	System integration test Back Office with Front Office	5 d	Thu 10/3/19	Wed 10/9/19	617,621	629
625	System integration test Back Office with Search Engine	5 d	Thu 10/3/19	Wed 10/9/19	621,633	626
626	System integration test Back Office with FMS	5 d	Thu 10/10/19	Wed 10/16/19	625	627
627	Fortify Scan Audit & Remediation	2 d	Thu 10/17/19	Fri 10/18/19	626	629
628	Complete Back Office documentation	5 d	Thu 10/3/19	Wed 10/9/19	621	814
629	Turnover Back Office to QA	1 d	Mon 10/21/19	Mon 10/21/19	622,623,624,6	675,731,660,65
630	**Search Engine**	**21 d**	**Tue 4/16/19**	**Tue 5/14/19**		
631	Review Search Engine Sizing and Architecture	5 d	Tue 4/16/19	Mon 4/22/19	35	632
632	Install and Configure Search Engine	3 d	Tue 4/23/19	Thu 4/25/19	631	633
633	Integrate Search Engine Development	8 d	Fri 4/26/19	Tue 5/7/19	632	625,635
634	Review Customer Provided Artifacts	8 d	Fri 4/26/19	Tue 5/7/19	34	636
635	Fortify Scan Audit & Remediation	2 d	Wed 5/8/19	Thu 5/9/19	633	636
636	Conduct H/W & S/W Readines Review	2 d	Fri 5/10/19	Mon 5/13/19	634,635	637
637	Turnover Search Engine to QA	1 d	Tue 5/14/19	Tue 5/14/19	636	660,731
638	**Data Migration**	**196 d**	**Tue 10/22/19**	**Tue 7/21/20**		
639	Obtain Sample data set from customer (UAT)	5 d	Tue 10/22/19	Mon 10/28/19	44,629	641,651
640	**Record Migration**	**151 d**	**Tue 10/29/19**	**Tue 5/26/20**		
641	Develop folio Extractor	35 d	Tue 10/29/19	Mon 12/16/19	639,629	642
642	QA legacy data Migration/ load workflow record (including bug fixes)	20 d	Tue 12/17/19	Mon 1/13/20	641,40,42	643
643	QA Handoff to Tier 3/Dev (IE)	1 d	Tue 1/14/20	Tue 1/14/20	642	644
644	QA Data Migration record in UAT env	10 d	Wed 1/15/20	Tue 1/28/20	643	645
645	Data Migration Application UAT sign off	0 d	Tue 1/28/20	Tue 1/28/20	644	646
646	Establish connection to Legacy data or obtain copy of entire database	5 d	Wed 1/29/20	Tue 2/4/20	645	647
647	Data Production Test Run (PROD)	20 d	Wed 2/5/20	Tue 3/3/20	646	648
648	Data Migration/ load (PROD)	20 d	Wed 3/4/20	Tue 3/31/20	647	649
649	Delta Data Migration (PROD)	40 d	Wed 4/1/20	Tue 5/26/20	648	659
650	**Case Migration**	**191 d**	**Tue 10/29/19**	**Tue 7/21/20**		
651	Develop Case Extractor (case)	10 d	Tue 10/29/19	Mon 11/11/19	639,629	652
652	QA legacy data Migration/ load workflow case (including bug fixes)	20 d	Tue 11/12/19	Mon 12/9/19	629,651	653
653	QA Handoff to Tier 3 (IE)	1 d	Tue 12/10/19	Tue 12/10/19	652	654
654	QA Case Migration Case in UAT env	3 d	Wed 12/11/19	Fri 12/13/19	653	655
655	Case Migration Application UAT sign off	0 d	Fri 12/13/19	Fri 12/13/19	654	656
656	Establish connection to Legacy data or obtain copy of entire database	1 d	Mon 12/16/19	Mon 12/16/19	655	657
657	Case Migration Test Run (PROD)	2 d	Tue 12/17/19	Wed 12/18/19	656	658
658	Case Migration/ load (PROD)	2 d	Thu 12/19/19	Fri 12/20/19	657	659
659	Case Migration Complete (PROD)	40 d	Wed 5/27/20	Tue 7/21/20	649,658	768



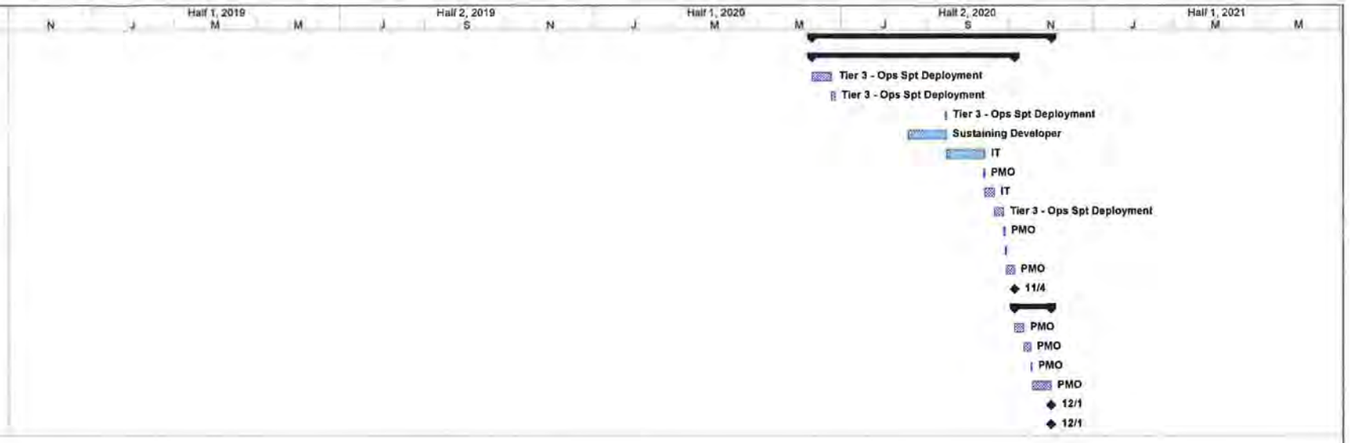
ID	Task Name	Duration	Start	Finish	Predecessors	Successors
660	Development Complete - Turnover to QA	0 d	Mon 10/21/19	Mon 10/21/19	629,637	671
661	**QA Testing**	**375 d**	**Mon 5/6/19**	**Fri 10/9/20**		
662	**QA S/W Testing**	**161 d**	**Mon 5/6/19**	**Mon 12/16/19**		
663	**Program Test Specification and Tools Development**	**94 d**	**Mon 5/6/19**	**Thu 9/12/19**		
664	Develop QA Test plan	3 d	Mon 5/6/19	Wed 5/8/19	566,16,33,35	703,668
665	**Develop SW Test Tools**	**4 d**	**Mon 9/9/19**	**Thu 9/12/19**		
666	Develop Data generator	4 d	Mon 9/9/19	Thu 9/12/19	618	545
667	Develop Load & Performance Scripts	4 d	Mon 9/9/19	Thu 9/12/19	618,39,41	672
668	Develop QA Test Specification (Test Cases)	4 d	Thu 5/9/19	Tue 5/14/19	664,36,40,47,4	669
669	Develop UAT Specification (Customer Acceptance Test (CAT) Cases)	4 d	Wed 5/15/19	Mon 5/20/19	668	814
670	**Program Testing**	**40 d**	**Tue 10/22/19**	**Mon 12/16/19**		
671	Receive Turnover from Development (QA Checklist)	1 d	Tue 10/22/19	Tue 10/22/19	660	672
672	Program Set up, Configuration, and Installation	5 d	Wed 10/23/19	Tue 10/29/19	667,671,36	675
673	**QA System Testing**	**34 d**	**Wed 10/30/19**	**Mon 12/16/19**		
674	**Test Round 1: Module Functional Testing**	**6 d**	**Wed 10/30/19**	**Wed 11/6/19**		
675	Conduct Design/Unit Testing Verification	2 d	Wed 10/30/19	Thu 10/31/19	629,672	676
676	Conduct Round 1 Bug's Fixes	3 d	Fri 11/1/19	Tue 11/5/19	675	677,679
677	Conduct Defects Verification and Design Validation	1 d	Wed 11/6/19	Wed 11/6/19	676	679
678	**Test Round 2: System End-to-End Testing**	**9 d**	**Thu 11/7/19**	**Tue 11/19/19**		
679	Conduct System Functional Testing	2 d	Thu 11/7/19	Fri 11/8/19	676,677	680
680	Conduct Performance & Load Testing	2 d	Mon 11/11/19	Tue 11/12/19	679	681,684
681	Conduct Legacy Conversion Testing	2 d	Wed 11/13/19	Thu 11/14/19	680	682
682	Conduct Round 2 Bug's Fixes	3 d	Fri 11/15/19	Tue 11/19/19	681	684
683	**Test Round 3: Defects Verification & System Regression Testing, UAT Builds**	**8 d**	**Wed 11/20/19**	**Fri 11/29/19**		
684	Conduct UAT Candidates Builds Certification	2 d	Wed 11/20/19	Thu 11/21/19	680,682	685
685	Release to Customer Audit Report: QA Turnover to UAT	1 d	Fri 11/22/19	Fri 11/22/19	684	686,766
686	Release UAT Builds to IE /CM	1 d	Mon 11/25/19	Mon 11/25/19	685	687
687	Obtain Customer Approval of UAT Spec	1 d	Tue 11/26/19	Tue 11/26/19	686	688
688	Conduct Round 3 Bug's Fixes	3 d	Wed 11/27/19	Fri 11/29/19	687	690
689	**Test Round 4: Defects Verification & System Regression Testing, Pilot Builds**	**7 d**	**Mon 12/2/19**	**Tue 12/10/19**		
690	Conduct Pilot Candidates Builds Certification	2 d	Mon 12/2/19	Tue 12/3/19	688	691,692
691	Release to Customer Audit Report: QA Handoff to Pilot	1 d	Wed 12/4/19	Wed 12/4/19	690	799
692	Report Fortify Remediation Completion to CM	1 d	Wed 12/4/19	Wed 12/4/19	690	693
693	Release Pilot Builds to IE /CM	1 d	Thu 12/5/19	Thu 12/5/19	692	694,784
694	Conduct Round 4 Bug's Fixes	3 d	Fri 12/6/19	Tue 12/10/19	693	696
695	**Test Round 5: Defects Verification & System Regression Testing, Rollout Builds**	**4 d**	**Wed 12/11/19**	**Mon 12/16/19**		
696	Conduct Production Candidates Builds Certification	2 d	Wed 12/11/19	Thu 12/12/19	694	697,698
697	Release to customer Audit Report: QA Handoff to Production	1 d	Fri 12/13/19	Fri 12/13/19	696	803
698	Report Fortify Remediation Completion to CM	1 d	Fri 12/13/19	Fri 12/13/19	696	699
699	Release Rollout/Production Builds to IE /CM	1 d	Mon 12/16/19	Mon 12/16/19	698	700
700	QA S/W Testing Complete	0 d	Mon 12/16/19	Mon 12/16/19	699	761,773
701	**QA Card Verification**	**372 d**	**Thu 5/9/19**	**Fri 10/9/20**		
702	**Card Verification Test Plan / Tool Development**	**10 d**	**Thu 5/9/19**	**Wed 5/22/19**		
703	Develop Card Verification Plan (CV, UAT, Security Features)	5 d	Thu 5/9/19	Wed 5/15/19	664,101	704
704	Develop Card Test Tools (Data Generator, All Permutations folios, Card Spec Test Suite, PCAD folios)	5 d	Thu 5/16/19	Wed 5/22/19	703,40,42	706
705	**Card Testing**	**278 d**	**Wed 9/18/19**	**Fri 10/9/20**		
706	Perform Initial Card Testing (Data Generator, Initial DWM, .PDF sheets)	10 d	Wed 9/18/19	Tue 10/1/19	460,704	550,707,708,71
707	Verify All Card Permutations (Data Input to Variable Printing)	5 d	Wed 10/2/19	Tue 10/8/19	706	712,713
708	Verify Card Spec Test Suite (Physical and Security Features)	5 d	Wed 10/2/19	Tue 10/8/19	706	709,710,712,71
709	Submit cards for Intellicheck IDDL verification & Doc Auth incorporation	5 d	Wed 10/9/19	Tue 10/15/19	708	712,713,717
710	Conduct Severe Service Testing	5 d	Wed 10/9/19	Tue 10/15/19	708	712,713
711	Analyze / Verify Digital Watermark (DWM)	2 d	Wed 10/2/19	Thu 10/3/19	706	712,713
712	Release CV UAT Readiness Test Report; QA CV Turnover to UAT	1 d	Wed 10/16/19	Wed 10/16/19	707,708,709,7	762,718
713	Release Material Verification Report to SCM/CM	1 d	Wed 10/16/19	Wed 10/16/19	707,708,709,7	
714	Create Production Card Approval Document (PCAD)	2 d	Wed 8/19/20	Fri 8/21/20	770SF	717,715
715	Deliver Production Card Approval Document (PCAD) to Customer	1 d	Fri 8/21/20	Fri 8/21/20	714	716
716	Customer Approves PCAD	5 d	Mon 8/24/20	Fri 8/28/20	715	
717	Coordinate Intellicheck CVP Assessment with Customer	2 d	Fri 8/21/20	Mon 8/24/20	709,714	720,812
718	Verify Test Rounds 3,4,5 Card Production as needed	5 d	Thu 10/17/19	Wed 10/23/19	712	719
719	Compile Specification & Test Results for Customer Meeting	5 d	Thu 10/24/19	Wed 10/30/19	718	720
720	Release Final Production Builds	10 d	Fri 9/11/20	Thu 9/24/20	717,719,801	721
721	Conduct LRIP Test	10 d	Fri 9/25/20	Thu 10/8/20	720	722
722	QA Transition To Tier3 (Gate 8)	1 d	Fri 10/9/20	Fri 10/9/20	721	817
723	**Configuration Management (SW)**	**129 d**	**Wed 5/8/19**	**Mon 11/4/19**		
724	Create build systems for each application	4 d	Wed 5/8/19	Mon 5/13/19	581,36,40,38	725
725	Prepare Revision Control and Patch Management scripting	3 d	Tue 5/14/19	Thu 5/16/19	724	726,728
726	Create Structure source code repository	3 d	Fri 5/17/19	Tue 5/21/19	725	727
727	Set up defect tracking	2 d	Wed 5/22/19	Thu 5/23/19	581,726	728
728	Create Installers	3 d	Fri 5/24/19	Tue 5/28/19	570,725,727	729
729	Conduct 3rd Party Software Processing - Licenses, Media, Library, Code Dependencies Set up for Distribution	3 d	Wed 5/29/19	Fri 5/31/19	728	730
730	Hand off for Dongle Security Schema Prototype, Test to Manufacturing	1 d	Mon 6/3/19	Mon 6/3/19	729	746
731	Conduct Software release processing (Dev, QA, UAT, Etc)	5 d	Tue 10/22/19	Mon 10/28/19	629,637	732



ID	Task Name	Duration	Start	Finish	Predecessors	Successors
732	Prepare compliance with escrow agreement plan	2 d	Tue 10/29/19	Wed 10/30/19	731,20	733
733	Conduct Tier 3 Turnover Process	3 d	Thu 10/31/19	Mon 11/4/19	732	817
734	Integration and Test	**186 d**	**Wed 5/1/19**	**Wed 1/15/20**		
735	**Platform Build**	**140 d**	**Wed 5/1/19**	**Tue 11/12/19**		
736	**Servers & Network HW**	**140 d**	**Wed 5/1/19**	**Tue 11/12/19**		
737	Develop Servers & Network BOM - specify each item	20 d	Wed 5/1/19	Tue 5/28/19	36	738
738	Customer Provided Servers	120 d	Wed 5/29/19	Tue 11/12/19	737	746,742,751
739	**Pre-UAT Platform Test / Demo**	**46 d**	**Wed 11/13/19**	**Wed 1/15/20**		
740	**Integration Engineering**	**46 d**	**Wed 11/13/19**	**Wed 1/15/20**		
741	**Integration Engineering Planning & Workstations**	**10 d**	**Wed 11/13/19**	**Tue 11/26/19**		
742	Develop UAT Plan	5 d	Wed 11/13/19	Tue 11/19/19	566,16,36,34,7	743
743	Obtain Customer Approval of UAT Plan	3 d	Wed 11/20/19	Fri 11/22/19	742	744
744	Obtain Test Environment Site Requirements	2 d	Mon 11/25/19	Tue 11/26/19	743	
745	**Integration Engineering Environment**	**23 d**	**Mon 12/16/19**	**Wed 1/15/20**		
746	Conduct Full system integration & testing	15 d	Mon 12/16/19	Fri 1/3/20	730,759,738	747
747	Develop & Deliver installation & configuration documents (full I&C and version for d	5 d	Mon 1/6/20	Fri 1/10/20	746	748
748	Remove Temporary QA/Staging Network Routing prior to UAT	2 d	Mon 1/13/20	Tue 1/14/20	747	749
749	Turnover to UAT	1 d	Wed 1/15/20	Wed 1/15/20	748	
750	**Networking**	**26 d**	**Wed 11/13/19**	**Wed 12/18/19**		
751	Develop Firewall Request, based on technical/functional designs and CSN FW Ports	3 d	Wed 11/13/19	Fri 11/15/19	738	752FS+1 d
752	Submit IPSEC VPN Design and Firewall Request to PM and Customer	1 d	Tue 11/19/19	Tue 11/19/19	751FS+1 d	753
753	Obtain Customer Approval of VPN Design and Firewall Request	3 d	Wed 11/20/19	Fri 11/22/19	752	754
754	Install Carrier Circuit	5 d	Mon 11/25/19	Fri 11/29/19	753	755
755	Install and Test carrier data service (if applicable)	5 d	Mon 12/2/19	Fri 12/6/19	754	756
756	Conduct Provision and Test end-to-end connectivity with Customer	3 d	Mon 12/9/19	Wed 12/11/19	755	758,757
757	Complete Network documentation and diagrams	5 d	Thu 12/12/19	Wed 12/18/19	756	814
758	Turnover from Network Engineering to Delivery IT	1 d	Thu 12/12/19	Thu 12/12/19	756	759
759	Turnover from Delivery IT to Integration Engineering	1 d	Fri 12/13/19	Fri 12/13/19	758	746,807,761
760	**UAT**	**75 d**	**Fri 5/8/20**	**Fri 8/21/20**		
761	Receive Handoff HW from Platform Build	0 d	Fri 5/8/20	Fri 5/8/20	700,759,562	767,762
762	Conduct UAT Dry Run	5 d	Mon 5/11/20	Fri 5/15/20	712,761	763
763	Fix issues from the UAT Dry Run	5 d	Mon 5/18/20	Fri 5/22/20	762	764
764	Prepare / Conduct Gate 6 UAT Readiness Review - GO-NO GO decision	1 d	Mon 5/25/20	Mon 5/25/20	566,763	765
765	Fix issues from Test Readiness	5 d	Tue 5/26/20	Mon 6/1/20	764	766
766	Release UAT environment to Customer	1 d	Tue 6/2/20	Tue 6/2/20	685,765,122	767
767	Conduct Pre UAT - MTU	5 d	Wed 6/3/20	Tue 6/9/20	761,766	768,783
768	Customer conducts UAT	20 d	Wed 7/22/20	Tue 8/18/20	552,659,767	769,810,811
769	Valldate Card Design Specifications with Customer	2 d	Wed 8/19/20	Thu 8/20/20	768	770
770	Obtain UAT Customer Sign Off	1 d	Fri 8/21/20	Fri 8/21/20	769	714SF,799,9
771	**End User Documentation, Training**	**85 d**	**Wed 4/1/20**	**Tue 7/28/20**		
772	**End User Documentation**	**58 d**	**Fri 5/1/20**	**Tue 7/21/20**		
773	Develop Documentation and Training Plan	10 d	Wed 4/1/20	Tue 4/14/20	566,700	774
774	Review and Approve Documentaion and Training Plan with Customer	3 d	Fri 5/1/20	Tue 5/5/20	773	775
775	Prepare Draft User Manuals (UAT version)	20 d	Wed 5/6/20	Tue 6/2/20	774,34FS+1 d	776
776	Prepare Final User Manuals	10 d	Wed 6/3/20	Tue 6/16/20	775	777
777	Prepare Training Materials - ppt and participant pdf guide	15 d	Wed 6/17/20	Tue 7/7/20	776	779
778	**Training**	**15 d**	**Wed 7/8/20**	**Tue 7/28/20**		
779	Conduct Pre-UAT Training	5 d	Wed 7/8/20	Tue 7/14/20	777	780
780	Conduct Training (TTT or End-User)	5 d	Wed 7/15/20	Tue 7/21/20	779	781
781	Conduct Internal Training, if needed	5 d	Wed 7/22/20	Tue 7/28/20	780	784
782	**Pilot**	**69 d**	**Tue 6/9/20**	**Mon 9/14/20**		
783	Receive handoff from Platform Build	0 d	Tue 6/9/20	Tue 6/9/20	767	799,807
784	Prepare Pilot & Deployment Plan & Schedule	1 d	Wed 7/29/20	Wed 7/29/20	693,781,130	785
785	Install Production Environment Patching & Configuration	2 d	Thu 7/30/20	Fri 7/31/20	784	786,796,788
786	Prepare Production Pilot Environment	2 d	Mon 8/3/20	Tue 8/4/20	785	798
787	**High Availability / Disaster Recovery**	**31 d**	**Mon 8/3/20**	**Mon 9/14/20**		
788	Set up server set	5 d	Mon 8/3/20	Fri 8/7/20	785	789
789	Configure server applications	2 d	Mon 8/10/20	Tue 8/11/20	788	790
790	Configure HA Master/Slave	2 d	Wed 8/12/20	Thu 8/13/20	789	791
791	Test Failover from Master to Slave	2 d	Fri 8/14/20	Mon 8/17/20	790	792
792	Involve end-to-end transaction	2 d	Tue 8/18/20	Wed 8/19/20	791	793
793	Verify Fail back to Master	2 d	Thu 8/20/20	Fri 8/21/20	792	795,794
794	Next iteration - Pair 2, 3, etc.	15 d	Mon 8/24/20	Fri 9/11/20	793	795
795	Customer Acceptance of Business Continulty	1 d	Mon 9/14/20	Mon 9/14/20	793,794	809
796	Conduct Deployment Training (demonstrate/dry-run of field office installation for installers)	5 d	Mon 8/3/20	Fri 8/7/20	785	797
797	Prepare / Conduct Gate 7 Pilot / Roll Out Readiness Review - GO-NO GO decision	1 d	Mon 8/10/20	Mon 8/10/20	796	798
798	Conduct Pilot Training & Installation	1 d	Tue 8/11/20	Tue 8/11/20	786,797	799
799	Conduct Pilot / Go Live	10 d	Mon 8/24/20	Fri 9/4/20	558,561,579,6	800
800	Resolve Pilot Issues	3 d	Mon 9/7/20	Wed 9/9/20	799	801
801	Obtain Pilot Customer Sign Off	1 d	Thu 9/10/20	Thu 9/10/20	800	720,803
802	Deployment	**22 d**	**Fri 9/11/20**	**Mon 10/12/20**		
803	Conduct Field Deployment for Remaining Offices	21 d	Fri 9/11/20	Fri 10/9/20	697,801,134	816,818,804
804	Obtain Field Deployment Customer Signoff	1 d	Mon 10/12/20	Mon 10/12/20	803	812,10



ID	Task Name	Duration	Start	Finish	Predecessors	Successors
805	Operations Support Transition and Program Close Out	**125 d**	**Wed 6/10/20**	**Tue 12/1/20**		
806	**Operations Support Transition**	**106 d**	**Wed 6/10/20**	**Wed 11/4/20**		
807	Prepare Field Support & Equipment Maintenance Plan	10 d	Wed 6/10/20	Tue 6/23/20	759,783	808
808	Prepare Tier 3 Software Support Prep & Plan	3 d	Wed 6/24/20	Fri 6/26/20	807	809
809	Receive Approved Business Continuity Plan	1 d	Tue 9/15/20	Tue 9/15/20	808,795	812
810	Support Tier3 Applications Pilot/Rollout	20 d	Wed 8/19/20	Tue 9/15/20	192,768	811
811	Support Tier3 Server Pilot/Rollout	20 d	Wed 9/16/20	Tue 10/13/20	810,192,768	
812	Complete Transition checklist	1 d	Tue 10/13/20	Tue 10/13/20	809,218,717,8	813
813	Support Transition checklist completion	5 d	Wed 10/14/20	Tue 10/20/20	812	814
814	Receive and Review SharePoint document links	5 d	Wed 10/21/20	Tue 10/27/20	813,92,628,66	815
815	Obtain Software, Servers, and Network T3 Signoff	1 d	Wed 10/28/20	Wed 10/28/20	814	817,816
816	Turnover Inventory spreadsheet to ROPM & CCC	1 d	Thu 10/29/20	Thu 10/29/20	217,815,803	817
817	Prepare / Conduct Gate 8 Production Readiness Review - Turnover to Field Service & Tier 3	4 d	Fri 10/30/20	Wed 11/4/20	816,815,722,7	818,11
818	Go Live Startup & Support	0 d	Wed 11/4/20	Wed 11/4/20	817,217,803	820,825
819	**Program Close Out**	**19 d**	**Thu 11/5/20**	**Tue 12/1/20**		
820	Prepare Contract deliverables checklist, Requirement compliance, & appropriate communic	5 d	Thu 11/5/20	Wed 11/11/20	818	821
821	Ensure compliance of contracts, milestone, deliverables, escrow, etc.	3 d	Thu 11/12/20	Mon 11/16/20	20,15,820	822
822	Send email to "Projects" to close the appropriate project codes	1 d	Tue 11/17/20	Tue 11/17/20	821	823
823	Prepare / Conduct Program Lessons Learned	10 d	Wed 11/18/20	Tue 12/1/20	822	824
824	Complete Program	0 d	Tue 12/1/20	Tue 12/1/20	823,24	825
825	Go Live Support	0 d	Tue 12/1/20	Tue 12/1/20	818,824	



PERFORM IMPLEMENTATION

Your team can rely on with one experienced, trained Program Manager, T.J. Stamas, who will have full accountability for on-time implementation of the entire solution. Our history of successful deliveries extends from DL issuance deliveries to facial recognition, knowledge and skills testing, and document scanning and authentication.

No subcontractors or third-party support are needed to provide a quality solution on time. We have the resources and talent for Mr. Stamas to lead the delivery of all components of the CATS solution. Our staff members are highly knowledgeable and experienced, having worked with the DMV and on similar motor vehicle agency projects throughout the U.S. Most suppliers depend on third parties to implement many aspects of their DL/ID solutions, from knowledge and skills testing to reporting to field support. They do not completely understand the issues that may occur, and time often is lost during system integration, testing, and deployment.

We're Here to Stay

State government is IDEMIA USA's primary business. We are committed to the U.S. DL industry. While many companies (e.g., DeLaRue, Unisys, and Compaq) have entered and exited competitive U.S. DL program bidding over the years, IDEMIA USA has been the one constant in the industry for nearly 60 years. We built the DL industry through innovations and relationships with state agencies, and we are committed to the long-term success of protecting your residents' identities through the security of their U.S. DL/IDs.

You will find that our plan offers flexibility to work with your team effectively. We understand that the DMV has many projects, and while our plan is flexible, we understand that a solution must be ready for a successful, on-time delivery. Our phased approach affords that flexibility and offers the DMV the ability to remain current with ever-changing third-party operating systems, some of which are due to expire in January 2020.

We are confident, accountable, and ready now to provide a low risk, high-quality implementation immediately upon Contract award.

X. Perform Implementation

a. Deployment approach

160. Describe the proposed deployment strategy and, at a minimum, include the following:

a. Type of deployment approach (big bang or phased)
b. Evidence to justify the selected approach
c. If big bang deployment proposed:
   i. Detailed information on preparation before execution
   ii. Detailed information on execution of approach
d. If a phased deployment proposed:
   i. Detailed information on how the system will operate in parallel, while keeping data synchronized in real time or near real time with the existing CATS
   ii. Detailed information on how phases will be defined (location, business process, etc.)
   iii. Order of deployment
e. Will the current system be interrupted for installation of new system? If yes, at what points and for how long?

✓ **IDEMIA USA complies.**

a. Type of deployment approach (big bang or phased)

We propose a phased deployment approach for the DMV's new CATS program. We have executed this phased approach successfully in multiple jurisdictions with minimal operational impact. Our experience has demonstrated that **this provides the lowest risk to daily Nebraska DMV operations, provides better focus on functional implementation, and allows time for the necessary training for DMV staff**. Figure 259 depicts a high-level draft project milestone schedule for our proposed implementation.

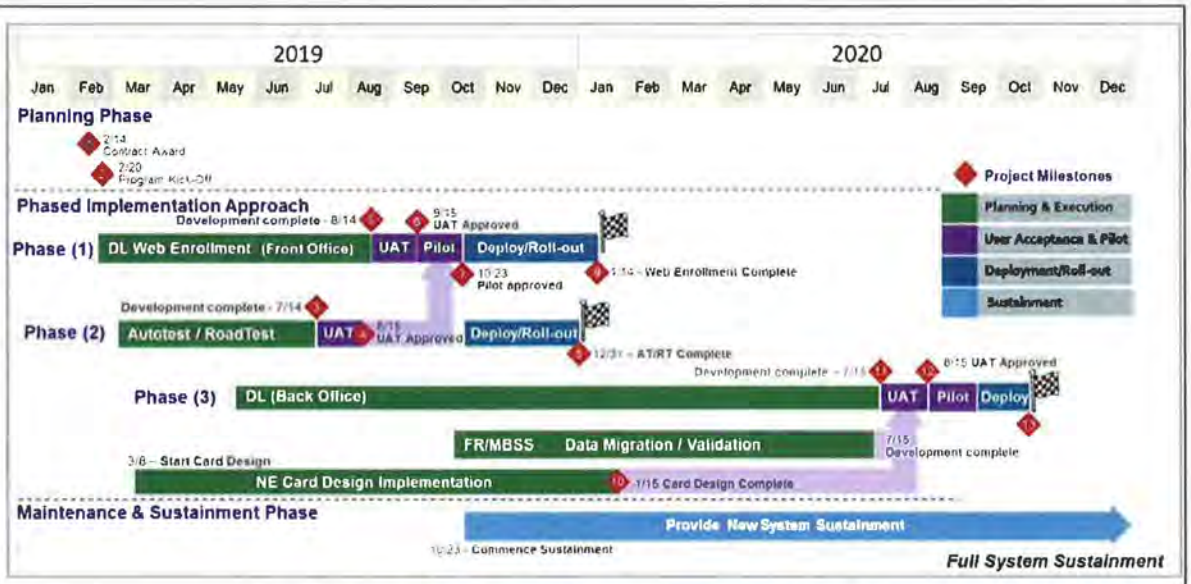


Figure 259: Nebraska CATS Project Milestone Schedule

IDEMIA USA expects to be in full operation of the new system within 20 months of Contract award.

We are proposing a three-phased approach to delivery of the new systems that minimizes risk to DMV operations and customer service. This approach—described in detail below—allows for "quick wins" such as the early replacement of front office equipment.

b. Evidence to justify the selected approach

We have a record of accomplishment of delivering projects on time, which can give the DMV confidence in our ability to meet the desired Go-Live date with the proposed phased approach. As Figure 260 shows, we have demonstrated delivery of several large projects on-time. As a trusted partner of the State of Nebraska for nearly 40 years, IDEMIA USA is committed to delivering this CATS program to the DMV on or ahead of schedule with a project plan that incorporates over four weeks of schedule slack to meet the Contract commitment.

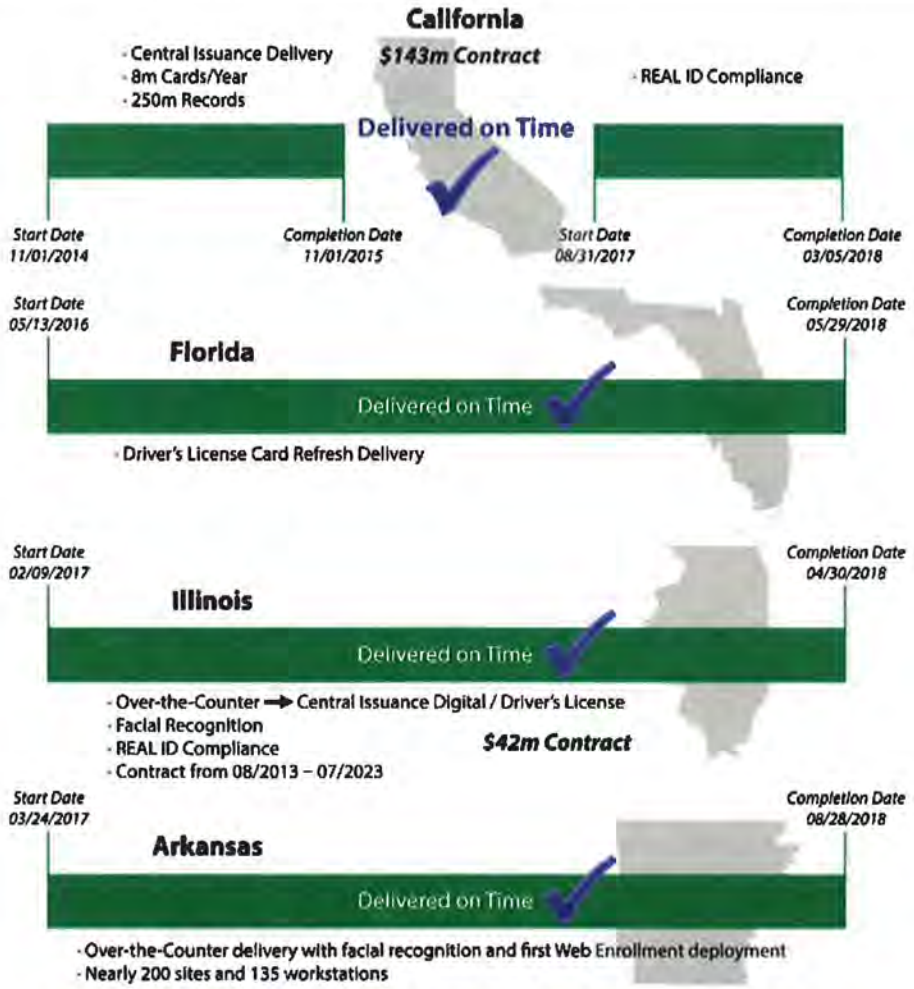


Figure 260: IDEMIA USA's History of Recent On-Time or Early Deliveries

We have a nearly four-decade relationship with the State of Nebraska and, as demonstrated by recent accomplishments, we are ready to complete implementation/deployment on schedule.

Our Project Team (shown in Figure 261) has extensive domain expertise in the State's driver's license issuance and knowledge and skills testing systems. In fact, many of our team members support the DMV today and have been directly involved in previous successful Nebraska deployments; this experience has provided our team with extensive knowledge of the existing systems, which reduces the delivery risk to the DMV and helps ensure successful implementation.

Figure 261: IDEMIA USA Nebraska CATS Program Team

Our team has unmatched experience on DMV programs and are subject matter experts in their fields. These familiar faces provide the DMV with the knowledge and depth of experience to provide an easy transition to your new CATS program

Our team is led by TJ Stamas as the Project Manager. Mr. Stamas is the Program Manager for the current Nebraska Driver's License contract. He is a certified Project Management Professional (PMP) who has been with IDEMIA USA since 2012 and has successfully deployed large projects for states across the Northwest region. Jacques Perrault, a longtime member of the IDEMIA USA Nebraska account team, continues as the Lead Technical Architect and is critical to ensuring our broader development team truly understands the DMV's needs and requirements. During the kickoff review, Mr. Perrault will lead a technical session(s) to confirm and finalize any open questions we have regarding the RFP specifications as well as to ensure that the DMV understands our planned technical solution and phased deployment approach. This discussion provides the opportunity for open dialogue around requirement definition and understanding and provides both the DMV and IDEMIA USA the ability to address requirement concerns in an open forum. The outcome of this meeting will ensure we can deliver the project technical specifications and to agree on the order of testing, planned pilot activity, and the final order of rollout that will allow us to complete the system implementation ahead of contract schedule timeframe.

c. *If big bang deployment proposed:*
   i. *Detailed information on preparation before execution*
   ii. *Detailed information on execution of approach*

This requirement is not applicable, as we are proposing a phased deployment approach.

d. *If a phased deployment proposed:*
   i. *Detailed information on how the system will operate in parallel, while keeping data synchronized in real time or near real time with the existing CATS*
   ii. *Detailed information on how phases will be defined (location, business process, etc.)*
   iii. *Order of deployment*

Our deployment strategy uses a phased approach that allows the DMV to continue with daily operations uninterrupted during normal business hours. Our approach depicts three specific phases of implementation, as described below:

Phase 1 – Front office implementation will use our new Web Enrollment product with our existing Image Server and back office infrastructure. The front office deployment will involve decommissioning old equipment and installing the new equipment in existing DMV facilities. We will work with the DMV to create a detailed plan for the front office deployment, including defining a pilot site. The plan will document site addresses, business hours, and contact information; training dates and time and the number of staff members to be trained; installation dates and

"ground rules"; installation completion checklist for DMV signoff after each installation; and initial equipment list per office. In this phase we will execute as follows:

1. Working with the DMV, we will complete planning and all necessary DMV-specific development of our Web Enrollment application, final definition and procurement of hardware, prepare for User Acceptance Testing (UAT), and agree on the defined pilot facilities.
2. We then image and install the equipment (depicted in Figure 262) to conduct the formal UAT, during which we demonstrate that the new system equipment and Web Enrollment application are performing as expected using the existing back office infrastructure. Upon State approval, we move on to the defined pilot.

Figure 262: Equipment Used to Conduct UAT

3. For the pilot, we will complete installation and checkout of the UAT-approved configuration during off hours in order to be ready before operations are scheduled on the following day. We then will audit system performance with the DMV for the duration of the pilot, as previously agreed in our Test Plan. Once the pilot period of performance is completed and the DMV has approved full production rollout, we will move to full deployment.
4. After the successful pilot of the new front office hardware and applications, we begin installing the solution site-by-site, moving through the DMV facilities as approved in the Implementation Plan. We will work closely with the DMV so that our deployments work in concert with the associated/defined training elements needed prior to bringing each office online. For the mobile workstations, we will deliver multiple units at previously specified locations and will support the DMV as they are relocated during the overall deployment.

Phase 2 – AutoTest/RoadTest implementation will replace existing hardware across all DMV facilities. We provide hardware to be used at third-party testing locations as well. This activity can occur independent of the front office and back office phases, but generally we recommend executing pilot and production deployment concurrently with the front office rollout, completing all upgrades at the same time to be more efficient, minimize overall disruption, and make the best use of personnel resource dependencies

1. Working with the DMV, we will complete planning and development of our AutoTest/RoadTest hardware and associated application, procure required hardware, and install the respective application. We will prepare for UAT and agree on the defined pilot facilities.
2. Next, we will image and install the testing tablets and associated equipment to conduct the formal UAT, during which we will confirm that the new system equipment and the application are performing as expected using the existing back office infrastructure.
3. Upon State approval, we move on to the defined pilot. We plan complete installation and checkout of the UAT-approved configuration during off hours to be ready before operations are scheduled to begin on the following day. Then, we work with the DMV to audit system performance for the duration of the pilot, as previously agreed upon in our Test Plan. Once the pilot is complete and the DMV has approved full production rollout, we will move to full deployment.
4. Having demonstrated and piloted the new AutoTest/RoadTest hardware and applications, we will begin installation and approval of DMV facilities in a site-by-site manner, as agreed upon in the Implementation Plan. **We will work with the DMV so that our deployments work in concert with the associated/defined training elements needed prior to bringing each office online**. For the third-party units, we will deliver and evaluate multiple units at previously specified locations and support the DMV as they are distributed to any third-party locations.

Phase 3 – Issuance 360 Back Office product implementation will migrate all back office functionality from the existing legacy server environment to the newly specified virtual machine (VM) environments provided by the DMV. This functionality is planned to be implemented after the conclusion of the previous two phases and will be cut over immediately following UAT with a modified pilot checkout at select sites. The back office functionality includes data conversion/migration, Issuance 360 Back Office, facial recognition, and the Factory Management System (FMS).

1. Working with the DMV, we will complete planning and all necessary DMV-specific development of our suite of back office applications, which will include Issuance 360 Back Office, facial recognition, and the FMS.
2. Once development is complete, we will deploy the new CATS back office solution in the test (or staged) VM environment provided by the DMV.
3. Concurrently with back office development, we begin data conversion and migration activity in accordance with our previously approved Conversion/Migration Plan. This effort takes existing data from current back office infrastructure, migrates a copy to the new VM test environments provided by the DMV, and then validates the data. Once validated, we will monitor daily batch updates from the existing back office infrastructure and update just prior UAT to ensure we can run in parallel with batch updates for the pilot with a limited number of facilities, if needed.
4. We will perform the final bulk data migration and initiate the daily catchup data migration process.
5. We will complete the initial bulk data migration, which can be updated in a batch manner during any testing/ pilot activity.
6. During back office development, we will complete the new card design. Our card design activity is further detailed in section P. Card Production and Mailing (particularly in our response to card design process on page 229).
7. Once all applications are promoted into the production VM environment, we will confirm interfaces between the DMV and new back office systems. This action is validated during system integration testing.
8. We will conduct a Back Office Pilot Readiness Review.
9. We will perform complete end-to-end testing, including completing the final Production Card Acceptance Documentation (PCAD) testing the connection between the new VM environment and the FMS at the CI factory.

    e. *Will the current system be interrupted for installation of new system? If yes, at what points and for how long?*

We have no planned interruption in operations and will work with the DMV on any necessary pilot in Phase 3 as we deliver the new card design.

X. Perform Implementation

b. Data re-enrollment, conversion, and migration

161. Describe your plan for data re-enrollment, conversion, and migration.

✓ **IDEMIA USA complies.**

This task is conducted as part of Phase 3 and provides a low-risk approach to data re-enrollment, conversion, and migration. Since we know and understand your data—especially as it has evolved over time—we are uniquely positioned to provide the smoothest and lowest risk transition of data to the new system. We follow a structured process to import images and data from the current image server into the new database that will be located on VM environments provided by the DMV. This iterative process is performed in three process phases, as shown in Figure 263. The three phases are:

IDEMIA USA has more experience managing the complexity of data conversion, migration, storage, and archival of vital historical data *than any other vendor*. Our extensive experience working with multiple generations of data—in some cases upwards of 50 million records—from our own legacy systems has taught us lessons that have refined our process and from which the DMV will benefit

1. Profiling source data, which analyzes all legacy records to identify any records that will fail to convert and the corrective actions so the record can be converted

2. Mapping data
3. Extracting, transforming, and loading data

We most recently used this process to complete an image and data migration to Issuance 360 Back Office in Massachusetts, with 26 million records migrated successfully.

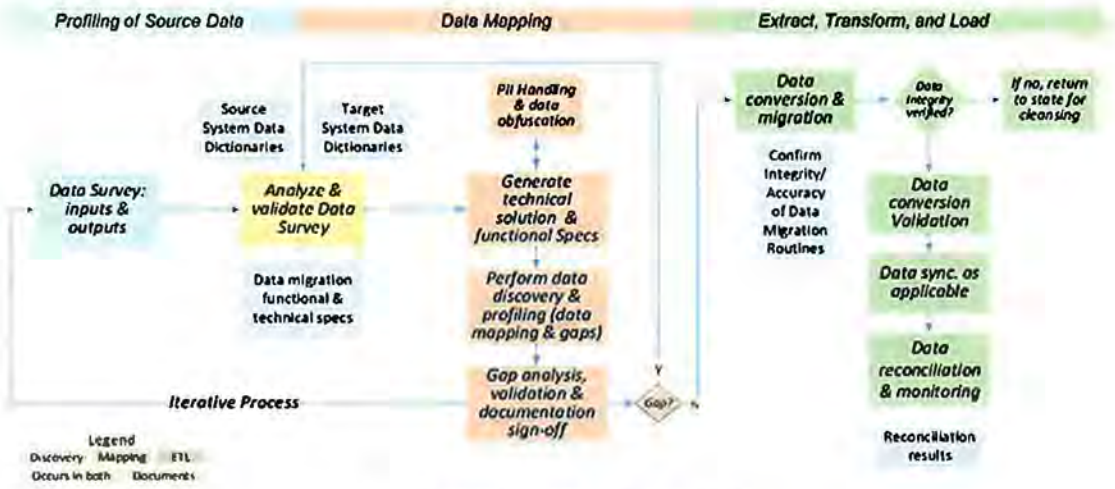


Figure 263: Data Migration Process

Our extensive experience working with multiple generations of data from our own legacy systems makes us a lower risk to the DMV's project implementation.

The final step in the migration process is production of reconciliation reports. These reports show that migration activities were successful according to the agreed-upon certification criteria for guaranteeing all in-flight records are accounted for in the new system.

Automatic enrollment of images into the facial recognition system takes place during the migration of data from Image Server into the Issuance 360 Back Office database. For the purposes of detecting mismatched and duplicate images and the possibility of internal error or potential fraud, we recommend using a process called a scrub. The scrub performs a many-to-many comparison of all images in the database to all others. Because the DMV has used our facial recognition software and has an extensive population of images, we recommend conducting a shorter, partial scrub, using a specified date that coincides with the date when facial recognition was disabled. The facial recognition system will compare only those images that are new since that date.

The proposed timeline for data migration is depicted in Figure 264.

Task Name	Duration	Start	Finish
Data Migration	**196 d**	**10/22/19**	**7/21/20**
Obtain Sample data set from customer (UAT)	**5 d**	**10/22/19**	**10/28/19**
Record Migration	**151 d**	**10/29/19**	**5/26/20**
Develop folio Extractor	35 d	10/29/19	12/16/19
QA legacy data Migration/ load workflow record (including bug fixes)	20 d	12/17/19	1/13/20
QA Handoff to Tier 3/Dev (IE)	1 d	1/14/20	1/14/20
QA Data Migration record in UAT env	10 d	1/15/20	1/28/20
Data Migration Application UAT sign off	0 d	1/28/20	1/28/20
Establish connection to Legacy data or obtain copy of entire database	5 d	1/29/20	2/4/20
Data Production Test Run (PROD)	20 d	2/5/20	3/3/20
Data Migration/ load (PROD)	20 d	3/4/20	3/31/20
Delta Data Migration (PROD)	40 d	4/1/20	5/26/20
Case Migration	**191 d**	**10/29/19**	**7/21/20**
Develop Case Extractor (case)	10 d	10/29/19	11/11/19
QA legacy data Migration/ load workflow case (including bug fixes)	20 d	11/12/19	12/9/19
QA Handoff to Tier 3 (IE)	1 d	12/10/19	12/10/19
QA Case Migration Case in UAT env	3 d	12/11/19	12/13/19
Case Migration Application UAT sign off	0 d	12/13/19	12/13/19
Establish connection to Legacy data or obtain copy of entire database	1 d	12/16/19	12/16/19
Case Migration Test Run (PROD)	2 d	12/17/19	12/18/19
Case Migration/ load (PROD)	2 d	12/19/19	12/20/19

Figure 264: Data Migration Timeline

X. Perform Implementation

b. Data re-enrollment, conversion, and migration

162. Describe your process for converting facial recognition cases/records from legacy facial recognition system to the proposed solution. Include information on how credential production will be enabled for converted records if the status is updated, clearing the record for production, after conversion.

✓ **IDEMIA USA complies.**

This activity also is executed as part of our Phase 3 implementation. We follow a structured, repeatable process to convert facial recognition records and make sure that no data is missed as it is moved into the new system. Rather than a conversion, which typically involves a complete reformatting of existing data and conversion of images, we foresee a simpler image migration and data transformation activity. IDEMIA USA takes the responsibility for getting your legacy data into Issuance 360 Back Office very seriously.

We recommend scrubbing current images to report mismatched and duplicate images and the possibility of internal error or potential fraud by performing a many-to-many comparison. Once the new system is in place, images are enrolled in the facial recognition system automatically during the migration of the image server data into the Issuance 360 Back Office database. The many-to-many comparison compares all images in the database to all others. This process usually yields a large number of flagged records, especially the first time it is run. Adjudication of those results would take place prior to Go-Live. It can be configured in four ways:

- A full 1:N (duplicate identity identification) and 1:R (record verification) comparison of all images for all records contained within the database
- A full 1:N comparison of all images for all records contained within the database
- A 1:N comparison of only the most recent image for each record in the database (with option to execute a 1:R for each record containing two or more images)
- A comparison on only images captured starting at a specified date

Our solution provides dedicated features to support cleansing of the image database for exceptions within a single record and between one or more records prior to Go-Live. Adjudication of the cleansing results can occur prior to Go-Live or in parallel with daily screening operations.

IDEMIA USA also offers a standalone professional service call the Anti-Fraud Service, which performs one or more cleansing operations:

- Evaluation of fraud and data errors
- Justification of full solution investment
- Adjudication and business assessments
- Cleansing of the initial record database prior to daily screening operations

Screening, case review, and reporting are provided using the same application features and functions as daily operations screening. Results are contained within a dedicated work queue with access managed by user roles. This approach enables the "cleanse" results to be linked to daily operations, which adds efficiency and lowers risk.

The proposed strategy performs cleansing prior to solution delivery after enrollment of the legacy database, as shown in Figure 265.

Figure 265: Data Cleaning Process

The steps in this process include the following:

- **Biometric Assessment** – details the specific timing, owner, and deliverables for each of the tasks along with milestones to assure the effort is on track
- **Data Design** –analyzes the existing image database and demographic information to define the data transfer into the biometric system
- **Data Transfer** – converts the images to the IDEMIA USA XML schema, creates the media, and secures transfer to IDEMIA USA facilities and transmission onto the biometric system
- **System Assembly** – procures the results server, software installation, and connection with the search accelerator servers

How credential production will be enabled for converted records if the status is updated

Automatic enrollment of images into the facial recognition system takes place during the migration of data from Image Server into the Issuance 360 Back Office database. For the purposes of detecting mismatched and duplicate images and the possibility of internal error or potential fraud, we recommend using a process called a scrub. The scrub performs a many-to-many comparison of all images in the database to all others. Because the DMV has used our facial recognition software and has an extensive population of images, we recommend conducting a shorter, partial scrub, using a specified date that coincides with the date when facial recognition was disabled. The facial recognition system will compare only those images that are new since that date.

X. Perform Implementation

c. Test activities

163. Describe the approach for system and unit testing, including integration testing.

✓ **IDEMIA USA complies.**

IDEMIA USA will use a combination of integration testing, QA testing, and system and unit testing (UAT) to identify usability issues and ensure the system's functional and software environmental issues are resolved.

Integration Testing

The purpose of integration testing is to verify that the interfaces between the DMV and IDEMIA USA systems are functioning in accordance with approved Interface Control Document. Testing is conducted by our development engineers working collaboratively with DMV engineers. We prefer to test interfaces as soon as the code on both sides is available. Our experience shows that thoroughly testing interfaces early in the program significantly reduces the number of issues uncovered during UAT.

Quality Assurance Testing

The purpose of QA testing is to verify formally and independently that all system requirements are being met. We document a formal set of tests and have an independent tester from our Solution Quality group perform the testing.

User Acceptance Testing

UAT will be performed by trained DMV personnel with support from IDEMIA USA. The purpose of UAT is to validate that:

- All elements of the system are integrated properly
- Overall end-to-end system functionality and performance are achieved
- All system components are exercised and conform to the system requirements

We will build the UAT system environment in VM space provided by the DMV to be functionally equivalent to the production environments. The UAT system also will be used to support training activities. After system acceptance, the UAT environments will remain available as a staged production area for DMV employees responsible for testing any updates or enhancements prior to moving changes into the production environment for the life of the Contract.

Defects or issues reported by the DMV test team during UAT will be entered into and tracked by Jira, a lifecycle management system from Atlassian Software. Jira is used from project inception through contract end so that a complete history of the project is maintained. Jira centralizes all internal communication about the issues entered into the system, tracks their status, and notifies team members of status changes to ensure the project team is informed and aligned. Our project team uses Jira to review UAT defects and track their status through resolution, making sure the fix is confirmed by both IDEMIA USA and the DMV testers. Reports generated from Jira are used during regular team meetings or test reviews to assess progress toward implementing fixes for reported defects.

During the course of UAT, IDEMIA USA will move quickly to address reported issues. We recommend that the DMV continue testing until all test cases have been executed to the greatest extent possible and reporting issues on a daily basis. Our Project Manager, Technical Lead, and Testing Lead will coordinate with the DMV to review the reported issues for severity (blocker, major, minor), classify them (as defect, training issue, or enhancement request), and determine disposition (fix, defer, close). Upon determination that an issue must be resolved for successful UAT completion, IDEMIA USA will implement fixes and release an update to verification. Once QA has completed verification of the fixes (including documentation updates), Configuration Management will release a new build for UAT. At that time, the update will be loaded into the UAT system for verification by the DMV. This iterative process will continue until the DMV and IDEMIA USA determine that the system is ready to move forward to pilot and production.

Prior to final sign-off of UAT, all stated requirements for functionality must be in place, tested, and working free of major bugs or defects. The results of UAT are reviewed by IDEMIA USA and the DMV representatives and are approved as appropriate, indicating that the delivered system is ready for implementation and that the project stakeholders accept the system. UAT must be completed successfully before the data migration phase can begin.

X. Perform Implementation

c. Test activities

164. Describe your approach to defect tracking.

✓ **IDEMIA USA complies.**

Defects or issues reported by the DMV test team will be entered into and tracked by Jira, a lifecycle management system from Atlassian Software. Jira is used from project inception through contract end so that a complete history of the project is maintained. Jira centralizes all internal communication about the issues entered into the system, tracks their status, and notifies team members of status changes to ensure the project team is informed and aligned. Our project team uses Jira to review defects and track their status through resolution, making sure the fix is confirmed by both IDEMIA USA and the DMV. Reports generated from Jira are used during regular team meetings or test reviews to assess progress toward implementing fixes for reported defects.

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Y. Post Implementation Support

a. Maintenance

165. Describe your plan for diagnosing hardware and software problems.

✓ **IDEMIA USA complies.**

IDEMIA USA provides distributed monitoring in real-time with centralized Web administration. It allows our support staff to see the health status of all of our hardware and software devices on the DMV network. Monitors include health checks for applications, databases, and performance such as host memory, processor, swap usage, and free disk space. Our monitoring solution provides excellent alerting capabilities. Email notification for outages, failures, and significant events will be sent to designated DMV personnel.

If a warning or critical event occurs, the monitoring solution will notify IDEMIA USA support staff via email and/or the support staff will review the centralized Web administration dashboard for any items found in yellow or red during daily checklist tasks.

Email notification for outages, failures, and significant events will be sent to the designated DMV and IDEMIA USA employees if production delays or issues occur. However, our support staff provides due diligence to minimize production issues, and warning notifications generated by the monitoring solution will prevent such occurrences from happening. This is accomplished by our expert support staff configuring the right metrics in each architecture layer of our solution, which in return establishes a complete view of the system and maximizes monitoring coverage.

Y. Post Implementation Support

a. Maintenance

166. Describe how you will coordinate with State resources to restore all hardware and software.

✓ **IDEMIA USA complies.**

The escalation path during normal system operation proceeds from the Help Desk to a service technician or member of our Sustaining Engineering Services group to a member of the development team. For difficult problems, we form a cross-functional team and work together to solve the problem. If the service issue is critical in nature (e.g., system outage), it is rapidly escalated to an Incident Response Team (IRT).

The IRT will manage the situation proactively to minimize customer impact by identifying and controlling the incident and engaging all necessary resources. The IRT will provide regular progress updates to identified DMV and IDEMIA USA management. At all times, we communicate clearly and update you on the progress of any issues.

The IRT will become engaged if an incident causes a complete interruption or extreme degradation of service delivery to the DMV's environment or business operation. In the event that a service issue results in an impact to production related to the servers, an entire DMV branch, or the central production facility, the IRT will be responsible for working with the DMV's IT group to triage, diagnose, and implement a solution and will remain engaged until the issue is resolved.

Y. Post Implementation Support

b. User support

167. Describe your plan to provide and track user support via telephone or other systems.

✓ **IDEMIA USA complies.**

IDEMIA USA will continue to provide the DMV with the same quality support we offer during the implementation phase of the project. Our plan is to provide and track user support throughout the delivery of support services.

Post-implementation, we will continue to offer our Help Desk (available 24x7x365 via a unique phone number assigned to the DMV), proactive monitoring tools, field service engineers, Tier 3 software/hardware maintenance, preventative maintenance, and field-proofed documentation. Our Help Desk is staffed with experienced service

representatives who handle approximately three million calls annually to support our various state and federal programs. All problems are recorded and tracked.

The key elements of our service excellence include:

- Proactive/Preventative Operations Support Plan
- Statewide Simple Network Management Protocol (SNMP) Proactive Monitoring
- 24x7 Help Desk and engineering support
- In-State systems administration and account management
- Highly trained and experienced field technicians
- Executive sponsors and the engagement of experts

Key services provided to the DMV include our Help Desk for central dispatch, field service team for onsite remedial and preventative maintenance, and Tier 3 software/hardware sustaining engineering support. Table 32 indicates benefits and features of our support approach.

Table 32: DMV Benefits from IDEMIA USA Support

Benefit	Features
We are always watching over your systems to protect uptime	"Around-the-Clock" 24x7 proactive system monitoring of all server, workstation, and application layers.
The team focus is on CATS uptime and meeting DMV service level objectives	We define specific routing rules for all after-hours support requirements to ensure service requests are handled in a timely fashion, which meet or exceed all the DMV's service level objectives.
Service without Borders	Cross-trained engineers are strategically located at bordering states with the ability to travel beyond state lines in order to meet/exceed our customer's service level objectives.

Help Desk

Our Help Desk will continue to provide experienced support to the DMV with proven processes and training practices. The Help Desk team has a closure rate of well over 50% of all issues upon first contact. We have an extensive and secure online Knowledge Base via our Customer Portal reduces the time to resolution for both our Help Desk and field service teams. In the near future, we plan to make this Knowledge Base customer-facing in order to enable self-service for customers who prefer to perform their own research before engaging our Help Desk.

Our Help Desk operates in a "Follow-the-Sun" model—meaning that it is available 24x7x365 and is appropriately staffed during peak hours in each time zone. This staffing model maximizes DMV uptime. Our dedicated and experienced staff is located in offices in Billerica, MA, Des Moines, IA, Fort Wayne, IN, Bloomington, MN, and Anaheim, CA.

Our Help Desk provides a live response to over 70,000 calls per year to our driver's license and credentialing customers with an average response time of just over two minutes.

When a service ticket is created in our service call management system, the IDEMIA USA field operations team will be notified simultaneously in real time via email and text message that a response is required. The system is set at pre-configured thresholds to provide automated reminders, at which time our Maintenance Lead/Field Support Lead will engage the best resource available to step in and make contact if support hasn't been sent already.

In addition to our 24x7 Help Desk, our service personnel serve in a Virtual Help Desk role whenever they are not active in the field. By engaging our local support engineers in a Help Desk role, not only are they familiar with the DMV's system at an expert level, they also are familiar on a personal level with your office staff and will be aware of any unique challenges they may encounter.

Figure 266: Communication Methods

With a choice of four ways to interact with IDEMIA USA, the DMV's staff members can choose the method they are most comfortable with or which best meets their immediate needs.

Communication Methods for Reporting and Tracking

In addition to our traditional 24x7x365 phone support, we will provide the DMV with access to three new 24x7x365 online services that we developed to improve your customer service experience: Customer Portal, Chat, and Knowledge Base. All three services are available at https://customerportal.IDEMIA.com/. Examples of 24-hour communication methods are shown in Figure 266.

- *Customer Portal* – Our Web-based Customer Portal is available for users authorized by the DMV to create, update, and review support tickets. Users may filter tickets by individual, product, facility, or other data field. This service is useful in locations where a telephone is not conveniently located for a problem that can be more clearly described in writing than verbally, or when a DMV staff member prefers to see the exact information being entered when creating a new ticket.
- *Chat* – Our online Chat tool provides access to a Help Desk staff member via a live chat window, which is available to the DMV's authorized users. It provides an alternative to calling when, for instance, a DMV staff member is looking for information but does not see the need to open a service ticket or when a matter is not urgent. If it turns out useful to open a service ticket, the Help Desk staff member can import the Chat history into the ticket.
- *Knowledge Base* – The Knowledge Base is a centralized repository of DMV-relevant technical documents available as a self-service resource via our online Customer Portal. Authorized DMV users will have direct access to our Knowledge Base to assist them in finding solutions to previously experienced problems, resolving frequently asked questions, and learning more about system operations. Examples of topics covering in the Knowledge Base include PC support, peripherals, and document authenticators.

Remedial and Preventive Maintenance and Repair Support

IDEMIA USA's field service team will be responsible for performing preventative and corrective maintenance throughout the life of the contract. We will provide the DMV with onsite remedial and preventive maintenance during normal working hours, generally between 7:00 am – 8:00 pm, Central Time, Monday through Thursday, and 7:00 am – 6:00 pm on Friday and Saturday, per RFP requirements.

Our current in-State field service manager, Jeff Atwell, and service engineers, Joseph Carlson and Mike Montgomery (who are strategically located in Lincoln and Hastings) will continue to provide the exceptional support they do today for the DMV's current programs. Additionally, we will maintain a regional field support staff fully prepared to meet and exceed the service level

Customer Service First

During the course of supporting your current program, periodic situations arise requiring Saturday service. Instances include field service technicians fixing broken equipment and accommodating branch requests due to their convenience. In several of these instances, we provided the service to support the need **at no additional charge.**

objectives. Our "Service without Borders" approach allows us to provide additional support when needed and never leave you without coverage.

Escalation Process

Our Help Desk and engineering teams have appropriate staffing levels available for emergency after-hours support. The IDEMIA USA escalation path proceeds from the Help Desk to a service technician or member of our sustaining engineering services team for routine issues. For difficult problems, we form a cross-functional team and work together to solve the problem. If the service issue is critical in nature (e.g., system outage), it is rapidly escalated to an Incident Response Team (IRT). The IRT will manage the situation proactively to minimize customer impact by identifying and controlling the incident and engaging all necessary resources. The IRT will provide regular progress updates to identified DMV and IDEMIA USA management. At all times, clear communication is regularly provided your staff, to update the DMV with the progress on the issue.

The IRT will become engaged if an incident causes a complete interruption or extreme degradation of service delivery to the DMV's environment or business operation. In the event that a service issue results in an impact to production related to the servers, an entire DMV branch, or the central production facility, the IRT will be responsible for working with the DMV's IT group to triage, diagnose, and implement a solution and will remain engaged until the issue is resolved.

Proactive Monitoring

The best service is no service needed!

We understand that support is about more than just fixing a problem; it is about observing, listening, and getting out in front of a problem before it happens. We install proactive monitoring software of capture workstations and peripherals to monitor system performance. Monitoring provides early warning of potential issues and allows our service technicians to take action proactively to prevent issues from affecting operations. For example, our proactive monitoring system provides a color-coded dashboard that signals alerts for potential or active issues. After receiving alerts, our support team evaluates the system status and takes immediate action to address the issues. The proactive monitoring solution has resulted in improved visibility of system operations and increased reliability.

Onsite Services

IDEMIA USA will provide all DMV offices with operational support, which will include initial office setup, hardware, supplies and consumables, all software downloads and installations required for equipment maintenance, upgrades, and office problems. We have three (3) full-time, in-state technicians strategically located across the State to respond to the immediate needs of the issuance offices within the prescribed timelines required by the DMV. Our Field Service Team has over 10 years of experience, giving us in-depth knowledge of your locations, operations, staff, and customers' needs.

We will respond to and completely repair any defect—whether an issue with issuance or testing—**within four work hours, typically in less than two hours, of it being reported**. Our Field Service Team will respond and provide defect or remedial support for all issuance or testing stations within four business hours, and typically in under two hours of report. We will respond and repair any issue reported with skills testing within eight work hours, with the exception of Lancaster, Douglas, and Sarpy counties where the response requirement is four hours. In the event that IDEMIA USA cannot complete a repair on the same day on which it is recorded (for example, if the problem is reported late in the day), our technicians will be available when the office next opens to complete the repair.

IDEMIA USA will work with the DMV to determine optimum preventative maintenance scheduling for all issuance sites. We will create all preventative maintenance schedules and will monitor all preventative maintenance activities using the Help Desk call management software. Our field service team will schedule all maintenance activities with the respective license office supervisor so that it will not disrupt the issuing office's daily operations. When practical, preventative maintenance will be performed during other site visits. If critical maintenance must occur before the next scheduled maintenance period, IDEMIA USA will coordinate this activity with the respective office supervisor. Before performing preventative maintenance, the IDEMIA USA technician will request clearance from the office supervisor.

Office Maintenance

We will perform maintenance to keep all IDEMIA USA-provided equipment and software in—or restore it to—good working order. This will include preventative and remedial maintenance, installation of safety changes, and installation of engineering changes based upon the specific needs of the individual item of equipment or software. It also will include any repair, replacement, or exchange deemed necessary to restore equipment to good working order. IDEMIA USA will perform the initial installation of all software on repaired, replaced, or exchanged equipment. Only current available technology will be used for spare and replacement parts, unless the technology

only can be replaced with like equipment, which will require full approval by the DMV. We agree to provide replacement hardware for reoccurring or chronic problems.

Our Field Maintenance Lead/ Field Support Lead, Jeff Atwell, will flag any hardware that has had three or more failures requiring a support call within a 12-month period. Mr. Atwell will provide a quarterly report of all hardware replacements that have occurred across the State, highlighting chronic hardware failures to help identify potential systemic problem.

Additionally, IDEMIA USA will use scheduled automated update services to update operating systems, antivirus, and malware software with approved patches and will ensure that security patches are applied promptly. We will implement and maintain DMV-approved malicious code scanning software and will perform periodic scans for the existence of malicious code on any computer or server that is:

- Used in conjunction with DMV services
- Used for access to DMV production environments
- Contains information designated as confidential by the DMV

This preventive maintenance approach supports our ability to provide maximum uptime to the DMV solution. Our service availability during Q1 and Q2 of this year was 99.5%.

Y. Post Implementation Support

c. Production

168. Describe your plan for daily printing and meeting credential production and mailing service levels.

✓ **IDEMIA USA complies.**

As is the practice today with IDEMIA USA's existing DL solution serving the State of Nebraska, the DMV will transmit card production requests for credential issuance transactions from CATS to the IDEMIA USA central issuance (CI) facility to enable card production, receive completed files back to CATS, and have appropriate reporting to reconcile production jobs. Currently, IDEMIA USA performs this function on a daily basis for 23 jurisdictions.

In keeping with all North American DL/ID issuance and federal standards, the IDEMIA USA Factory Management System (FMS) can receive securely transmitted files from CATS, translate the format for our production system, close out the job, and return issuance completion information to CATS following the final mailing of the cards. The FMS handles printing, mailing, and communication back to the DMV on production details.

IDEMIA USA will continue to provide the DMV with a central hosting location for FMS that handles communications with the DMV in a highly secure manner. The servers in this central location employ both high availability and disaster recovery with communication that adheres to Web services protocol industry standards. FMS will continue to use Simple Object Access Protocol (SOAP) with XML information sets for message format and HTTPS for encrypted transport protocol, as is used today for factory communications in support of DMV credential production. These same secure communications standards apply to communications between FMS and CATS as well as between FMS and the CI facilities. Building upon the factory communications interface already supported by the DMV will simplify the integration efforts for CATS and minimize implementation and security risks, since they have been in place for more than 10 years.

IDEMIA USA's servers feature a 24x7, high-availability configuration that safeguards against any single point of failure. It also eliminates downtime and service interruption due to server platform maintenance, backup, upgrades, or failures, ensuring data and images are always available when data and images are transferred to them. The FMS implementation in our primary hosting facility in Springfield, IL is backed by a secondary hosting facility in Sacramento, CA in case of a disaster affecting the primary and can be switched over automatically if/when the primary system fails. Each location will be staffed and managed to meet all operational needs in order to ensure timely and highest quality credential production and delivery to the residents of Nebraska. Our FMS allows us to transition production between the locations seamlessly without any needed State efforts to route production jobs to the alternative factory location. **In fact, we can produce in either factory or simultaneously at both factories with just a few system configuration settings by our factory managers to ensure the most efficient production of cards for the residents of Nebraska.**

Figure 267 depicts our proposed FMS workflow for the CATS solution in Nebraska.

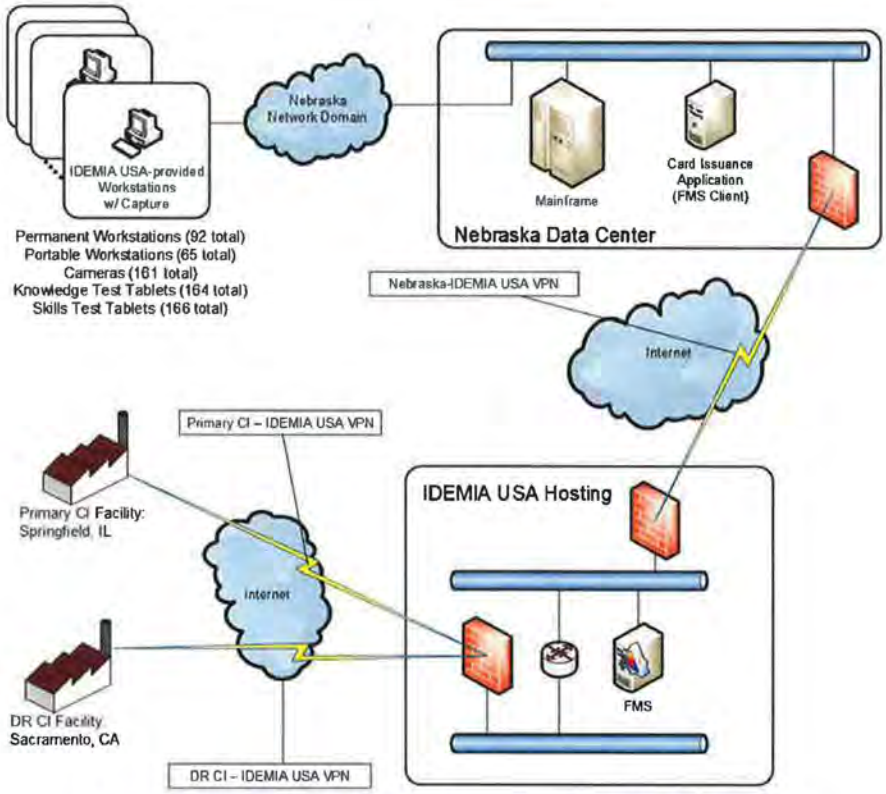


Figure 267: Proposed Factory Management System Workflow

Our FMS features both high-availability and disaster recovery mirrored configuration and a geographically diverse disaster recovery configuration for card production. FMS provides automatic load balancing and re-routing of card production requests in case of system failure.

AA. Extensibility for Future Growth and Development

a. Approach

169. Describe how your solution may meet the future growth and developments as described in Section V. Project Description and Scope of Work, AA. Extensibility for Future Growth and Development.

✓ **IDEMIA USA complies.**

During our longstanding partnership with the DMV, we have brought many innovations and firsts to the motor vehicle marketplace. Along with the rest of the AAMVA community, the DMV has benefitted from many of these advancements. Among them are these national "firsts":

- First complete digital ID system and fully digital capture station
- First centrally issued DL/ID
- First DL/ID facial recognition system
- First automated document authentication
- First Enhanced Driver's License
- First self-service DL renewal kiosk
- First mobile driver's license (mDL)
- First electronic ID (eID)

There also are many firsts that, by way of our partnership, have made the DMV an innovator for the rest of the AAMVA community. Together, we've shared some of these firsts with the DMV:

- First jurisdiction to fully implement use of the Digital Watermark (DWM) on a credential and the first to test this covert, machine-readable technology with reliant parties, paving the way as a stepping stone for what the TSA is using nationally today
- First to authenticate every DL/ID that comes into the office to validate its authenticity, leading the way as a cornerstone for true DL/ID authentication in the U.S.
- First to deploy a multi-tenant facial recognition system, which leverages the State's investments across agencies to provide a cost-effective way to perform biometric screening while maintaining the correct boundaries of propriety and privacy
- Among the first to integrate a Digital Image Exchange Program as a standard capture enrollment workflow for examiners to retrieve out-of-state photos for image verification
- Among the first to bolster the integrity of a DL/ID credential by leveraging its facial recognition implementation of the CDL Multi-State Screening Program with neighboring states

Figure 268 tells a brief story of our innovation over time. IDEMIA USA will continue to lead innovation in the motor vehicle market as we venture into the digital credential world.

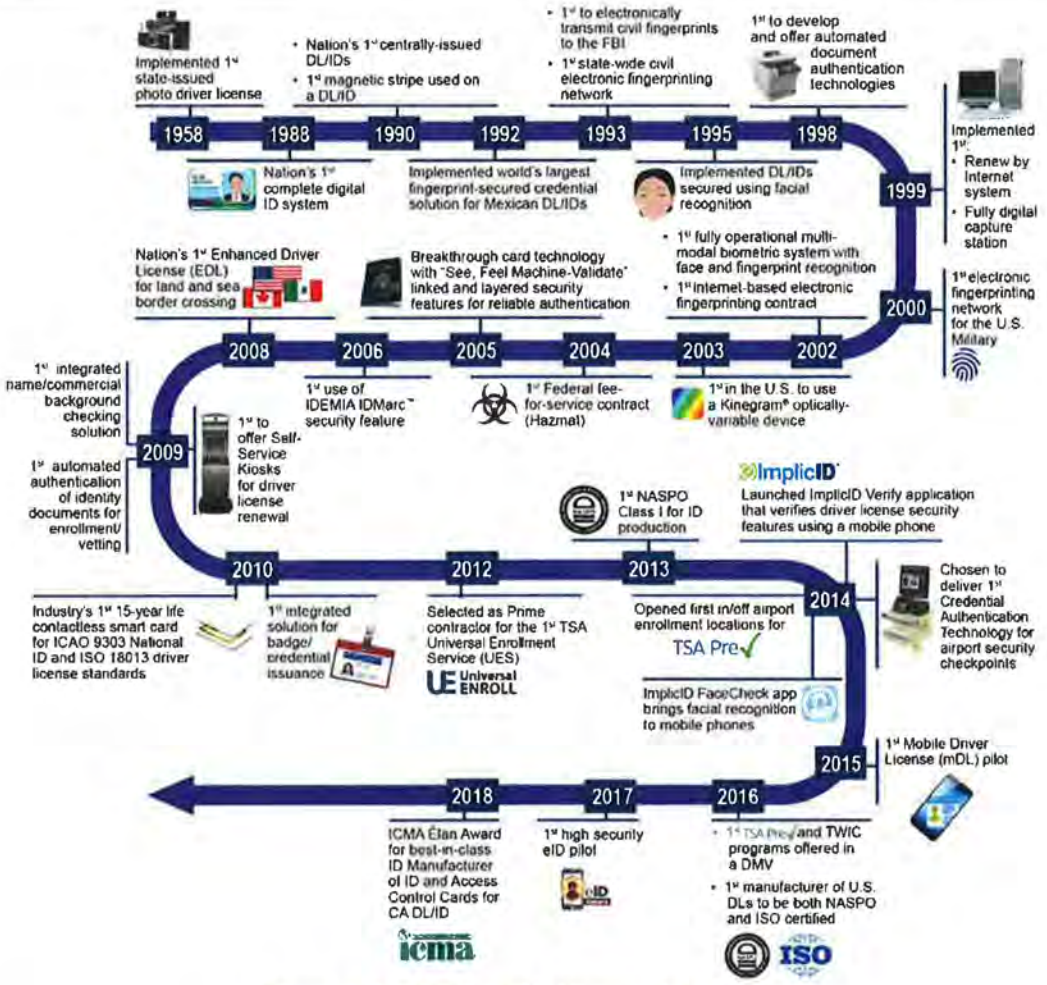


Figure 268: IDEMIA USA's History of Innovation

For more information regarding how our solution may meet the future growth and developments as described in Section V. Project Description and Scope of Work, AA. Extensibility for Future Growth and Development, please see the last section in our volume titled SECURITY FEATURES: PROPRIETARY AND CONFIDENTIAL. We have moved this information into that volume because it describes Trade Secret, unreleased elements of our solution that may benefit our competitors.

Q. REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS

7. Submission of 48 credential samples (see below).

The Bidder must supply a minimum of 48 card samples of the recommended card type with the proposal. These samples may be subject to independent laboratory tests for compliance with the current version of AAMVA DL/ID Card Design Standards and federal Real ID Act (6 CFR Part 37). The samples must be free of any elements/indicia identifying the Bidder or manufacturer and be made up of the following:

i. Four adult driver license cards;
ii. Four minor driver license cards;
iii. Four adult identification card cards;
iv. Four minor identification card cards;
v. Four adult commercial driver license cards;
vi. Four minor commercial driver license cards; and
vii. Twenty-four of any of the above types of cards (may all be the same or a mixture of Bidder's choosing).

Q.7

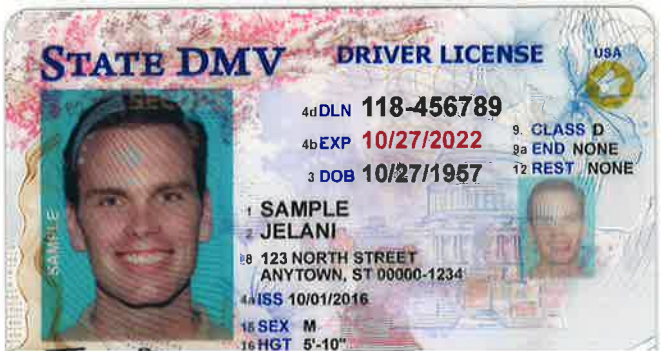
REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS
Submission of 48 credential samples

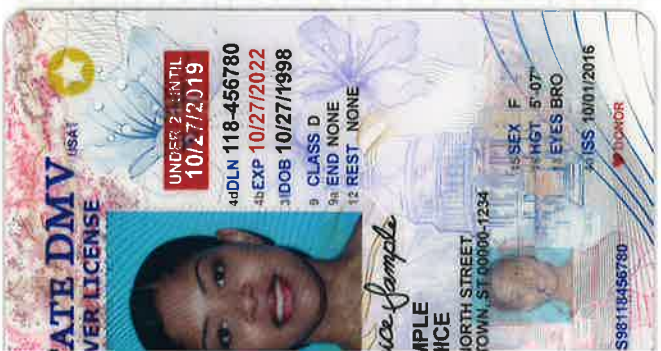
FOUR ADULT DRIVER LICENSE CARDS

Q.7

REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS
Submission of 48 credential samples

FOUR MINOR DRIVER LICENSE CARDS

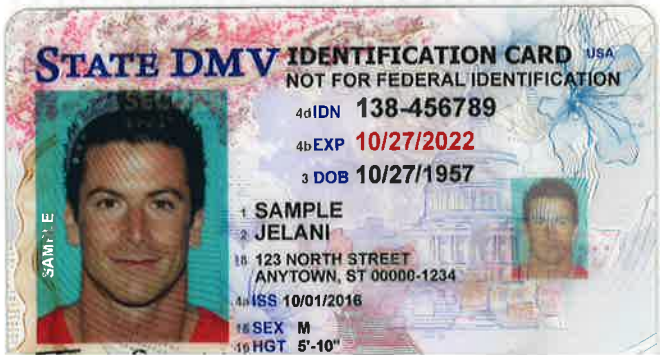




Q.7

REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS
Submission of 48 credential samples

FOUR ADULT IDENTIFICATION CARDS



Q.7

REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS
Submission of 48 credential samples

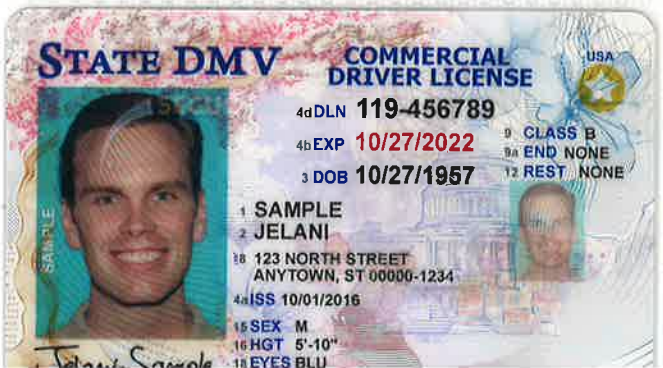
FOUR MINOR IDENTIFICATION CARDS

STAPLES®

Q.7

REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS
Submission of 48 credential samples

FOUR ADULT COMMERCIAL DRIVER LICENSE CARDS



Q.7

REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS
Submission of 48 credential samples

FOUR MINOR COMMERCIAL DRIVER LICENSE CARDS

STAPLES

Q.7

REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS

Submission of 48 credential samples

24 OF ANY CARD TYPES

STAPLES


ATE DMV USA
ITIFICATION CARD
NOT FOR FEDERAL IDENTIFICATION
UNDER 21 UNTIL 10/27/2019
4d IDN 126-456780
4b EXP 10/27/2022
3 DOB 10/27/1998
ce Sample
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15 SEX F
16 HGT 5'-07"
18 EYES BRO
4a ISS 10/01/2016
598126456780
DONOR


STATE DMV USA
IDENTIFICATION CARD
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UNDER 21 UNTIL 10/27/2019
4d IDN 126-456780
4b EXP 10/27/2022
3 DOB 10/27/1998
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1 SAMPLE
2 JANICE
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STATE DMV USA
IDENTIFICATION CARD
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IDENTIFICATION CARD
NOT FOR FEDERAL IDENTIFICATION
UNDER 21 UNTIL 10/27/2019
4d IDN 126-456780
4b EXP 10/27/2022
3 DOB 10/27/1998
SAMPLE
Janice Sample
1 SAMPLE
2 JANICE
8 123 NORTH STREET
ANYTOWN, ST 00000-1234
15 SEX F
16 HGT 5'-07"
18 EYES BRO
4a ISS 10/01/2016
5 DD JS98126456780
DONOR


STATE DMV USA
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STAPLES®


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UNDER 21 UNTIL 10/27/2019
4d IDN 141-456780
4b EXP 10/27/2022
3 DOB 10/27/1998
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2 JANICE
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ANYTOWN, ST 00000-1234
15 SEX F
16 HGT 5'-07"
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