

West Virginia Division of Motor Vehicles Driver System Modernization

TECHNICAL PROPOSAL

West Virginia Department of Motor Vehicles
Response to CRFP-0802-DMV2402

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WV PURCHASING
DIVISION

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Acronyms & Definitions

The following acronyms are used throughout this RFP response.

Acronym	Description
AAMVA	American Association of Motor Vehicle Administrators
ASA	Average speed of Answer
BIS	Business Information Systems (now i3 Verticals)
COTS	Commercial Off-The-Shelf
i3VDLS	i3 Verticals Driver Licensing System
ICD	Interface Control Document
IFTA	International Fuel Tax Agreement
IRP	International Registration plan
OOTB	Out of The Box
PII	Personally Identifiable Information
RBAC	Role Based Access Controls
SOA	Service Oriented Architecture
TN DOR	Tennessee Department of Revenue
WVDMV	West Virginia Department of Motor Vehicles

The following are definitions of terms used throughout this response.

- “WVDMV User”: Defines an internal user of the solution at WVDMV.



March 1, 2024

Mr. David H Pauline, Senior Buyer
West Virginia Purchasing Division
2019 Washington Street
Charleston, WV 25305

RFP Submission: West Virginia Department of Motor Vehicles, WV DMV Modernization of Driver System, RFP CRFP DMV24-02

Dear Mr. Pauline,

Celtic Cross Holdings, Inc., an i3 Verticals company ("i3 Verticals"), is pleased to provide the following response to the West Virginia Department of Motor Vehicles (WVDMV) for the WV DMV Modernization of the Driver System. Our i3 Verticals' DMV licensing and registration solution, referred to herein as i3VDLS throughout the proposal, is a cloud hosted, Commercial Off-The-Shelf (COTS), completely configurable solution.

As your current provider for DMV First, we are pleased to provide this proposal for this modernization and within this proposal describe how this current partnership will benefit the WVDMV. Our goal is in alignment with those of this RFP, to enhance the entire WVDMV with our integrated, modern version of our software suite, featuring a complete, automated system, alleviating technical resources and support from WVDMV.

Our i3 Verticals Driver Licensing System (i3VDLS) solution will:

- Reduce costs by alleviating wasted WVDMV resources and time.
- Reduce risk through accurate, automated transactions.
- Provide WVDMV licensees with a customer centric, easy to use, web based, user interface that is branded to WVDMV.
- Provide WVDMV users with a consistent interface, no matter what device is used to access the system.
- Easily integrates with other third-party systems.
- Align with WVDMV processes and procedures.
- Provide WVDMV users with search functions specific to their needs.
- All system upgrades, maintenance, and support.
- Include biometrics as a feature of the systems' future roadmap.

i3VDLS complies with all West Virginia state and federal laws and regulations.



We have thoroughly read and understand the solicitation, the addendums, and all related documents, and feel our responses meet or exceed the requirements of this RFP. We have compiled the requirements with the i3 Verticals response within this technical documentation. WVDMMV requirements are shown in *italics* with the i3 Verticals response following. This proposal has been compiled in accordance with the directions from the WVDMMV Driver System Modernization RFP.

In receipt of Addendum 8, included were answers to questions appearing to be in response to a different WV RFP for the DMV Cloud-Based Contact Center Solution, CRFQ 0802 DMV 2400000001. Within this Addendum were responses to questions regarding a call center. This response does not incorporate a WVDMMV constituent call center. However, should the WVDMMV determine that these requirements to be inclusive of this response, we would ask for this in writing to include the call duration, targeted Average Speed of Answer (ASA) or service level, and more, with additional time as a consideration for the addition to this response.

Should there be any questions throughout the review of this proposal, we invite both Purchasing and WVDMMV to please contact us. Please contact Mr. Stoney Hale on his mobile number, (423) 773-2566 or via email at shale@i3verticals.com. We look forward to demonstrating this solution to WVDMMV and the next step in the award process.

Thank you for your current business and thank you for the privilege of your time in consideration of this proposal. We are excited to deliver this solution and further our partnership to meet your needs for this project and all future WVDMMV goals.

Sincerely,

Handwritten signature of Crystal Bell in black ink.

Crystal Bell
President, Enterprise Solutions
i3 Verticals, LLC

Handwritten signature of Stoney Hale in black ink.

Stoney Hale
EVP, Transportation Division, Public Sector
Celtic Cross Holdings, LLC



Executive Summary

Continuing the partnership with i3 Verticals equips WVDMV through:

Stability

i3 Verticals, LLC. (i3 Verticals) delivers seamless, integrated software and services to customers in strategic vertical markets. The company was founded in 2012 and has successfully completed 46 mergers and acquisitions. i3 Verticals is headquartered in Nashville, TN with over 1675 employees in the US. i3 Verticals has been recognized for its commitment to customer service, with a focus on providing personalized support to its clients 24/7. i3 Verticals has consistently generated positive cash flow from operations. FY22 EBITDA was \$100 million. GAAP Cash flows from operating activities were \$45.9M and \$25.5 for FY22 and the first six months of FY23, respectively. This means the continuation of the partnership with i3 Verticals provides assurance in our stability, with research and development funding for WVDMV, concentrating on a future, inclusive of the latest, groundbreaking tech.

Deep Knowledge

i3 Verticals includes the best talent in each industry for each of our six (6) verticals. Our extensive experience in integration and an understanding of vehicle, licensing, government agency processes and regulations means the relationships with our clients extend far past the standard timeline for a project. We are honored to continue these relationships from initial solution replacements, into future solution expansions, becoming partners in the goals with each client. By combining software technologies and revenue cycle management expertise, billing and payment processing are optimized, resulting in improved client performance, improved business processes, increased cash flow and savings in waste for each client.

i3 Verticals provides solutions for motor carrier and motor vehicle needs, providing exceptional knowledge and products to address the goals and objectives of this RFP. i3 Verticals products have been successfully implemented in more than 20 state jurisdictions throughout the United States and Canadian Provinces for over 20 years. Our experience with solutions specifically designed for state agencies, including certification and implementation with solutions for Alabama, Georgia, Idaho, Missouri, Montana, Ohio, West Virginia, and the District of Columbia.

Adaptability

Our proposed solution is based on a Service Oriented Architecture (SOA) with a presentation layer, a business logic layer, and a data layer. Think of each layer as modular, independent of the other, with each performing in cohesion. This means changes to one module or layer does not affect another module/layer, with configurable component modules to minimize the need for code changes, with little to no client IT participation. Should changes be required due to business initiatives, legislation, mandates, or other internal or external departments require a change, these are easy to make and do not require full solution coding, reducing downtime as well. The i3 Verticals project team, and our i3 Verticals' Driver License Solution (i3VDLS) complies with the work and state contract requirements as specified within this RFP.

Proven Experience

In 2015 the State of Tennessee chose i3 Verticals, at that time operating as i3-BIS (Business Information Systems) with the acquisition by i3 Verticals in February of 2021, to modernize their Vehicle and Title Registration System, the project went live in 2017 is hosted in the state's datacenter. Since then, the State of Tennessee has enjoyed a modern, innovative system

allowing users higher efficiencies and greater savings through accuracy and effectiveness. The acquisition of i3-BIS enables i3 Verticals to specialize in providing solutions to the public sector market, automate workflow solutions, and expand our government focus even further. We now serve more than 300 organizations throughout the United States and Canada, providing content management solutions.

These strengths give us the unique capability to focus on key elements that advance the success of our clients.

Scalability – Our solution is based on open architecture and can scale up and down, on demand. This means faster roll out of enhancements, changes, and potential changes for WVDMV.

Compliance and Security – We understand the importance of security in Motor Vehicle Agencies. WVDMV can be confident i3VDLS meets all compliancy requirements and protects all users with leading edge security.

Future Ready – Our solution is developed on best-of-breed technologies, providing the inclusion of biometrics and AI as future developments. The flexibility to adapt to future changes – whether driven by technology, legislation, or business – i3VDLS can pivot and get to market. Our solution is based on an open interface model and is both cloud native and mobile-ready, meaning i3VDLS meets users where they are.

i3 Verticals' current partnership with WVDMV in this journey ensures a commitment to:

Added Value

i3 Verticals' Businesses Provide Solutions. All our verticals have one thing in common. They're different. That's why we start with extensive discovery sessions with our clients to assess their needs and the best practices for their industries.

Our Word is Our Bond

We pride ourselves on transparency and doing what we say we will do. However, please, don't take our word for it, ask our clients!

We're There, and Always Will Be.

i3 Verticals, is a leader in the Transportation digital solution industry. Our experience is what allows us to provide our clients with the best, every day. Our customers become partners, far surpassing most contracts, because we work beside them and will always be there.

Solution Overview

i3 Verticals Driver License Solution (i3VDLS)

Welcome to the future of West Virginia driver's licenses! Our i3VDLS solution provides all twenty-six (26) West Virginia Department of Motor Vehicles (WVDMV) Vehicle Services a modernized, customer centric, web-based driver licensing system, that interfaces with all third-party WVDMV services.

Powered by  VERTICALALS

i3VDLS will enable WVDMV agents and internal staff to:

- Conduct business with customers efficiently and effectively, with access to all required systems through one solution and one screen.
 - Utilizing fast, feature driven search functions, with access to over twelve million potential records.
 - Connections with outside systems for real time information for license transactions.
 - Having all driver and licensing information available, including vehicle information, with a defined, lifelong Customer Number, and the driver record serving as the master record.
- Build on existing i3Verticals products currently implemented in WV to provide seamless integrations.
- Provide the highest security, with access relating to user-based roles, and visibility tiers, incorporating WV OT policies and procedures.
- Trust a completely compliant solution in accordance with all West Virginia state and all federal regulations and laws.
- Meet customers and constituents where they are, based on a mobile first design for internal users and WVDMV customers, no matter the device used.
- Improve all business processes and workflows, concentrating on effectiveness and efficiency.
- Improve risk management with automated workflows, automated processes, and more, all based on a trusted system.
- Mold the future of WVDMV by partnering with i3 Verticals for potential future enhancements to i3VDLS with Interactive Voice Response assisting with customer calls, AI, and much more!

RFP Terms and Conditions

Below is a response to the RFP Terms and Conditions and the West Virginia Division of Purchasing's General Terms and Conditions section of this response. We have included only those sections requiring a response to keep this response concise and to save paper. i3 Verticals acknowledges and agrees with these omitted sections, with this response following each section as written in the original RFP. Should the WV Division of Purchasing require a response to these sections, i3 Verticals can accommodate and provide upon request.

2. Mandatory Terms

i3 Verticals has provided responses to the mandatory provisions identified with the use of words: must, will, shall within this proposal.

6. Bid Submission

i3 Verticals has printed and delivered this proposal, including one (1) technical proposal and one (1) cost proposal response in accordance with the deadline.

8. Addendum Acknowledgement

i3 Verticals acknowledges all published addendums to this response and has included signed addenda as part of this technical proposal within [Appendix 1](#).

11. Exceptions and Clarifications:

i3 Verticals takes no exception to the specifications of this RFP. We do request a clarification of Section 11 of the General Terms and Conditions, Liquidated Damages. i3 Verticals assumes responsibility for the inability to process a DL/ID only in cases of service or systems failure within i3 Verticals' direct control, configuration, or administration.

Clarification to Addendum 8

This proposal is i3 Verticals' response to the WDMV RFP # CRFP-0802-DMV2402 Driver System Modernization. We are purposefully not responding to the changes contained in the responses and answers within Addendum 8 published on February 1, 2024, for this RFP. This is due to the late notice of the change, the lack of clear direction and responsiveness from West Virginia Procurement, and the inability to ask questions about the new requirements that would be essential data points to effectively size and price the contact center requirements, including call duration, service level targets for the call center, duration of chats, service level for the chats, service level for emails, etc. These factors would all affect staffing and thus drastically affect pricing.

13. Vendor Registration

i3 Verticals, LLC. and Celtic Cross Holdings Inc. are currently registered with the West Virginia Purchasing Division, a copy of the registration documents or details will be provided upon award, prior to contracting.

General Terms and Conditions

3. *Contract Term, Renewal, Extension:*

Initial Contract Term: i3 Verticals understands and agrees to the terms of the contract resulting from this proposal for an initial period of five (5) years.

Renewal Term: i3 Verticals understands and agrees to the terms of the contract resulting from this proposal for an additional period of five (5) years renewal period, based on approval from the Purchasing Division and the Attorney General's Office.

5. *Quantities*

Open End Contract: It is understood and agreed that this contract shall cover the quantities ordered for delivery during the term of the contract, whether more or less than the quantities shown.

Combined Service and Goods: The scope of the service and deliverable goods to be provided are more clearly defined in the specifications included herewith.

8. *Insurance*

Included with this proposal is the Certificate of Insurance as proof of the amount of \$1,000,000.00 of Commercial General Liability Insurance, as proof of insurance for this proposal, which is i3 Verticals' standard coverage. The Commercial General Liability will be increased to \$5,000,000.00 at the time of award, with a certificate sent to State of West Virginia as the Certificate Holder. A copy of the certificate is shown on the following page and included in [Appendix 2](#).



CERTIFICATE OF LIABILITY INSURANCE

Page 1 of 1

DATE (MM/DD/YYYY)
12/05/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Willis Towers Watson Southeast, Inc. c/o 28 Century Blvd P.O. Box 28528 Nashville, TN 37205191 USA	COUNTRY Willis Towers Watson Certificate Center NAME: PHONE (AC, Int, Ext): 1-877-945-7378 FAX (AC, Int): 1-888-467-2376 E-MAIL ADDRESS: certificates@willis.com
INSURED Celtic Cross Holdings, Inc. 8961 E. Hill Road, Suite 101 Scottsdale, AZ 85260	INSURER(S) AFFORDING COVERAGE INSURER A: National Fire Insurance Company of Hartford 20478 INSURER B: Continental Insurance Company 35289 INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES CERTIFICATE NUMBER: W31301850 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSTR LTR	TYPE OF INSURANCE	DESCRIPTION (REQD)	W/O	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GENL AGGREGATE LIMIT APPLIES PER POLICY <input type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC <input type="checkbox"/> OTHER			6079506577	10/31/2023	10/31/2024	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Per occurrence) \$ 500,000 MED EXP (Any one person) \$ 15,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
2	<input checked="" type="checkbox"/> UMBRELLA LMB <input type="checkbox"/> EXCESS LMB <input checked="" type="checkbox"/> RETENTION \$ 10,000			6079506613	10/31/2023	10/31/2024	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPR TO OR PARTNER/EXECUTIVE OFFICERS INSURED/EXCLUDED? (Mandatory in RI) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A				<input type="checkbox"/> PER STATUTE <input type="checkbox"/> CIVIL EM E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 191, Additional Remarks Schedule, may be attached if space is required)

CERTIFICATE HOLDER State of West Virginia Purchasing Division 2019 Washington St E Charleston, WV 25305	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE:
---	---

ACORD 25 (2016/03) The ACORD name and logo are registered marks of ACORD © 1988-2016 ACORD CORPORATION. All rights reserved. SR ID: 25072930 MARK: 3233462

9. Worker's Compensation Insurance

As part of the Certificate of Insurance provided at the time of award, i3 Verticals will include coverage relating to Worker's Compensation of \$1,000,000.00.

11. Liquidated Damages:

i3 Verticals assumes responsibility for the inability to process a DL/ID only in cases of service or systems failure within i3 Verticals' direct control, configuration, or administration.

Section 4: Project Specifications

4.1 Background and Current Operating Environment:

Department Overview

WVDMV is responsible for a variety of services to the general public. WVDMV provides these services from twenty-six locations, online, self-service kiosks, automobile dealers, and authorized license services. In fiscal year 2021 WVDMV processed transactions for 1,868,472 registered vehicles and 1,273,268 licensed drivers. The main areas of responsibility of the DMV include Driver Services, Vehicle Services, Regional Office Operations, and Motor Carrier Services.

Driver Services

Driver services' responsibilities include educating, testing, licensing, monitoring, and improving West Virginia's licensed drivers. The Driver Services Section applies the graduated driver licensing laws for those drivers who qualify under West Virginia law as well as applying the federal requirements for the West Virginia Commercial Driver License (CDL) holders. The Driver Improvement section records convictions for citations, processes drivers whose licenses are suspended, revoked, or disqualified for various violations of West Virginia law. The Medical Review Unit is responsible for the tracking of driver medical conditions resulting in the termination or suspension of driving privileges. The Compulsory Insurance unit monitors motorist compliance with West Virginia's compulsory automobile insurance law by taking administrative action, reviewing crash reports, and conducting random ongoing verification.

The DMV's driver services section also provides official identification cards to West Virginia citizens, West Virginia employee identification cards, State Bar identification cards, supports the State's Organ Donor Program, assists voter registration through the Motor Voter Program, handicap placards, and provides various other driver services.

All driver's license transactions are processed online, in real time through CICS transactions on the State's Mainframe (IBM z/OS Version 2.4) Driver System Solution. Driver data is stored in a DB2 database (v12.100 CM) and there are approximately twelve million records. The Driver's System is maintained by the Department of Transportation Information Technology Division (DOT IS).

Vehicle Services

Vehicle services' responsibilities include vehicle titling and registration for all West Virginia vehicles, motorboats, motorcycles, trailers, and special purpose vehicles. Vehicle Services offers various specialty and personalized license plates for its citizenry. The Dealer/Leasing Services section of the WVDMV also serves the automobile and truck dealers by licensing dealers, processing dealer title work, conducting annual inspections of licensed dealers and license services, and operating a special process for titling leased vehicles which allows taxes to be assessed on the value of the lease rather than the vehicle's value.

Vehicle services are currently in the beginning stages of implementing a digital title and electronic lien system that will replace the mainframe as the system of record along with many of the current paper processes.

Regional Office Operations

Regional Office Operations provides WVDMV services to West Virginia citizens in twenty-six locations across the state Monday through Friday and two locations on Saturdays, excluding holidays. These offices utilized a combination of mainframe and modernized technology to process more than 1.2 million transactions in the fiscal year 2021.

Motor Carrier Services

Motor Carrier Services oversees credential issuance and revenue collection from the commercial trucking industry by participating in two multijurisdictional, revenue and credential reciprocity compacts:

*International Fuel Tax Agreement (IFTA); and
International Registration Plan (IRP);*

to support the State's trucking industry. The two compacts spearhead a technology driven effort to simplify legal compliance procedures for the trucking industry and bring maximum economic efficiency to interstate and US-Canadian commerce. Commercial motor carriers are able to operate throughout most of North America with tax and registration credentials issued by their home jurisdiction.

Investigation, Security, and Support Services (IS&S)

IS&S is responsible for conducting internal and external investigations including:

- *Employee fraud*
- *Customer fraud*
- *Driver and vehicle license fraud*
- *Unlicensed dealer fraud*
- *Odometer, vehicle tax, and title fraud*
- *Identity theft*
- *Stolen vehicles*

IS&S also conducts background checks, provides AAMVA training certifications for driver license, motorcycle license, commercial driver examiners, and third party CDL examiners, and manages the WVDMV vehicle fleet.

i3 Verticals Response:

Our proposed solution, i3VDLS, is based on a Service Oriented Architecture (SOA) with a presentation layer, a business logic layer, and a data layer. Each layer is independent of the other, with each performing as a separate module. This means changes to one module or layer does not affect another module/layer, with configurable component modules to minimize the need for code changes, with little to no client IT participation. If business initiatives, legislation, mandates, or other internal or external departments require a change, these are easy to make and do not require full solution coding, which reduces downtime. The i3 Verticals project team, as well as the solution proposed, complies with the work and state contract requirements as specified within this RFP, including that of licensing, in accordance with WV OT Policies.

i3VDLS provides a customer facing portal that is easy to navigate, branded to West Virginia and accessible to anyone on any device from the West Virginia who completes driver license.

The i3 Verticals team will implement i3VDLS to WVDMV legacy systems and third parties, with a provided open API package. These implementations include real time connections (where available), updates, and reporting to:

- Compulsory Insurance Unit
- CICS
- DB2 Database
- DOT IS
- Future Vehicle Services Digital Title & Electronic Lien System
- WV Self-Service Kiosks
- IS&S
- WV CVIEW
- WV State Bar (if open API package is available)
- Organ & Tissue Donor Registry (if open API package is available)
- Utilities CIS Systems (if open API package is available)
- WV Department of Revenue (if open API package is available)

i3VDLS also has the capacity to integrate with third party biometric authentication systems such as Azure Biometrics or internal DMV/Law Enforcement biometrics.

4.2 Project Goals and Mandatory Requirements:

WVDMV currently uses several disparate systems to assist customers conducting business with WVDMV. The Division of Motor Vehicles Agent (DMVA) may need to access as many as seven different screens to properly assist the customer who is attempting to comply with state and federal laws. WVDMV is seeking a vendor to provide and implement a modernized, customer centric, web-based driver licensing system that will interface with all other WVDMV systems and is capable of returning all driver and vehicle information pertaining to the search. Vendor should describe its approach and methodology to providing the service or solving the problem described by meeting the goals/objectives identified below. Vendor response should include any information about how the proposed approach is superior or inferior to other possible approaches.

4.2.1 Goals and Objectives – The project goals and objectives are listed below.

4.2.1.1 *To modernize our legacy mainframe WVDMV driver system to a modern application that improves business process efficiencies with little to no interruption to the customer, which is also scalable and responsive to change.*

4.2.1.2 *Establish a customer centric model that supports/allows a method to retrieve both driver and vehicle information with one search method.*

This desired architecture and processing is included in this modernization effort. This is a new application which does not exist today. WVDMV envisions that this project will enable a linkage between the driver system and the vehicle system, connecting vehicles and their owners.

Each person doing business with the DMV will have a Customer Number or some other unique identifier assigned to them on their first contact with the DMV. That number or identifier will stay with them for life. Once this number or identifier is generated and assigned it will never be changed and it will not be reused.

Existing drivers and vehicle owners will be assigned a Customer Number or unique identifier and loaded into the database.

Any time new information is added to any portion of that person's records it will be indexed by the Customer Number or unique identifier. Driver Services, Vehicle Services, Regional Offices and the Mailroom may update information that is immediately available to anyone accessing that customer.

i3 Verticals Response:

i3VDLS will revolutionize the way WVDMV processes licensing and registrations for current customers and WVDMV users. We understand that this project is a significant undertaking on the part of WVDMV and its success is paramount for addressing WVDMV's future. We recognize the challenges WVDMV users currently face, and will ensure the success of the entire project, with WVDMV becoming our next glowing client reference. i3 Verticals utilizes phases for our plan for modernization.

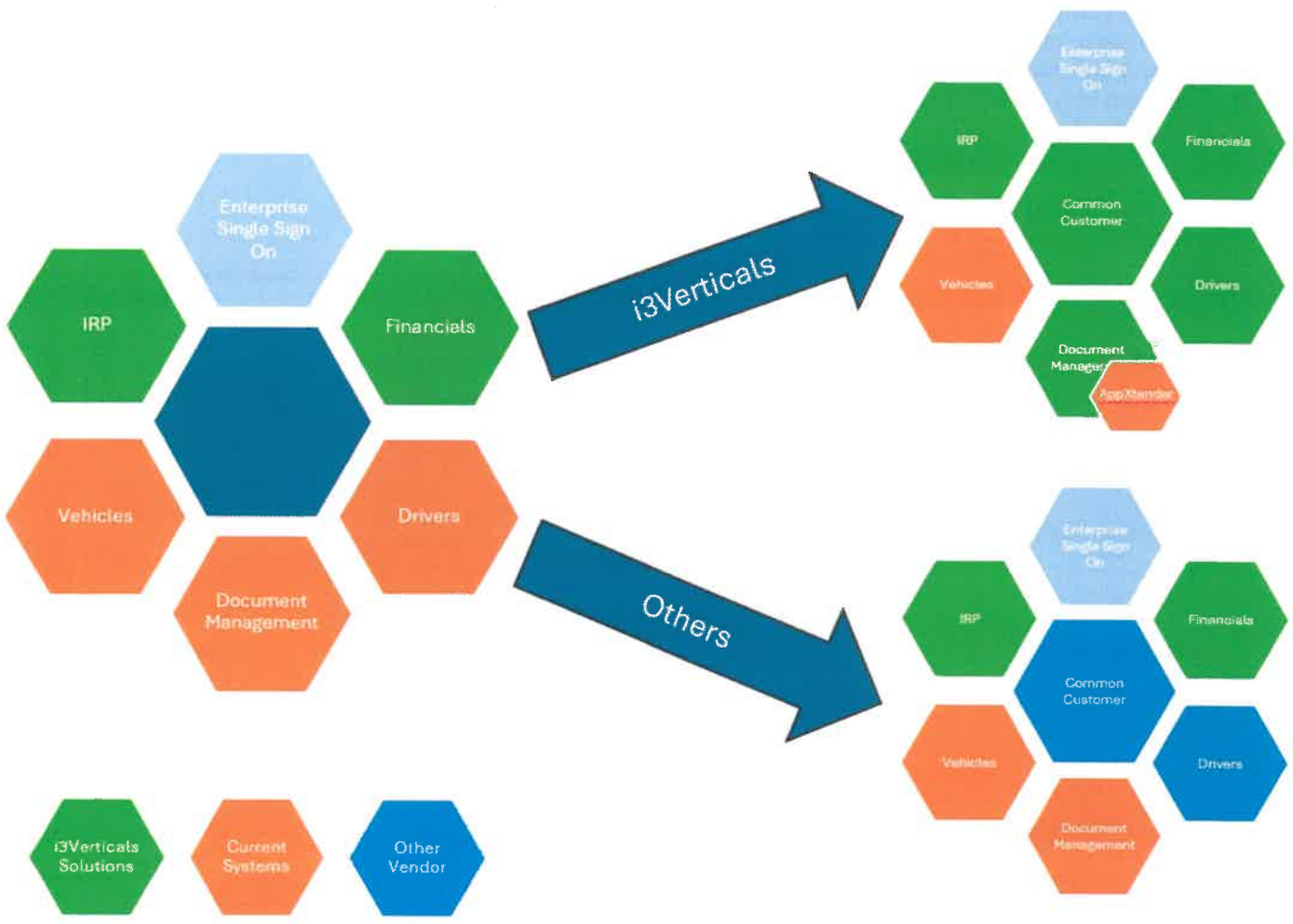
i3VDLS will modernize interactions for WVDMV users through one (1) system, no longer requiring access to more than one screen to complete a transaction, all within compliancy with all state and federal regulations. i3VDLS will increase customer centricity, with customer facing access, interactions, and availability. Finally, i3VDLS will accommodate new processes, which the i3 Verticals Project Team will assist WVDMV in developing, based on our deep knowledge, experience, and a proactive approach, including listening and guidance.

i3 Verticals Strategic Advantage

i3 Verticals currently provides a cashiering module through DMV First as well as the Motor Carrier IRP solution in West Virginia which gives us deeper knowledge and understanding of WVDMV's current processes, challenges, and needs. This provides WVDMV a strategic advantage when compared to i3 Verticals' competition through time savings. We will leverage our current partnership and experience to provide the following benefits:

1. **Consolidated Service and Compatibility:** i3 Verticals will provide a consolidated service with maximum compatibility, eliminating/reducing the challenges that often arise when dealing with multiple vendors. This ensures seamless integration and optimal performance across all systems as you can see in the diagram below.
2. **Simplified Document Management:** Leveraging AppXtender as a repository store, our inline document management approach provides a streamlined and efficient solution. This not only enhances accessibility but also simplifies the overall document-handling process without sacrificing the existing Documents.
3. **Reduced Integration Requirement:** With many systems coming from a single vendor, our solution minimizes the integration requirements. This results in a more robust and efficient ecosystem, reducing complexities and potential points of failure.
4. **Reduced System Replacement:** Our system guarantees the integrity of critical components such as the IRP and Financial Cash Register, ensuring minimal disruption and cost associated with system replacements. This approach enhances long-term sustainability and cost-effectiveness.

The following graphic shows the comparison of the i3 Verticals solution to other known vendors.



The following diagram gives a depiction of the represented interaction for the WVDMV user and how each integrated solution may relate to their interactive experience, in addition to capturing reporting which is available to WVDMV users. Due to the modularity of i3VDLS, the entire system experience to both internal and external users is cohesive, straight-forward, and user friendly.



i3VDLS will revolutionize WVDMV licensing using a customer-centric approach, creating a customer record assigning a unique customer identification number. Customer licensing, registration, and Motor Carrier information is displayed through each record via a customer dashboard. The Driver License record will be the master record and all other information will be associated to the Driver Record via integrations with WVDMV legacy systems.

Driver License, Title and Registration, and related information are included on an individual customer dashboard in easy-to-use configurable widgets, all controlled by User Role at the User Management level or can be turned on or off by the user to further personalize the dashboard.

Each customer dashboard for Individual Customers contains the following widgets: Customer information, Driver Record Details, Medical Certification Details, Conviction Details, Sanction Details, Driver License Details, Titles, Registered Vehicles, Notes on the record, Insurance Information, Documents Provided, Escrow Balance and Pending Transactions. Transactions associated with the information displayed can be launched simply by selecting a link.

Widgets for Business Customers, such as Motor Carrier, contain the following:

- Customer Summary
- IRP Summary

- IFTA Summary
- Pending Transactions

WVDMVAs can complete a search for a customer record, by Driver License Number, Customer No., Name (last/first), Business Name (for organizational customers) and Plate. Additional search criteria such as VIN, DOB or SSN can be added, if required. The i3 Verticals Project Team will include this in the Discovery Phase with WVDMV to identify any additional fields preferred.

Conversion

Existing customers will be assigned a unique customer number at conversion; with the Legacy Customer Number being propagated in the legacy Title and Registration System. The conversion process will identify possible duplicate customer records. The i3VDLS application includes Customer Merge functionality which allows duplicate records to be merged into a single record. Potential duplicate records are identified by comparing specified information, such as name and address, and can be automatically added to the existing Merge Queue where users will review and approve or deny for final merging. This “bulk merge” process is useful when many records need to be reviewed and merged, such as during conversion. i3VDLS also allows a user to manually merge duplicate records one at a time as duplicates are identified. An unmerge functionality allows separating records, with the option to identify later as having been incorrectly merged. In the Unmerge process, each record is restored with the correct data. Again, our Project Team will guide WVDMV through this process.

Since the current Legacy Titles and Registration System is a separate application and is the primary source system of record for the State of West Virginia, i3 Verticals is proposing that title, registration, and vehicle information be displayed on the customer dashboard using an API call to the Legacy system rather than converting this data into a separate common customer data base with i3VDLS. This will mitigate any risk of duplicated data and data being out of sync, and it allows each respective system to remain the primary source of system of record for both Title and Registration and Driver License Data. Motor Carrier data will be obtained via the existing i3 Verticals Motor Carrier module and can be accessed from i3 Customer Module without separate log in.

Search Functionality

Search functionality allows for full or partial name search and includes both wildcard search and Soundex functionality to identify names that sound alike but are spelled differently (Smith and Smythe). If unique search criteria, such as a Customer Number or Driver License Number is used, only one customer record match is usually found.

Transactions can be opened from the customer dashboard, eliminating the need to search for and select a customer in other systems which reduces the risk of duplicating records. For example, when a vehicle registration is due for renewal, the user can select the Renew button which will link via API call to the Title and Registration system to perform the renewal transaction. The widgets and the information displayed within each widget, and the types of transactions to be launched from each widget will be configured/and or customized as needed to meet WVDMV needs.

If the Search Results do not find a matching customer record, the system displays a message that no customer record is found, and the user must search again or create a new customer. In the proposed solution, a **Create Customer** button will be added to the search screen. The button will be disabled until the customer search is performed and will be activated once the message that “no customer record is found” is displayed. Forcing the user to search first and not allowing a new customer to be created until after a search is performed prevents users from

skipping the search step and creating duplicate customers which has been identified as an issue in other jurisdictions. Once the record is created, a customer number is assigned.

The common customer will be created in the new Common Customer module only and other systems, such as Title and Registration, will use an API to get the latest customer information when processing transactions in that system. Again, this will reduce the risk of creating duplicate customers as well as eliminating the need for duplicate data entry, providing a better user experience.

Assigned customer records for both legacy and newly created customers remain with the customer for life, even if the record becomes inactive for a period and then is reactivated. Authorized users who are given access and have permission to do so may update or modify a customer record regardless of the user's location. Modifications to records are completed in real time. Once changes are committed to the database, the modifications will be displayed the next time the record is accessed by the same or a different user.

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4.2.1.3 Provide a mobile-first experience process for the customer to participate wherever allowed by state code. To be fully compliant with all State and Federal regulations and laws.

i3 Verticals Response:

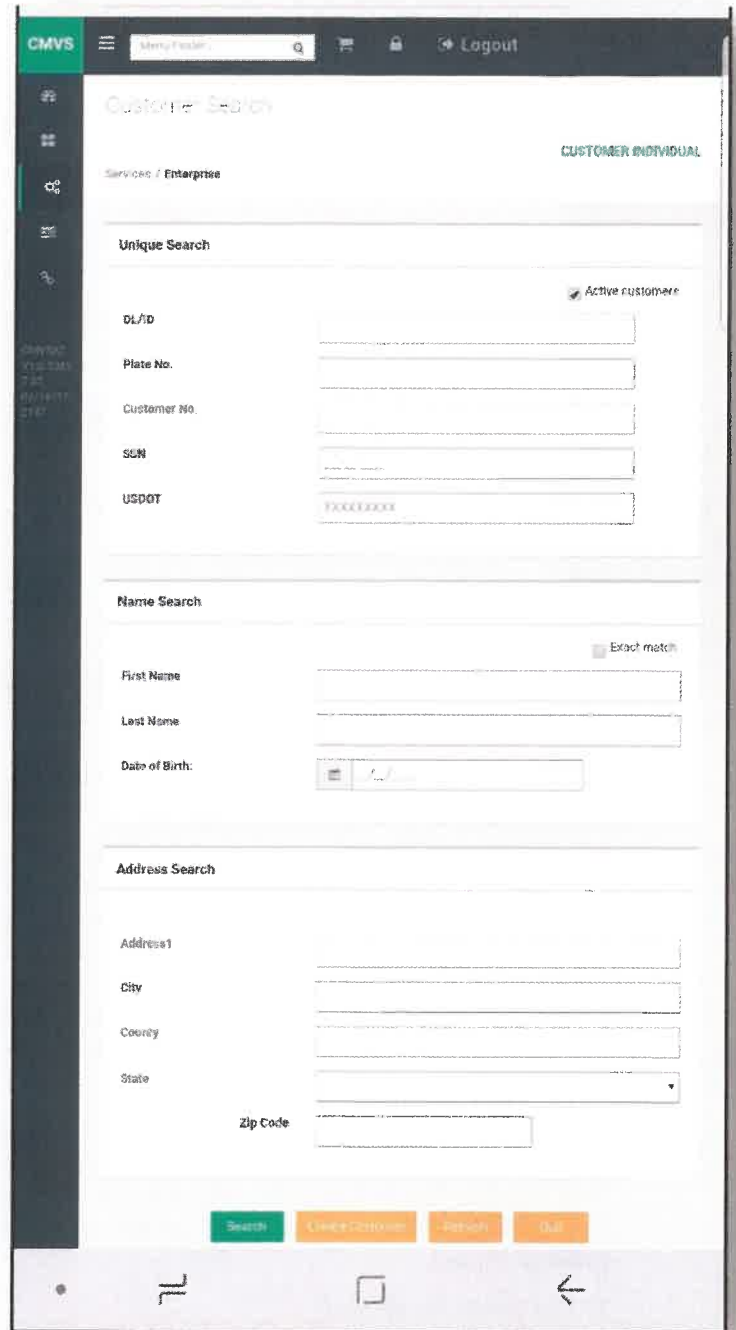
i3VDLS Responsive Design Framework

Built on a responsive design framework (bootstrap technology), i3 Verticals customers can easily access all facets of the system through desktop, laptop, or mobile devices. i3VDLS has been designed to work seamlessly on any device which supports HTML 5. With this feature, i3 Verticals is meeting their customers where they are, providing refined business processes and effective customer interactions.

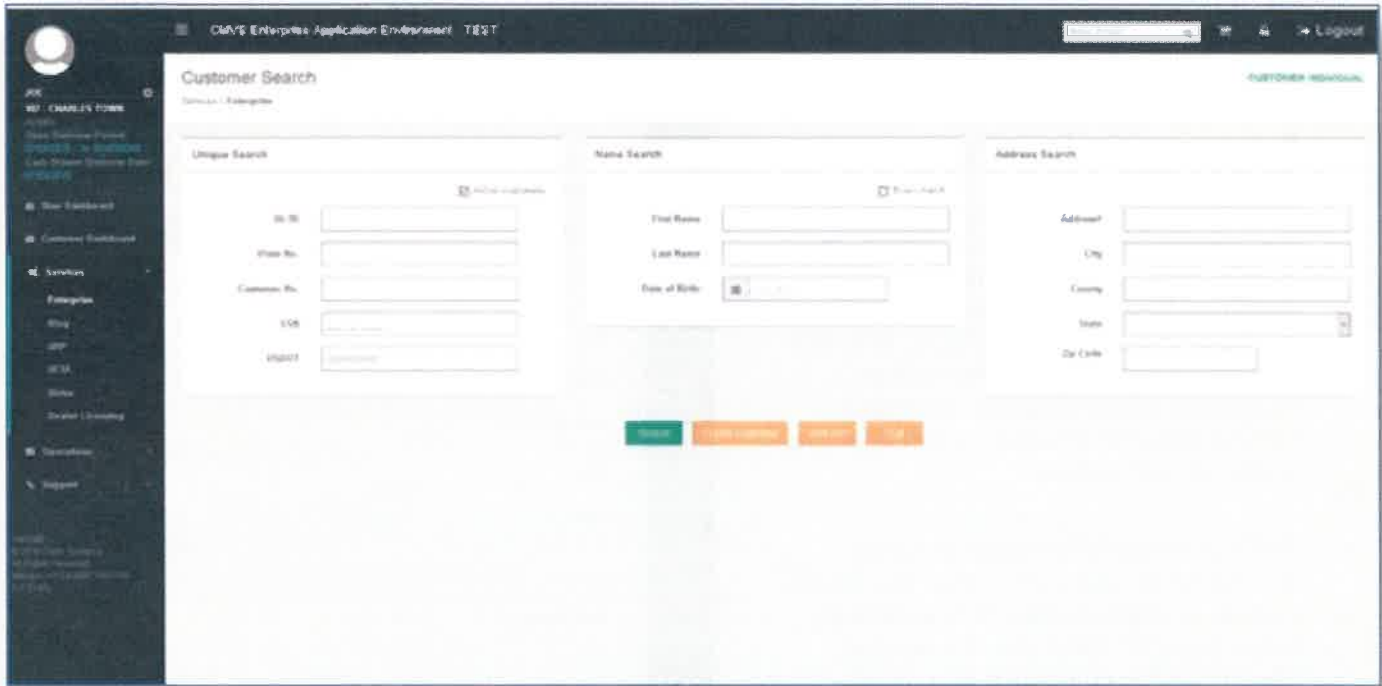
i3VDLS' responsive design provides access for all users, no matter the device (tablet, Android, apple). This potentially helps save WVDMMV cost for creating, hosting and maintenance of a mobile application for the lifetime of the project.

Several i3 Verticals Transportation Suites of Products are deployed in multiple jurisdictions in Canada and the United States, compliant with industry standards, state and federal regulations and laws, in addition to a responsive design.

As you can see, the responsiveness of the contents of a particular screen change to accommodate the device being used to view that screen within the parameters of the device. For example, when using a tablet, the tiles are presented vertically to accommodate the available space. The tiles on a smartphone eliminate pictures and present only the basic information needed to format optimum fit on the smartphone screen. We've included screen shots of how the Driver License Solution screen layouts automatically adapt to any device screen size providing an easy-to-use customer interface, whether by internal WVDMMV users or their customers.



Here, we show a screenshot of the i3VDLS on a DMV customer's laptop with the tiles on the main screen presenting horizontally when viewing each screen on a desktop/laptop.



4.2.1.4 Provide an intuitive solution that supports both law enforcement with real time search capability, and daily business intelligence for reporting and auditing functions.

Many different searches are present in the various systems in use today. WVDMMV envisions that the customer number or unique identifier will be the highest order search that can be performed. From the Customer Centric screen there will be several fields that can be used to enter information for the search. This will include, but is not limited to Social Security Number, Title Number, Registration number, Previous Registration number, First Name, Middle Name, Last Name, File number, Customer Number or Unique Identifier, and Driver License number. An address search capability would also enhance the agency's ability to link vehicles and their owners.

When a search returns information, all search matches will be presented on the screen with a link to each point of information. Users can click on a link and be taken to the specific process that handles that information. However, it is important to build user related restrictions into the functionality of the system, as not all details can be made available to all employees due to privacy issues.

i3 Verticals Response:

The i3VDLS Customer Dashboard contains several search options including search by Customer Number which is generally the highest level and most efficient search functionality. This is because the system locates the specific record based on the Customer Number entered. The record provides a display of the customer record to ensure the Customer number entered is correct and matches the customer the user is searching for. WVDMMV users will need to verify

the customer record, as a mistyped customer number entered in the search field will display an incorrect customer record. Other search fields available are Driver License Number, Name (first and last), Business Name and License Plate number. Additional search fields are available and can be configured to the Customer Dashboard search to ensure accuracy. One example is an address field. Any fields can be designated as mandatory or optional, based on the requirements of WVDMV.









The Customer Dashboard provides links to point to information. WVDMV users can click on the link to be taken to the specific process handling the information in the system where that process resides. API calls will be used to obtain any additional required information from third party systems, providing each user with the availability through i3VDLS to process a transaction, all in real time.

In our experience, it is critical to provide as many search fields as possible ensuring accurate relationships to both the vehicle and driver information into one customer record. For example, if WVDMV titles and registers vehicles using a standard nomenclature, such as recording the legal name only, fewer search fields may suffice. In many jurisdictions, vehicles can be titled and registered in many different name variants such as nicknames, maiden names, previous married names, etc. Our experience has shown it is typical that the vehicle owner information does not include a date of birth, SSN or other unique identifiers, therefore matching data is only based on the Name and Address, causing more time and effort for WVDMV users to search records. We will collaborate with WVDMV users to understand how vehicles are currently titled and registered to determine what data is available to link drivers and vehicle owners to the same record, including as many search fields as desired by WVDMV. Some data clean up, such as adding suffixes like Jr. or Sr. to differentiate customers with the same names may be needed before conversion. Significant testing will also be completed to ensure records are linking correctly.

i3VDLS uses Role Based Access Control (RBAC) to define permissions to the field level for WVDMV users. These can be hierarchical, based on the defined role assigned to each user. This ensures that specific users are allowed access to features and information, can potentially view, or modify the information displayed in accordance with their role, and potentially keep other sensitive information from being accessed by those not approved to view. Additionally, sensitive information can be masked to show portions of the data relating to the user's role. For example, a user may be allowed to see only the last four (4) digits of a Social Security Number of a registrant when searching for a specific plate.

Law Enforcement Office (LEO) users and other stakeholders can be assigned a User ID with rule-based roles, allowing them to access the Dashboard Search screen to view driver and registration information based on specific access restrictions set within i3VDLS. Again, the level of access can be determined by the role of each user and set for whatever access is required. Depending

Business Intelligence

- Activity Report 
- Session Report 
- SQL AD HOC Report 
- Trans Log Inquiry 
- [More ▶](#)
- Client Support 
- Cancel / Retrieve Bulk Transactions 
- Fraud Detection Report 
- Comment Inquiry 

on the preferences from WVDMV, we will collaborate on a resolution which meets each LEO user's needs and all compliance requirements. i3VDLS will provide compliancy to the FBI CJIS, with integration to the International Justice and Public Safety Network (JPSN) through API interface or an SFTP site, depending on what is identified and provided.

i3VDLS has Business Analytics functionality in the form of a User Dashboard, presents Business Analytics information and can run a variety of reports for use in auditing and to meet other management needs. Reporting is configurable and additional templates for reporting can be created as required.

Ad hoc reporting capability is also available, as needed, with ad hoc reports being saved as a template for future use.

4.2.1.5 Interface with all other DMV systems/partners per attachment B.

i3 Verticals Response:

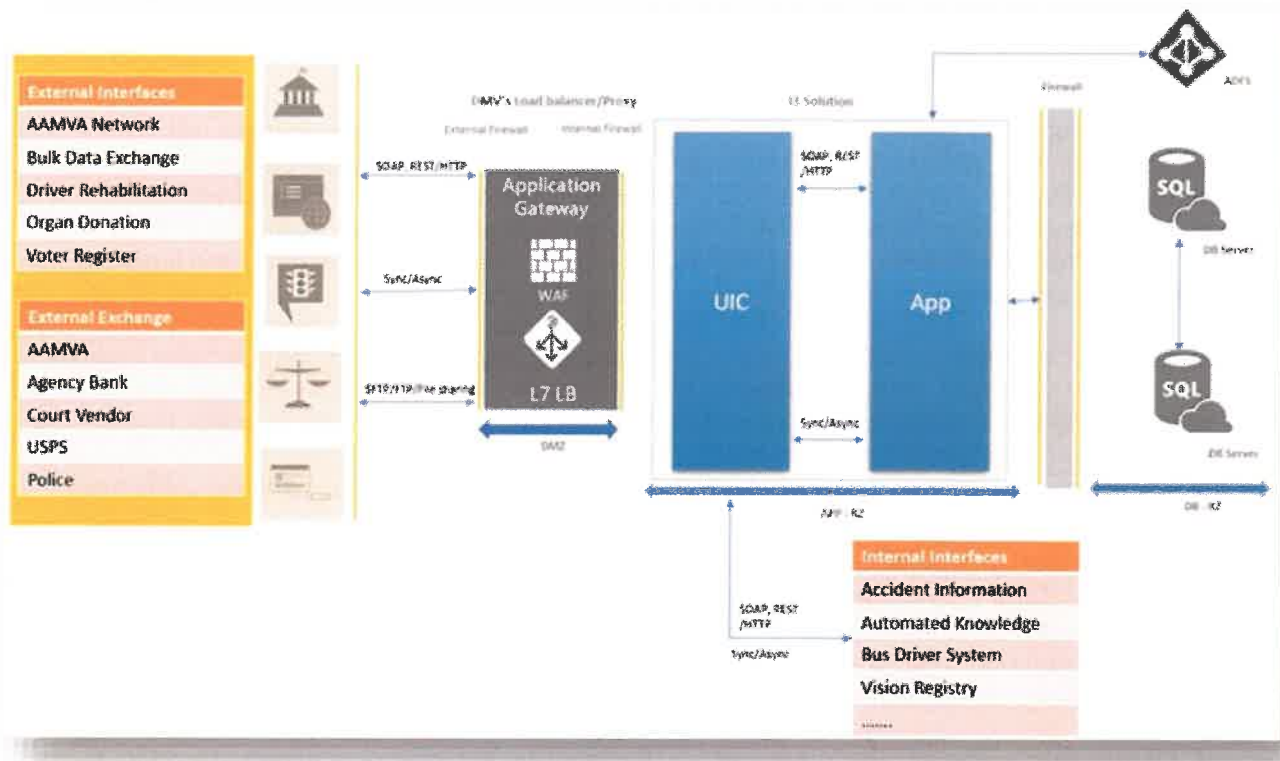
As stated above, i3VDLS is built on multilayered architecture. Its layers consist of the presentation layer, service layer, and integration layer. i3VDLS is also system agnostic, meaning i3 Verticals can integrate with any system, with an open API package provided by WVDMV. This design makes the structure flexible, scalable, and easy to integrate with third party systems.

All other interfaces (synchronous/asynchronous, inbound/outbound) are managed through our Universal Interface Controller (UIC).

Features of the UIC include:

- i3VDLS provides a well-defined architecture for managing both internal and external interfaces, facilitating data exchange between various entities.
- Data Exchange via REST API: Both internal and external entities exchange data using REST APIs. This architecture provides a standardized and flexible approach for data communication.
- Internal REST API: For internal data exchange, REST APIs are accessible exclusively within the internal network. Access is limited to the same server or servers with whitelisted IP addresses. This ensures data security and access control within the internal environment.
- External REST API: Data exchange with external entities occurs over HTTPS, adding a layer of security to the communication. To access this API, credentials must be included in the header of the request.

- Authentication and Authorization: The application handles authentication and authorization for external entities accessing the REST API. By using HTTPS for external communication and implementing authentication and authorization checks, we prioritize data security and integrity while facilitating efficient data exchange with various stakeholders.



4.2.1.6 Implement or modernize the following programs in accordance with AAMVA standards.

4.2.1.6.1 State to State

4.2.1.6.2 Driver History Record (DHR) – SPEXS 6.2

4.2.1.6.3 Exclusive Electronic Exchange (EEE)

4.2.1.6.4 Drug and Alcohol Clearinghouse (DACH) – SPEXS 6.3

4.2.1.6.5 National Registry of Certified Medical Examiners (NRCME)

i3 Verticals Response:

i3 Verticals has experience with implementing AAMVA interfaces in other jurisdictions and is familiar with the AAMVA testing requirements, processes, procedures, and timelines.

i3VDLS includes an integrated Universal Interface Controller to integrate with any authorized external entities using industry standard APIs exposed through REST. The solution provides Web API access for invoking orchestrated business process flows, abstracted with secured access, on the Universal Interface Controller. APIs to external systems and agencies will be exposed using the state Application Gateway for managing data exchanges with external third-

party systems. The integration framework in the proposed i3VDLS offers all the features below for data exchanges with DMV Enterprise Systems, third-party systems, or AAMVA programs including S2S, DHR, EEE, DACH, SPEXS, and others.

4.2.1.7 To provide an electronic workflow that generates digital copies of letters, forms, and notices that are sent from the system and stores them in the DMV document management system.

i3 Verticals Response:

i3VDLS includes an automated workflow, tailored to specific business processes with collaboration from WVDMV. The i3 Verticals' Project Team will review the current workflow in place, defining any changes, interfacing with the WVDMV project team for approval of automated systems performed i3VDLS. Once automated workflows are complete, the i3 Verticals project team will ensure all new workflow processes are documented and included with the training program.

Through our experience with other agencies, there are processes which may become irrelevant and may be alleviated, being replaced by the automation of the system. i3 Verticals will verify all related processes and their new status with WVDMV prior to changes. Additionally, through our knowledge of other client's workflows and their successes, the i3 Verticals Project Team may potentially suggest improvements to business workflows for assistance in solving challenges WVDMV users encounter today.

The i3VDLS system generates digital copies of letters, forms, and notices from workflows to be stored in the DMV document management system. More information regarding letters, forms, and notices can be found in [Section 4.2.2.6](#). i3 Verticals Project Team will ensure all current and any anticipated new WVDMV correspondence will be included and ultimately stored in the WVDMV document management system.

4.2.2 Mandatory Project Requirements – *The following mandatory requirements relate to the goals and objectives and must be met by the Vendor as a part of its submitted proposal. The Vendor should describe how it will comply with the mandatory requirements and include any areas where its proposed solution exceeds the mandatory requirement. Failure to comply with mandatory requirements will lead to disqualification, but the approach/methodology that the vendor uses to comply, and areas where the mandatory requirements are exceeded, will be included in technical scores where appropriate. The mandatory project requirements are listed below.*

4.2.2.1 Modernize the WVDMV Driver System

The Vendor must provide, install, configure, test, support and maintain a modernized driver system for WVDMV. The new solution shall be an API-driven, Chromium based web application. It shall NOT have dependencies on any desktop client operating hardware or software. The local computing environment should have no bearing on the new solution.

i3 Verticals Response:

i3VDLS, which the i3 Verticals Project Team will install, configure, test, support, and maintain is API-Driven and operates on multiple Chromium-based browsers such as Microsoft Edge, Google Chrome, and Firefox. There are no dependencies on any desktop client operating hardware or software. The i3VDLS system is cloud hosted which makes it available 24x7x365 as allowed by the jurisdiction.

4.2.2.2 Roles Based Access Controls (RBAC)

The new solution shall use Roles Based Access Controls (RBAC) to segregate functions and services at the appropriate operational level.

i3 Verticals Response:

The i3VDLS includes built in Role-Based Access Control (RBAC) to authorize users seeking the information at Navigation Tab Level, Page-level, and Field level. Roles are defined by business function and each user is assigned a role, controlling permissions and level of access based on their user id and associated permissions. Roles are available for both internal and external users who require access to the application, as approved by WVDMV. Roles are defined, assigned, and managed in the User Management Module within the application or can be managed at a jurisdiction level by WV IT Security personnel if, or as needed.

The i3 Verticals Project Team will assist WVDMV, requesting a current user list with roles and responsibilities assigned, then develop and potentially modify the list based on the roles and responsibilities, process changes, automations provided by i3VDLS, and other factors. The i3 Verticals Project Team will make recommendations based on industry standards and lessons learned from other driver licensing projects. We have found this effort minimizes future changes and challenges, reducing risk to WVDMV.

New roles and permissions can easily be added for existing and new users as future needs arise. For example, if auto dealers need access to the customer portal to verify that a customer has a valid driver license before conducting a test drive, a role of "Dealer" can be created. The role can be created with an access level of "View only", with specific widgets available so that the dealer can only see the information allowed by business rules and security policies but cannot change any existing data. Any information available on the Customer Dashboard a dealer is permitted to have access to can be allowed and additional widgets, such as a Dealer Temporary Tag issued can be added as required, making it easy for WVDMV to quickly respond to future needs.

4.2.2.3 Vendor Access

All Vendor employees, requiring access to the solution shall be identified and authenticated using the state's Active Directory.

i3 Verticals Response:

WVDMV utilizes the i3 Verticals' IRP and DMVFirst products, in which we currently identify and authenticate i3 Verticals' team members using the state's Active Directory. With this project, i3 Verticals will continue to fully cooperate and comply with West Virginia solution access policies and procedures.

i3 Verticals agrees to be compliant with the provided BAA notice, which shall require any employees who have contact with any WVDMV medical records or who may have access to medical records, whether in storage or in transit, to comply with HIPAA and HITECH. This means a BAA will be signed at the time of contract, HIPAA training will be scheduled for any affected project employees, HIPAA policies and procedures will be acknowledged and followed, and an annual risk analysis will be performed, along with any other safeguards WVDMV may require.

4.2.2.4 Migration

Migrate the legacy mainframe WVDMV driver system data (DB2) to the new system of record. The solution shall maintain compliance with the state's Enterprise Architecture standard <https://sites.google.com/wv.gov/wvotenterprisearchitecture/home>. The vendor must fully explain and provide a data migration plan, along with a timeline to migrate the existing WVDMVDS data to the new solution.

i3 Verticals Response:

As part of this complete response, provided with this RFP is [Appendix 3 – WVDMV Data Conversion Plan](#) which identifies the proposed plan, including data conversion and migration for the entirety of this project. Our plan is versioned as V1.0 and outlines the responsibilities for both WVDMV and i3 Verticals teams. This plan will likely be modified during the first phase of the project to confirm assumptions made relating to WVDMV's current data. The i3 Verticals Project team will implement the plan and timeline once the Data Conversion plan is approved by WVDMV.

4.2.2.5 Data

WVDMVDS contains information related to the client that must meet Personally Identifiable Information (PII), Federal Tax information (FTI) guidance and regulations and Social Security Online Verification (SSOLV) security requirements. The vendor shall ensure their solution complies with current state and federal security regulations and guidelines.

i3 Verticals Response:

i3 Verticals understands the amount of sensitive information and data that the i3VDLS solution will store and process, especially when the identity requirements of Real ID are considered. We also understand the risks and more importantly, the devastating impact on a jurisdiction when sensitive data is not properly secured. The WVDMV can be assured we follow the guidelines of IRS Publication 1075 regarding FTI, NIST Special Publication series 800 regarding PII and use the AAMVA SSOLV integration solution. (Reference [SP 800-122, Guide to Protecting the Confidentiality of Personally Identifiable Information \(PII\) | CSRC \(nist.gov\)](#))

Role Based Access Control (RBAC) controls permissions to the field level ensuring that only users with a need to know can access sensitive and protected information. For example, there are three levels of access for SSN controlled by RBAC. The highest level allows the user to see the full

SSN; the mid-level allows the user to see only the last 4 digits of the SSN; with the lowest level not allowing the user to see any of the SSN.

The i3 Verticals project team will cover all facets of security during the Initiation phase with WVDMV to fully understand each role and ensure that all data is protected to the highest possible level and strictly adheres to WVDMV security policies and procedures.

4.2.2.6 Forms, Letters and Notifications

The vendor must explain how the solution will address approximately 25 forms, 180 letters and 10 notifications that will be printed, communicated or shared with customers, this should include email opt-in/opt-out options and text messaging.

i3 Verticals Response:

i3 Verticals has extensive experience with providing on-line services, including forms, letters, and notifications with over 1.2 million on-line users performing transactions online in the state of Tennessee and to encourage continued use of online transactions, we provide text and email notifications.

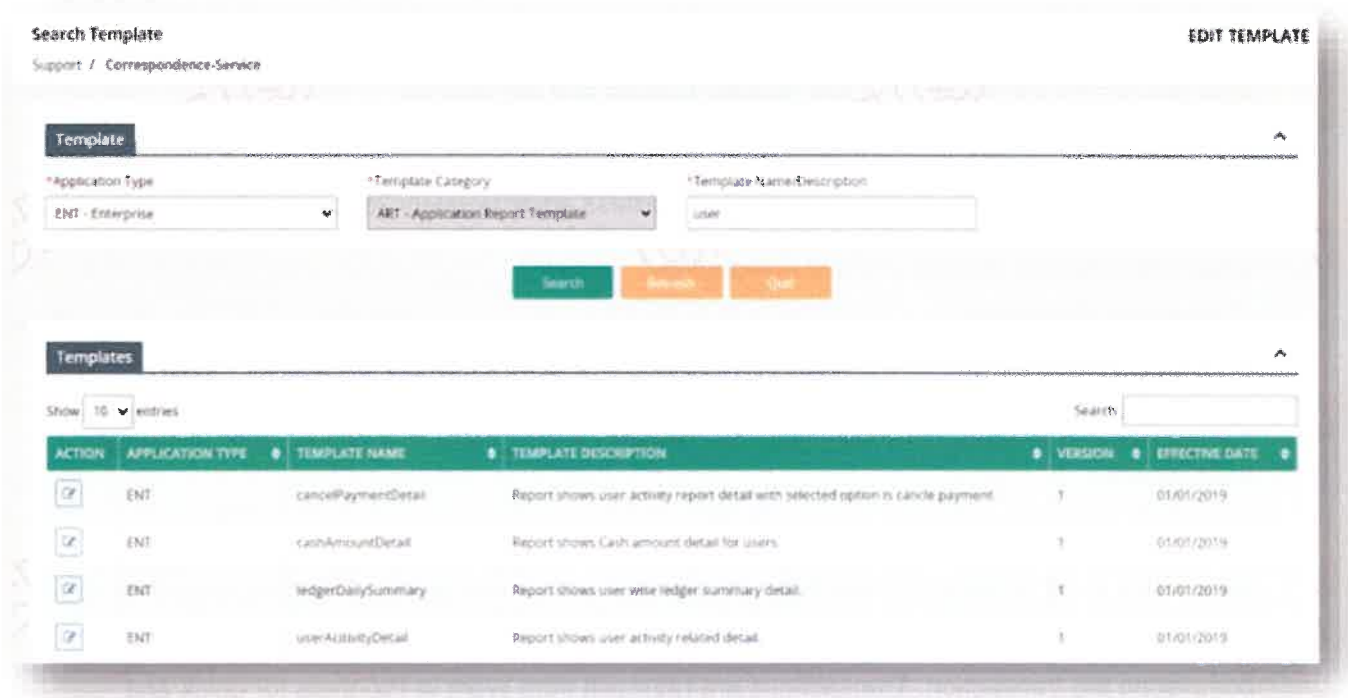
Forms can be made available on-line in PDF fillable format and our self-service options can incorporate forms as a part of the on-line transaction. We also provide options for completed documents to be submitted or uploaded through the self-service portal. Submitted forms and uploaded documents are associated with the customer and the transaction. A Web Queue is also available where WVDMV users can review and approve forms and documents prior to completing the transaction. Transactions are retrieved from Work in Progress for quick and efficient processing.

Additionally, i3VDLS includes a correspondence module that can create and modify templates used for communication. These can be emails, letters, notifications, text messages, forms, and reports. Through i3VDLS, WVDMV customers can opt-in/opt-out to receipt of notifications electronically through their profile within the i3VDLS customer portal. Options can include notifications of specific events, such as renewals, scheduled tests, reinstatement hearings, and lien releases, with the customer defining their preference as to the channel notification (email, SMS, etc.).

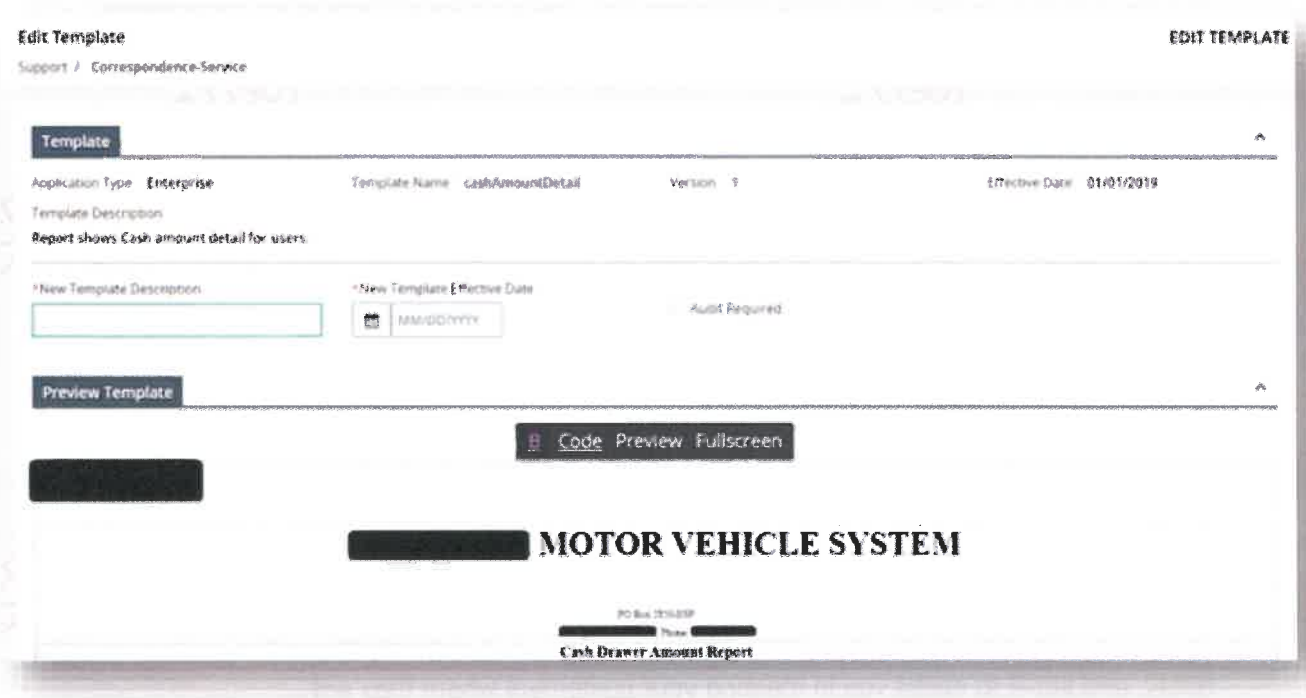
The correspondence module includes forms, letter templates, and notifications for correspondence with push notifications to be sent to customers through mail, email, or SMS. The i3 Verticals Project Team will request the current forms, letters, and notifications being used and ensure that these are populated in the new system. Additionally, Forms or templates can be customized. The i3 Verticals Project Team can include customizable forms which WVDMV users have available in accordance with specific processes, and WVDMV users can create a new template within the system, with the new template being published for use in production in a future enhancement.

Our Auto Assistant Application (www.getautoassistant.com) provides push notifications as well. Currently, Auto Assistant focuses on Registration and Insurance transactions, it will soon be expanded to include Driver License renewals and Electronic Driver License credentials along with other Driver License transactions and communications. An example of push notifications which the Auto Assistant App could be used is notifying customers of Driver License office closures or Road Test suspensions due to inclement weather. We understand that communication, both internally and to external users and customers, is key to business success today, and strive to assist you in meeting your customers where they are.

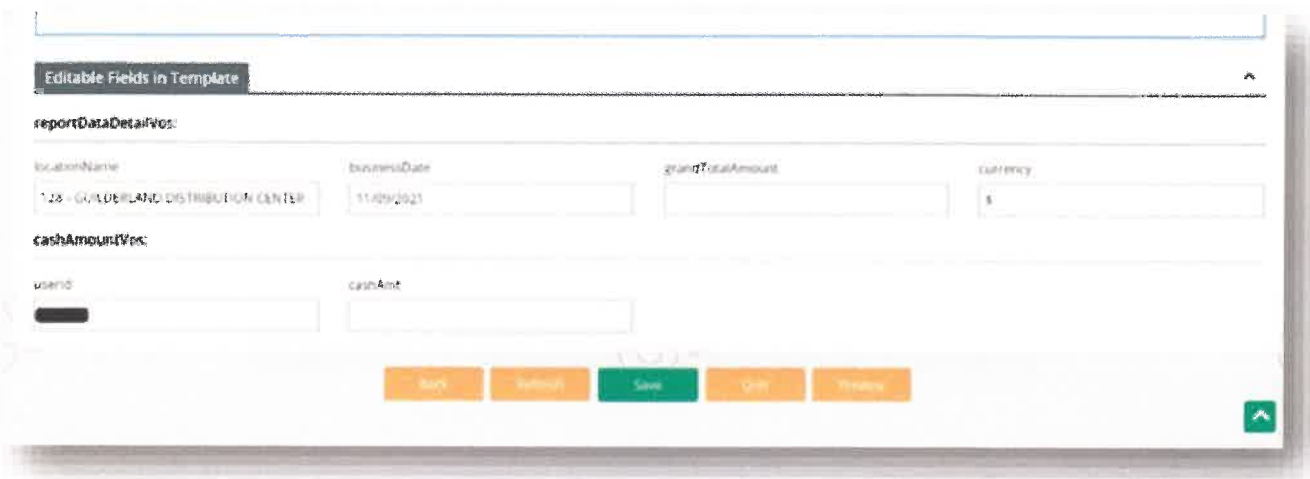
Below is a screenshot of the template search screen:



WVDMV users can edit templates within the system. Below is a screenshot of this feature:



Available editable fields in the templates are shown in the screenshot below, these can be configured based on WVDMV needs.



The forms or templates can be edited online using GrapeJS WYSIWYG editor. All forms, letters, and email templates are stored within i3VDLS for quick access through the search function.

Letters that are created as a part of a transaction, such as suspension, revocation, and reinstatement notices, are generated at the end of the transaction. Variable information, such as start date, end date, duration, is populated automatically in the template and letters can be printed locally or printed in bulk via batch process. Correspondence will be saved and can be organized within the WVDMV database, then re-accessed for review, or archived.

Reports such as inventory and daily ledgers contain identifiers to show which transaction and customer the credentials belong to. i3VDLS supports multiple delivery methods such as local and bulk printing for mail, email, text messages, and notifications.

4.2.2.7 External Electronic Document

The system must include an external electronic document submission process that associates the document to a unique customer identity.

i3 Verticals Response:

The i3VDLS has a robust document collection process:

- WMDMV Customers (customer/businesses) can upload documents against required categories and submit them to WVDMV. Once uploaded, internal users can perform proofing, as necessary.
- Based on the transaction type, uploaded documents are automatically indexed to a transaction, uploaded to the main repository, and assigned a document number for tracking.
- Unverified documents can be stored in a separate storage location in the document repository.
- WVDMV users are notified that a transaction has been submitted and is ready for processing.
- Following notification, WMDMV simply select the link for the transaction, displaying the document.

- As WVDMV users verify transactions and associated documents submitted by customers, the system will categorize these transactions as pending.

This functionality is especially useful in audits, internal investigations, fair hearings, etc.

Below is a screenshot showing a collection of documents from external customers.

Document	Status	Verify	Document No.	
Letter from SSA	Outstanding	<input type="checkbox"/>		Delete
Proof of State Residency				
Bank Account Record				Add
Document	Status	Verify	Document No.	
Auto Insurance Policies	Outstanding	<input type="checkbox"/>		Delete
Other Documents				
Medical Papers				Add
Document	Status	Verify	Document No.	
Application Form	Outstanding	<input type="checkbox"/>		Delete
Proof of Legal Name Change				
Certified divorce decree(s) with legal nam				Add
Document	Status	Verify	Document No.	
Certified copy of birth certificate with amended legal name	Outstanding	<input type="checkbox"/>		Delete

4.2.2.8 SSOLV

The Social Security Online Verification (SSOLV) process used to export/import data into files for sending/receiving interface consumers/providers shall function at least as they do currently.

i3 Verticals Response:

The U.S. Social Security Administration (SSA) allows jurisdiction Motor Vehicle Agencies (MVAs) to verify SSNs interactively using the Social Security Number Online Verification (SSOLV) transaction. i3VDLS uses the AAMVA SSOLV Service which provides online support allowing a jurisdiction to immediately verify an individual's SSN during the driver's license issuance or renewal process, all in real time, while the applicant is still at a motor vehicle agency (MVA) service center counter. SSA only verifies information transmitted by an MVA (that is, whether the MVA information did or did not match the SSA information) it does not disclose other data.

Using the integration with the AAMVA service eliminates the need for import and export of data into files, allows SSOLV information to occur within each individual transaction, and provides the

results in an expedited fashion. If WVDMV decides to continue export/import data into files associated with each customer, i3 Verticals can configure i3VDLS to accommodate.

4.2.2.9 Data Exchange Interfaces with Partners

There are many interfaces that consume WVDMVDS data and WVDMVDS consumes data from many sources. The vendor must ensure this information consumption is minimally impacted as a result of the new system. Please refer to Attachment B for the list of interfaces and account for the creation of the following new interfaces with AAMVA.

- *Implement/Modernize State to State (S2S) Verification Service for WVDMV.*
- *Implement/Modernize Driver History Record (DHR) functionality for WVDMV.*
- *Implement/Modernize Exclusive Electronic Exchange (EEE) for WVDMV.*
- *Implement/Modernize Drug and Alcohol Clearinghouse Exchange (DACH) for WVDMV.*
- *Implement/Modernize State Pointer Exchange Services (SPEXS) 6.3 for WVDMV.*
- *Implement/Modernize National Registry of Certified Medical Examiners (NRCME) for WVDMV.*

i3 Verticals Response:

Utilizing i3 Verticals integrated Universal Interface Controller (UIC) to integrate with authorized external entities using industry standard APIs exposed through REST. i3VDLS provides Web API access for invoking orchestrated business process flows abstracted with secured access on UIC. APIs to external systems, including other agencies, will be exposed using a state Application Gateway for managing data exchanges with external third-party systems. The integration framework within i3VDLS offers the following features for data exchanges to i3VDLS with DMV Enterprise Systems, third-party systems, or AAMVA programs including S2S, DHR, EEE, DACH, SPEXS, NRCME, and others.

This integration facilitates accessing valuable data for processing WVDMV customer applications for both driver's licensing, registrations, and titling all through one system, all with real time data. WMDMV users will save time not having to access multiple applications during the process.

- i3VDLS has a well-defined architecture for managing both internal and external interfaces, facilitating secure, encrypted data exchange between various entities.
- **Data Exchange via REST API:** Both internal and external entities exchange data using REST APIs. This architecture provides a standardized and flexible approach for data communication.
- **Internal REST API:** For internal data exchange, REST APIs are accessible exclusively within the internal network. Access is limited to the same server or servers with whitelisted IP addresses. This ensures data security and access control within the internal environment.
- **External REST API:** Data exchange with external entities occurs over HTTPS, adding a layer of security to the communication. To access this API, credentials must be included in the header of the request.
- **Authentication and Authorization:** The application handles authentication and authorization for external entities accessing the REST API. By using HTTPS for external communication and implementing authentication and authorization checks, we prioritize data security and integrity while facilitating efficient data exchange with various stakeholders.

4.2.2.10 Support

The vendor must provide technical support to resolve issues related to the implementation or operation of the resulting migrated system throughout the term of the contract.

i3 Verticals Response:

As a part of our support and maintenance process, a sample Service Level Agreement is included with this proposal. i3 Verticals will negotiate an SLA that includes the inclusion of up-time standards and expectations to WVDMV to provide all necessary ongoing services and support to the system, throughout the term of the contract.

Throughout the project implementation phase and during system support and maintenance, i3 Verticals provides a robust browser-based incident tracking system – i3 Verticals Jira Service Desk (JSD), which allows any reported incidents to be prioritized and addressed in a timely manner.

When an incident is reported, JSD sends an email automatically to the required i3 Verticals project personnel for action and resolution. In this way, management is fully aware of all incidents and the related status at any given time. Statistics produced from the JSD repository will also provide management with information regarding incident reporting versus incident resolution to ensure appropriate users allocation for incident resolution.

Please see Section [4.2.2.12](#) for more information about our Help Desk.

4.2.2.11 System Availability

- *All servers used as part of the Vendor solution must be configured for automatic failover to minimize system downtime.*
- *Monthly maintenance windows for servers will be established, and the Vendor must provide notification of their intent to utilize the maintenance window no less than 1 week in advance.*
- *Downtime is defined as any time that any portion of the WVDMVDS system is unavailable for normal business operations, and when the Agency approved work around is not available.*
- *Downtime will start from the time the Agency first notifies the Vendor’s designated representative for Help Desk of the imperative condition until it is returned to working order.*
- *The backup and disaster recovery solution shall provide for data restoration services and for complete system recovery services in the event of a catastrophic failure.*

i3 Verticals Response:

i3 Verticals has partnered with Microsoft Azure for our hosting partner as they provide world class security and reliability. Our service availability as indicated below is synonymous with Azure. The solution can scale both vertically (increase individual server resources) and horizontally (spin up additional servers behind a load balancer). Our typical production architecture is driven off two application servers behind an elastic load balancer. Additional application servers can be spun up as needed.

i3 Verticals utilizes Azure for our data center. i3VDLS is installed at two locations, one serving as the production environment location, and the second as the failover. For example, if the production environment is in Virginia, it will failover to Ohio. For i3 Verticals physical facilities, appropriate physical security controls are deployed. Logs and activities are reviewed monthly.

Our development locations do not host Data Center Operations for running i3VDLS for our customers.

With these geographic and logical redundancies, in the event one location fails, the failover is automatic between resources to minimize downtime. Web servers, file storage, and databases will all be in separate geographic locations. Traffic will be directed to the live resources, as determined by health checks, throughout the application stack.

Full system backups will be securely stored, allowing full system recovery, in the event of a system failure. This may happen due to weather related disasters, for example. Databases will have snapshots taken at appropriate intervals to allow for restoration of data between full backups.

i3 Verticals utilizes Azure's patch management solution to ensure all resources are properly maintained. We will request a distribution list be provided by WVDMV for notifications system notifications. Patching will be scheduled during off-hours, and notifications will be sent to the provided distribution list at least a week before maintenance is performed.

i3 Verticals understands WVDMV's definition of downtime, we would add that i3 Verticals assumes responsibility for the inability to process a DL/ID only in cases of service or systems failure within i3 Verticals' direct control, configuration, or administration. Additionally, as stated above, system downtime for maintenance and updates will be scheduled during WMDMV off-hours, with notifications sent to all WV users included on the distribution list at least one (1) week prior to maintenance being performed, based on agreed upon timing.

4.2.2.12 Help Desk Support

During the entire term of the contract, the Vendor will provide the Agency with a toll-free Help Desk number and email address to contact the Vendor for technical support. At a minimum, the Help Desk Hours must be:

- 7:00am to 8:00pm, Eastern Time Monday through Friday
- 7:00am to 2:00pm, Eastern Time Saturdays
- Extended hours as needed for special events such as the West Virginia State Fair.

i3 Verticals Response:

WVDMV Support

i3 Verticals strives to provide unparalleled, professional, and responsive technical support to our customers utilizing JIRA, email groups, and our call centers as appropriate for the needs of each client. WVDMV will be provided with a toll-free help desk number, specific to their support center, based on input as to this RFP requirements.

For each call/email/chat received, i3 Verticals follows a specific process, which ensures WVDMV users are provided the best support possible, with timing of the solution based on the need of the call. We provide knowledgeable resources to immediately address and assess support items no matter the source or intake method. We will also ensure that support items are tracked, monitored, reportable, and reviewed by Management to ensure proper service and resolution. We will ensure our support groups, operate according to WVDMV's needs, are available as noted below for the lifetime of the contract:

Call Center Availability

- 7:00am to 8:00pm, Eastern Time Monday through Friday
- 7:00am to 2:00pm, Eastern Time Saturdays

- Extended hours as needed for special events such as the West Virginia State Fair.

i3 Verticals provides technical support to WVDMV as described herein as well as in a specific SLA document which is created for this project. Included with this response is an example of an i3 Verticals SLA as a starting point.

WVDMV Customer Support (Constituent)

In addition to FAQ, chat functionality, and videos in our “Help Center” within the portal for constituents, i3 Verticals can also offer our client’s customers collaboration to existing or future call center availability. To assist with constituent customer support, the i3VDLS will:

- Increase satisfaction and reduce call volumes,
- Provide faster, automated production of WVDMV Driver’s Licenses.
- Provide a user-friendly customer portal, providing dynamic search functionality, and features.
- Offer WVDMV customers easy to use help features, guiding constituents through the system quickly.

i3 Verticals will facilitate interface with existing or future customer call centers, incorporating workflows and customer call routing, if needed, based on WVDMV’s input.

Assumptions:

1. The call counts noted in Addendum 8 are from constituents and not from WMDMV users looking for support.
2. West Virginia DMV is looking for assistance through the WV DMV RFQ CRFQ DMV24*01 to accommodate constituent interactions based on the numbers noted above. i3 Verticals will coordinate and interface with the awarded Vendor from this RFQ.
3. As part of this RFP, WVDMV is expecting support through a call center and other resources of the awarded vendor for the times listed above only, and not constituent call services.
4. i3 Verticals has only included pricing required in response to this RFP.

Again, to ensure the success of i3VDLS, inclusive of all inputs such as a customer call center, we look forward to assisting WVDMV with all facets of this project.

4.2.2.13 Security

The vendor must ensure all work related to the migration of customer data from the WVDMVDS system will be performed in accordance with WVOT security policies.

i3 Verticals Response:

i3 Verticals and WVOT share the same policies relating to any PII or similar data transferred from WVDMV or to i3VDLS. i3 Verticals ensures all client data and communications will happen via both secure mechanisms and be encrypted.

4.2.2.14 WV Policies

The vendor must review and agree to all West Virginia policies and rules related to privacy and confidentiality (attachment C and D).

i3 Verticals Response:

i3 Verticals has reviewed the West Virginia policies and rules related to privacy and confidentiality as stated in attachments C and D.

i3 Verticals agrees to the policies set forth relating to confidentiality from West Virginia and will comply and enforce all policies and rules relating to privacy. Following contract signing, each i3 Verticals Project Team Member will sign the WV Confidentiality Agreement and provide all necessary information in accordance with Attachment D. Further, due to the inclusion of medical information for select WV customers, we will comply with all applicable HIPAA and HITECH policies and procedures. (Please reference section [4.2.2.3](#) for our detailed response to the BAA notice.)

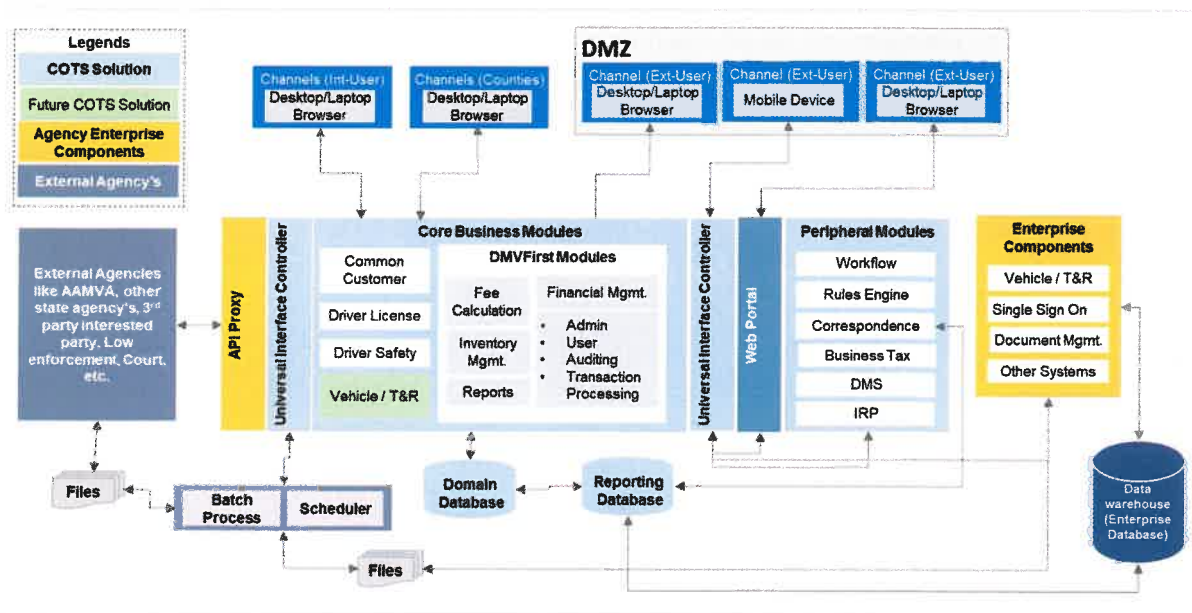
4.2.2.15 Technical Design Document

The Vendor must provide a Technical Design Document Detailing Phase One of the project. At a minimum, the Technical Design Document must include:

- System and Network Architecture according to Statewide Architecture Requirements

i3 Verticals Response:

The proposed system architecture is reflected in the diagram below. The proposed architecture will be finalized following requirement gathering and changes to the application have been completed. A detailed System and Network architecture design will be submitted as part of the project deliverables, This Detailed System Architecture document will detail all changes to the architecture for this project and detail planned enhancements in future projects. The proposed architecture complies with the Statewide Architecture Requirements.



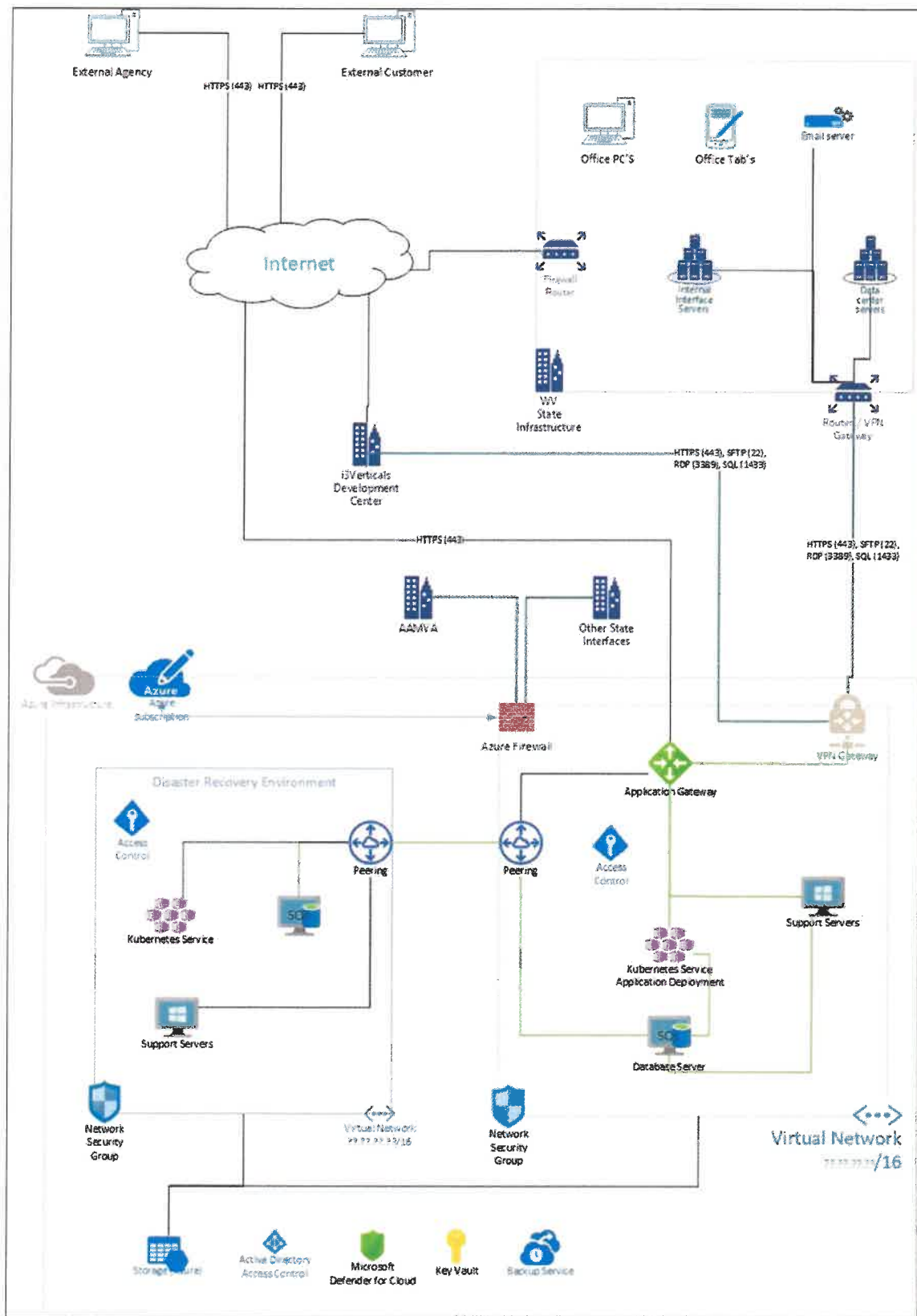
The above diagram illustrates the proposed i3VDLS Solution Architecture which illustrates how i3Verticals will incorporate the existing WV DMVFirst Modules into the new application to create

a single system that operates seamlessly. The proposed application architecture adheres to the Statewide Architecture Requirements.

The proposed application architecture contains the following features and benefits to WVDMV:

- Grounded in a Service-Oriented Architecture (SOA) design which prioritizes user experience and productivity by utilizing peripheral modules to enhance core components.
- Features an efficient UI which supports omni-channel access, ensuring a seamless user experience across various devices such as desktops, laptops, tablets, mobiles, and kiosks.
- Embraces a configuration-over-coding approach to the system, which is loosely coupled, enabling modular updates and customization. Each module is individually upgradable and deployable.
- Integration with multiple enterprise systems is achieved through APIs and adapters, leveraging the proprietary Universal Interface Controller (UIC) for secure connectivity. The UIC serves as a single gateway, ensuring security in one module and alleviating concerns for the rest of the system.
- By adopting an API-based model exposed through REST services, our architecture promotes interoperability and flexibility, allowing deployment in both on-premises and cloud environments.
- Core business modules, including DMVFirst enterprise components, prioritize personalized user experience and are benchmarked for optimal performance, flexibility, and productivity.
- Seamlessly integrates the DMVFirst system, offering a unified experience across customer, driver's licenses, and other systems.

The diagram on the following page illustrates the proposed infrastructure details. Detailed infrastructure requirements will be provided as a part of project deliverables in addition to the Detailed Architecture Plan.



- Hardware and Software Requirements

i3 Verticals Response:

In the table below we have detailed the bill of material (BOM) describing the hardware and software required for the successful completion of the project.

Service Category	Purchased From	Service type	Service name	Description
Security	Microsoft Azure	Microsoft Defender for Cloud	Microsoft Defender For Servers	Microsoft Defender for Cloud by Resource: 1 Plan 2 servers x 744 Hours
Security	Microsoft Azure	Microsoft Defender for Cloud	Microsoft Defender for SQL Server	Microsoft Defender for Cloud by Resource: 1 SQL Database servers on Azure,
Security	Microsoft Azure	Microsoft Defender for Cloud	Microsoft Defender for Containers	Microsoft Defender for Cloud by Resource: 1 Container vCores x 744 Hours,
Identity	Microsoft Azure	Azure Active Directory (Azure AD)	Azure Active Directory	Premium P1 - 30 users, Premium P2 - 0 users, Enterprise tier, User forest - 744 Hours, Resource forest - 744 Hours.
Compute	Microsoft Azure	Virtual Machines	Virtual Machine for (PROD, Non-PROD, Data Migration)	1 D4 v3 (4 vCPUs, 16 GB RAM) 1 month Windows (License included), OS Only; 1 managed disk – E15, 1,000 transaction units;
Compute	Microsoft Azure	Virtual Machines	Low Power VM (FTP, TESTING)	1 D2 v3 (2 vCPUs, 8 GB RAM) 1 month, Windows (License included), OS Only; 1 managed disk – E15, 100 transaction units;
Compute	Microsoft Azure	Azure Kubernetes Service (AKS)	Azure Kubernetes Service Windows	1 D8s v4 (8 vCPUs, 32 GB RAM) 1 month, Windows (License Included); 1 managed OS disk – P10, 1 clusters
Compute	Microsoft Azure	Azure Kubernetes Service (AKS)	Azure Kubernetes Linux	1 D8 v3 (8 vCPUs, 32 GB RAM) 1 month, Linux; 1 managed OS disk – E15, 1 cluster
Databases	Microsoft Azure	Azure Cache for Redis	Azure Cache for Redis Production	Premium tier; 1 Shard per Instance, 1 Additional Replica per Shard, 2 P2 instances,
Compute	Microsoft Azure	Virtual Machines	SQL Server	1 E8ads v5 (8 vCPUs, 64 GB RAM) 1 month, Windows (License included), SQL license; 3 managed disks – E50, 100 transaction units;
Analytics	Microsoft Azure	Azure Data Factory	Azure Data Factory for Conversion	Azure Data Factory V2 Type, SQL Server Integration Services Service Type, 1 D8V3 Virtual Machine(s)

Service Category	Purchased From	Service type	Service name	Description
Networking	Microsoft Azure	Application Gateway	Application Gateway (1 per env)	Web Application Firewall V2 tier, 5 TB Data transfer
Networking	Microsoft Azure	Security	Azure Firewall	Premium tier, 1 Logical firewall units, 5 TB Data processed
Networking	Microsoft Azure	Security	Azure Firewall Manager	1 Parent Policies. "Policy 1" (Policy 1); 1 Firewall(s), 1 Region(s); 1 Child Policies;
Networking	Microsoft Azure	Security	VPN Gateway State, Celtic and P2S	VpnGw2 tier, 0 additional S2S tunnels (beyond included amount of 10), 0 additional P2S connections (beyond included amount of 10), 2 TB Data transfer
Networking	Microsoft Azure	Security	Azure DDOS Protection	Protection for 100 resources
Networking	Microsoft Azure	Security	Azure Bastion for Remote	1 TB Outbound Data Transfer
DevOps	Microsoft Azure	Security and Monitoring	Azure Monitor Log, alerts	Log analytics: 10 GB Daily logs ingested; Application Insights: 10 GB Daily logs ingested, 3 months Data retention, 0 Multi-step Web Tests; 100 resources monitored X 10 metrics time-series monitored per resource, 20 Log Alerts at 5 Minutes Frequency, 10 Additional events, 3 Additional emails, 2 Additional push notifications, 2 Additional web hooks (in millions)
Networking	Microsoft Azure	Network	Network Watcher	1000 GB Network Logs Collected, 0 Checks for Network Diagnostics, 100 Connection Metrics, 10 DNS or App Gateway Servers x 10 GB logs ingested, 15 GB logs collected for Traffic Analytics (Standard processing), 10 GB logs collected for Traffic Analytics (Accelerated processing)
Management and governance	Microsoft Azure	Backup and recovery	VM site recovery for each VM	0 Customer instances, 1 Azure instances
Storage	Microsoft Azure	Storage Accounts	Storage Account	Managed Disks, P40 Disk Type 1 Disks; Snapshot: 500 GB; 7,500 expected max IOPS, 250 expected max MB/s, 30 minutes per workday,

Service Category	Purchased From	Service type	Service name	Description
				20 workdays; 1 Shared Disk(s) with 5 Total Additional Mount(s)
Security	Microsoft Azure	Key Vault	Key Vault	Vault: 1,000,000 operations, 1,000,000 advanced operations, 20 renewals, 0 protected keys, 0 advanced protected keys; Managed HSM Pools: 0 Standard B1 HSM Pool(s)
Networking	Microsoft Azure	Virtual Network	Virtual Network Cost	10 TB Outbound Data Transfer "NAT Gateway created; US Gov Virginia (Virtual Network 2):
Management and governance	Microsoft Azure	Backup and recovery	Azure VM Backup	Azure VMs, 1 Instance(s) x 200 GB, GRS Redundancy, 6 GB Average monthly snapshot usage data
Management and governance	Microsoft Azure	Backup and recovery	Azure SQL Server Backup	SQL Server on Azure VMs, 1,024 GB, GRS Redundancy,
Storage	Microsoft Azure	Azure Data Box	Azure Data 1 Box for the Conversion monthly	Data Box Disk, 2 Orders
Security	Microsoft Azure	Microsoft Sentinel	Microsoft Sentinel Security Analytics	Logs ingested - 500 GB Basic logs per day, 10 GB Analytics logs per day; Azure Monitor Retention - 3 months of Data Retention, 0 months of Data Archive; Azure Monitor Data Restore - 500 Basic log queries per day, 1000 GB data scanned per query, 2000 GB Data Restored, 0 days data restored; Azure Monitor Search Queries and Search Jobs – 0 queries per month, 0 GB data scanned per query of Basic Log Queries, 0 queries per month, 0 GB data scanned per query of Search Jobs
Networking	Microsoft Azure	Load Balancer	Internal Load Balancer 1 per env	Standard Tier: 25 Rules, 5 TB Data Processed
Networking	Microsoft Azure	Network	Bandwidth	Internet egress, 20000 GB outbound data transfer from US Gov Arizona routed via Microsoft Global Network
Integration	Microsoft Azure	Service Bus	Service Bus	Premium tier: 2 daily message units x 744 Hours
Compute	Microsoft Azure	Batch	Batch Servers	Cloud Services: 2 F4SV2 (4 Cores, 8 GB RAM);

Service Category	Purchased From	Service type	Service name	Description
				Virtual Machines: 1 D4DV4 (4 Cores, 16 GB RAM)
Analytics	Microsoft Azure	Azure Managed Grafana	Azure Grafana for Log Review	2 active users
Analytics	Microsoft Azure	Analytics	Power BI Embedded	2 node(s) x 744 Hours, Node type: A3, 4 Virtual Core(s), 10GB RAM, 601-1200 Peak renders/hour
	Microsoft	SharePoint	SharePoint	4 TB File Storage
	Microsoft	Excel	Reporting Software (Self-generated reports)	State office license will be used
	GoDaddy	Certificates	Certificates	3 certificates
	Cerbersftp	FTP server software	FTP server software	2 server software
	Microsoft DevOps	Container Image Storage	Container Image Storage	1 TB
	Microsoft DevOps	Azure DevOps with Test Plan and Visual Studio Standard	Azure DevOps with Test Plan and Visual Studio Standard	
	Microsoft DevOps	Additional Test Plan licenses	Additional Test Plan licenses	
	Atlassian	Jira Service Desk	Jira Service Desk	
	Tenable	Tenable Nessus (Annual) - minimum license	Tenable Nessus (Annual) - minimum license	
		Static and Application VA	Static and Application VA	
		SOC 2 Audits per annum	SOC 2 Audits per annum	
	sysax	Sysax FTP Automation	Sysax FTP Automation	
	Id Automation	Barcode	ID Automation	
	Microsoft Azure	Support	Azure Support	1 incident ticket at a time, 4 hours initial response for SEV 1 issues
	i3 Verticals	Azure Blueprints for NIST SP 800-53 R4		

Service Category	Purchased From	Service type	Service name	Description
		Preconfigure Policies		
	i3 Verticals	Environment Setup and Configuration cost - Azure		
	i3 Verticals	Application configuration, interfaces, and testing cost – i3 Verticals		
	WV	Application	Communication (EMAIL)	E-MAIL -- State provided email server using SMTP relay
		Application	Communication (FAX)	FAX -- No fax identified
	WV	Application	Communication (SMS)	SMS -- State provided SMS service
	i3 Verticals	Application	Workflow	Celtic internal Workflow Engine (Licensed)
	Drools team	Application	Rule Engine	Drools Rule Engine (Open Source) This tool will be used as a rule engine for the proposed solution
	fontawesome.com	Development	Image Library	Fontawsom free edition (Open Source) The icons used throughout the system are using this library
	Microsoft	Development	Code Management	DevOps (Licensed) DevOps repository will be used to store the codebase of the product and customization
	Microsoft	Development	Code development .Net	Visual Studio (Licensed) .Net components of the product will be customized using this tool
	eclipse.org	Development	Code Development Java	Eclipse (Open Source) Java component of the product will be customized using this tool
	Microsoft	Development	User Story	Azure DevOps + SharePoint (Licensed) Internal development process will utilize these tools
	Microsoft	Development	Documentation	Office 365 Tools (Licensed)
	Microsoft	Infrastructure	Cloud	Azure Gov Cloud (Licensed) The environments accessibility to the state will utilize the Azure Government Cloud environment
	Microsoft	Infrastructure	Performance Monitoring	Applnsite (Licensed) Overall performance will be monitored using this application insights tool available in Azure

Service Category	Purchased From	Service type	Service name	Description
	Microsoft	Infrastructure	Reporting and Dashboard	Azure Monitor (Licensed) Overall infrastructure monitoring
	Microsoft	Data Migration	ETL	Azure Data Factory (Licensed) This tool will be used for the initial data migration and also for the warehouse transfers or similar
	Microsoft	Data Migration	Documents Migration	Azure Data Factory + Customer Program (Licensed)
	Atlassian	Customer Service	Service Desk	Jira Service desk (Licensed) This product will be used to provide a service desk service to the state
	Microsoft	Project Management	Video Calls	Teams (Licensed)
	Microsoft	Project Management	Documentation	Office 365 Tools (Licensed)
	Postman.com	Testing Tools	Postman	API Security and testing (Open Source) Used to Perform API Security Testing.
	Apache	Testing Tools	OWASP Zap	DAST(Web/API) Security Test (Opensource) Used for Performing Manual Security Testing (Web & API)
	Microsoft	Testing Tools	Azure DevOps	Issue Tracking (Licensed) Used for reporting and tracking issues, enhancements, and releases
	Apache	Testing Tools	Load Testing	JMeter (Open Source) This tool will be used to perform the load testing of the application
	Microsoft	Testing Tools	Test case management	Azure DevOps (Licensed) This tool will be used to manage the Celtic internal test case building and management
	webaim.org	Testing Tools	Accessibility Testing	WAVE (Open Source) This browser plugin will be used to identify the accessibility related issues incurred as part of the customization and fix them for the release

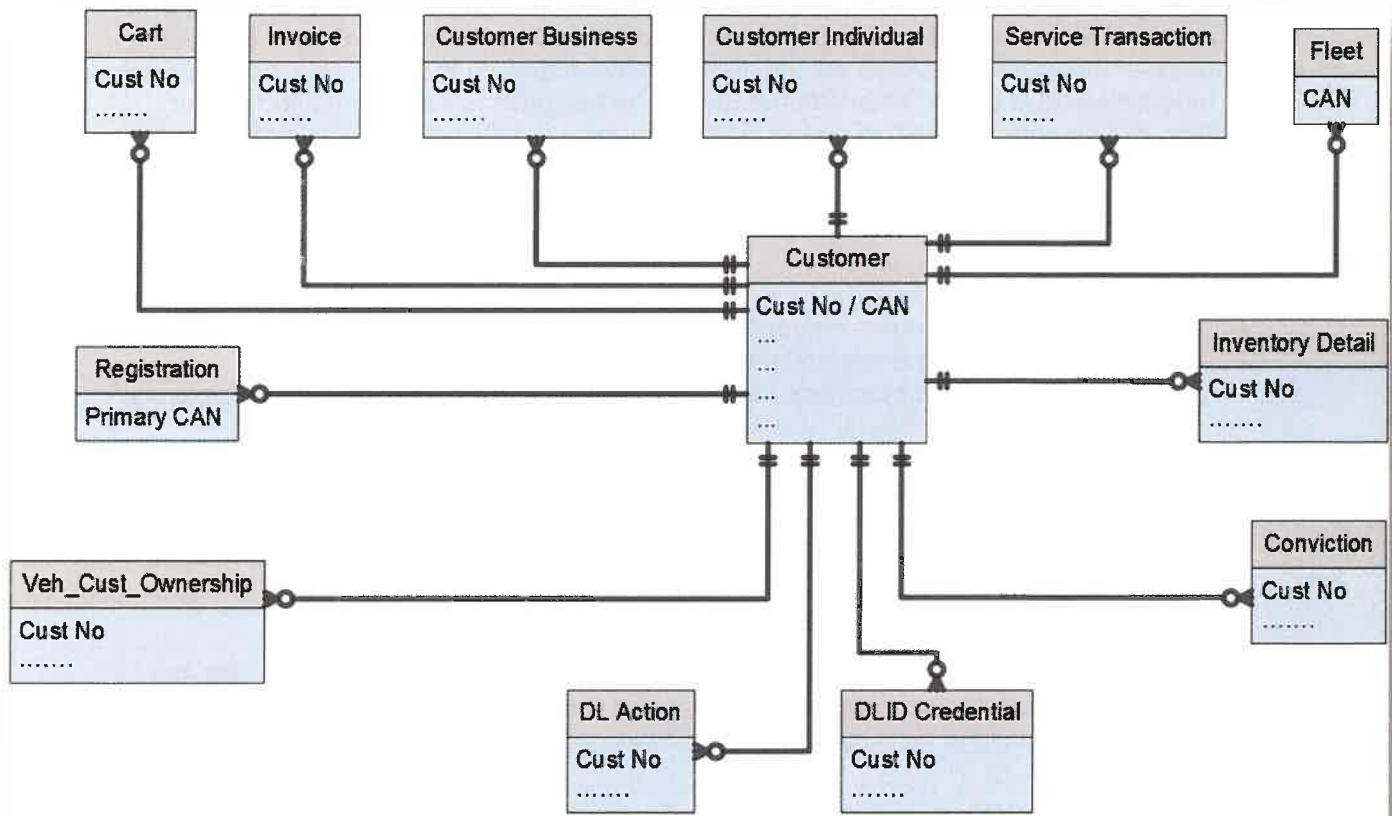
i3 Verticals Assumptions

- Any change in Virtual machine specification may result in an increase in price.
- Additional virtual machines will be an additional cost.
- Azure CIS 1.1.0 compliance level will be maintained at the infrastructure level.
- Additional resource usage outside of assumed quantity may result in an increase in price.
- Optional components are not considered as part of the total monthly cost. Optional components cost will be additional. These are good features from i3 Verticals and the Azure government cloud.

- For disaster recovery, we assume using the Azure backup and DR service to restore the database and other components. All other environment components (Operating Systems/Application Servers, etc.) to be created again. The average time for this exercise will be approximately 8 to 10 hours.
 - The azure environments before and after production move are identified and costed as per the chart provided in the infrastructure configuration section.
 - i3 Verticals will prepare the Azure Government production environment 3 months before go live date. We encourage customers to perform required production environment tests (as per state standards) like stress tests, integration tests, etc. Once the production environment is available, we request WVDMMV to perform all required tests within 15 days (about 2 weeks) of this availability.
 - Any additional component purchased from Azure will be at cost charged to the state.
 - The Azure infrastructure price is based on the current Azure pricing policy. The policy will be updated on a yearly basis and the price increase will be evaluated each year.
- *Database design to include at a minimum the overall architecture, the logical data model, the physical data model, and the data dictionary.*

i3 Verticals Response:

i3VDLS is designed by our experienced computer system technicians and architects together with i3 Verticals solution business area experts and with input from real-world Motor Vehicle Business Area Experts from multiple jurisdictions over a period of 20 years. i3 Verticals will customize and configure customer-centric and integrated solutions for the State that will meet and exceed the state's expectations. The proposed system utilizes a customer-centric data model (a logical model sample is provided on the following page) to support this vision.



Cust No is also known as Customer Account Number (CAN)

- *System Component Listing and Description Interface design*
- *Screen functions and field edits*
- *Reporting functions*
- *Procedural Design such as Use Cases including:*
 - *Processing specifications*
 - *Special conditions/exception processing*
 - *Outputs*

i3 Verticals Response:

Driver License

i3VDLS initiates the collection of applicant information required to process a new learner permit or driver license.

The user will first search for the customer using the Customer Dashboard from the Customer Centric Module. See section 4.2.1.2 for detailed description of Customer Centric Module and customer search functionality.

The system automatically sends the necessary record checks to SSOLV for Social Security verification, SAVE (Immigration), and EVVE for birth Certificate validation to ensure the validity of all customer information. i3VDLS will send and receive requests, automatically, from AAMVA SPEX to receive and show all Driver Record data. The customer is then prompted to enter restrictions, endorsements, medical codes, collect any required documents, then schedule the applicant for any relevant exam(s) dependent on the license type. Payment can be made immediately or, if other items are required, add to a cart for payment later with one check or other accepted payment type.

i3VDLS Features:

- Generates all types of driver credentials after analyzing driver's records and history and collecting all the required documents and fees.
 - Graduated Driver License, Instruction Permit, Commercial and non-Commercial Driver License, Real ID and Standard Driver Licenses
 - Identity Card
- Captures and tracks all the driver records including Convictions, Points, Accidents, and based on business rules will automatically initiate the necessary actions:
 - Sending warning, generating suspensions or revocations, or reinstatement on suspension or revocation according to business rules.
- Provides interfaces to authorized third parties to obtain driver records.

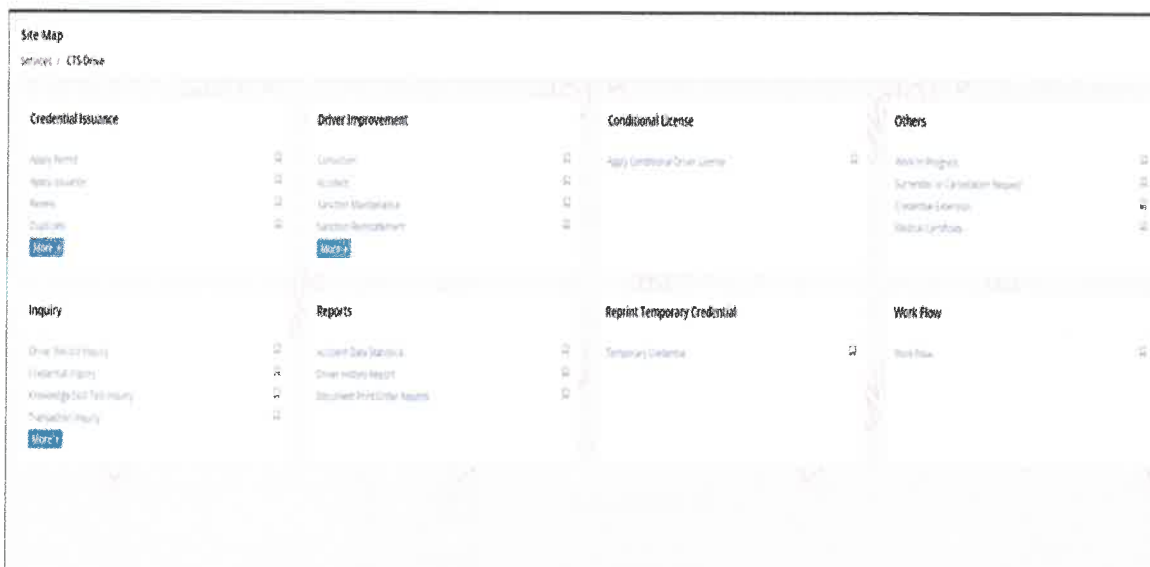
Information goes into a card production queue and is sent to the card production vendor in a nightly batch job. The system also produces temporary credentials which allow the customer to drive while the physical card is being produced. These can be provided to the customer over the counter.

i3VDLS, due to its modular design, is a highly configurable system and will allow authorized, non-technical users to modify certain functionalities, including:

- Configuring user roles and assigning them to users
- Activating / deactivating users
- Changing a user's office location
- Configuring 360-degree view widgets and options
- Adding new office locations
- Setting up and updating business day timings for a particular office
- Setting up holidays and other periods of non-work for calendars
- Updating title and other asset suspension rules
- Maintaining fees by effective date.

Use cases are available and can be provided upon contract signing.

Detailed descriptions of the menu items are depicted on the following page:



Description of the Interface Design

i3 Verticals will create an interface control document (ICD) during the requirements verification phase that will define all the required interfaces. It will include details for each interface, such as the format and status codes sent to and returned from the external source and requirements for capturing results as below:

Real-time integrations:

- Integration Pattern – Synchronous/Asynchronous/Publish Subscribe/Fire & Forget
- Web Service – REST/SOAP
- Request/response attributes
- Security Implementation

Batch/File Based Integrations:

- Integration Pattern – Inbound/Outbound/Bi-directional
- File Format
- File Layout
- Batch Execution Schedule
- File Encryption/Decryption

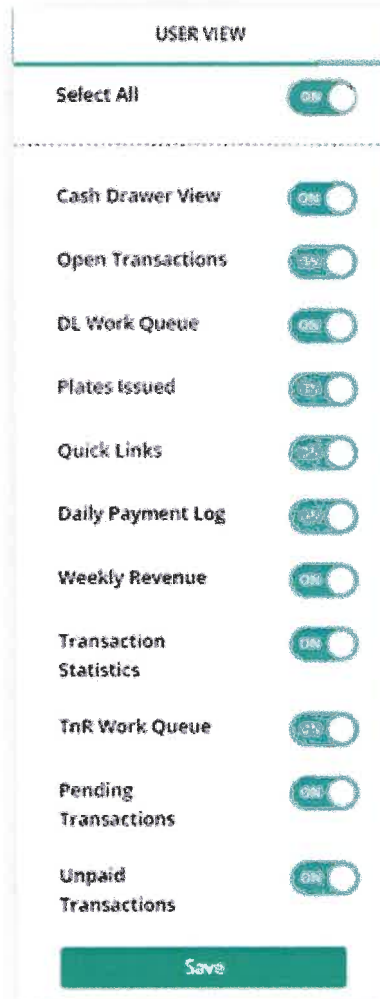
Once the ICD is approved by WVDMMV, i3 Verticals will customize and configure UIC to integrate with external/internal WVDMMV system. Following the UIC configuration, a test of the integration is performed for accuracy.

All the real-time and batch APIs developed will be exposed through the API gateway for consumption by other WVDMMV systems or an external system. If there is any change or enhancement at the external/internal integration it can be handled by creating a new version of UIC API.

Batch Jobs can be scheduled which can trigger the batch API to automatically synchronize the necessary data with internal/external system. UIC Batch provides job status API which can be configured to perform automatic reconciliation between the number of records consumed/created by batch vs data load/data unload.

WVDLS User Dashboard

Our proposed solution has configurable User and Customer dashboards which can be switched on and off using a Wrench icon. Below is the screenshot of the system's component selection.

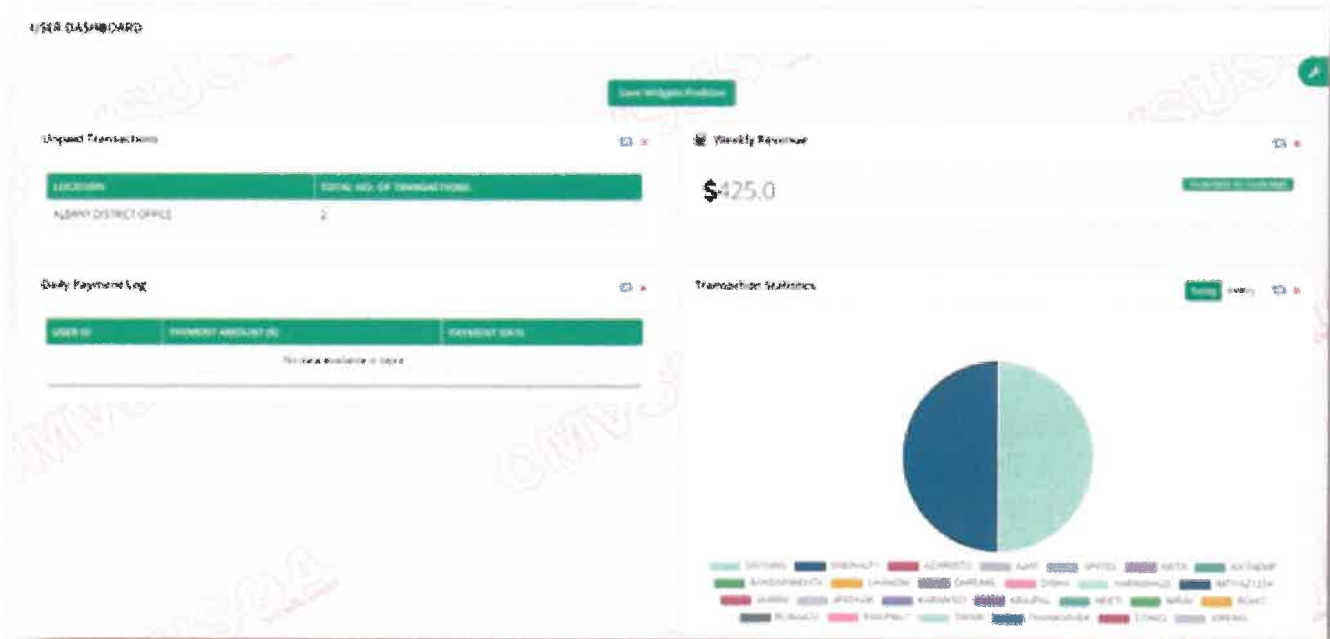


The User Dashboard is the first screen the WVDMV user sees when successfully logging onto the system. The applications and corresponding menu options displayed will depend on the role assigned to each user.

WVDMV users can enable an array of widgets to get quick insights into various activities and supplements performed. The user dashboard screen includes the following widgets. Widgets are completely configurable. Additional widgets can be added or removed based on WVDMV requirements.

- Cash Drawer View
- Open Transactions
- DL Work Queue
- Frequently Used Transactions
- Plates Issued
- Quick Links
- Daily Payment Log
- Pending Transactions
- Weekly Revenue
- Transaction Statistics
- TnR Work Queue
- Unpaid Transactions

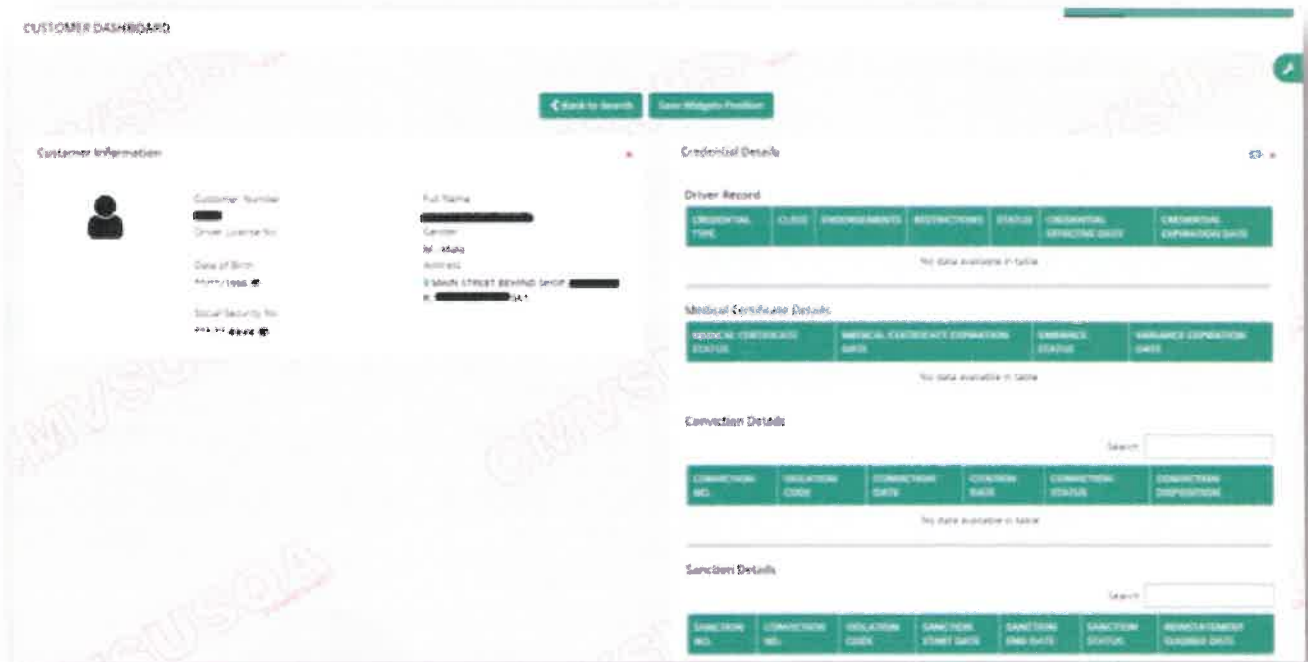
Below is the sample screenshot of configurable user dashboard.



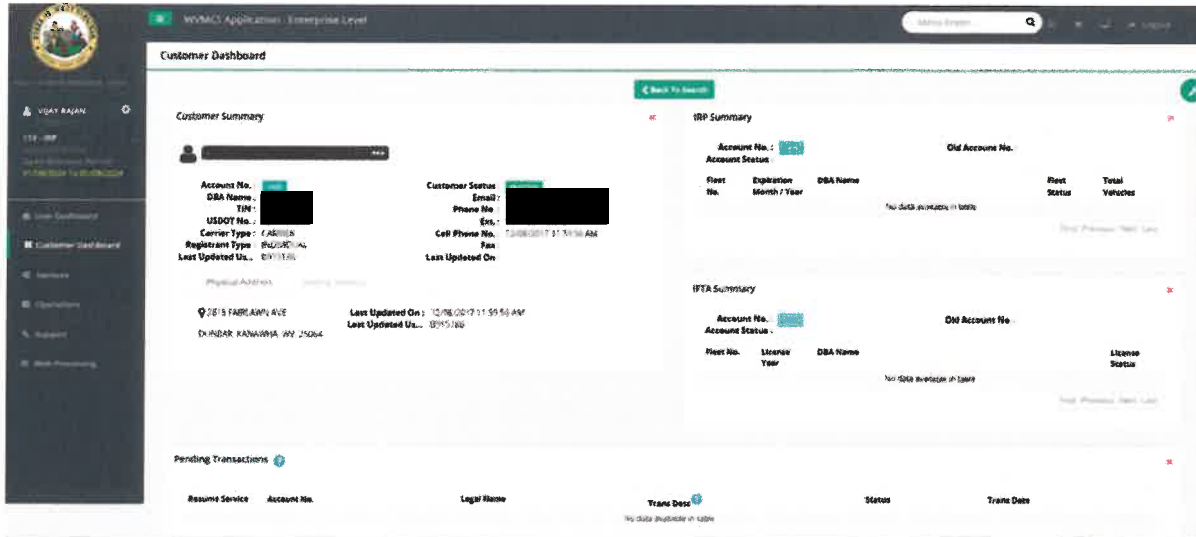
WVDMV Customer Dashboards

The system offers various widgets that provide transactional insights into a customer's account. The customer dashboard screen includes the following widgets:

- Quick Links
- Ownerships
- Pending Transactions
- Notes
- Documents
- Escrow Balance
- Customer Information
- Customer Credential
- Credential Details



Above is a sample screenshot of a configurable individual customer dashboard.



Above is a screenshot of a configurable Motor Carrier customer dashboard.

The i3VDLS solution includes an inventory module, which can be included in the demonstration of the solution, should the WVDMV be interested.

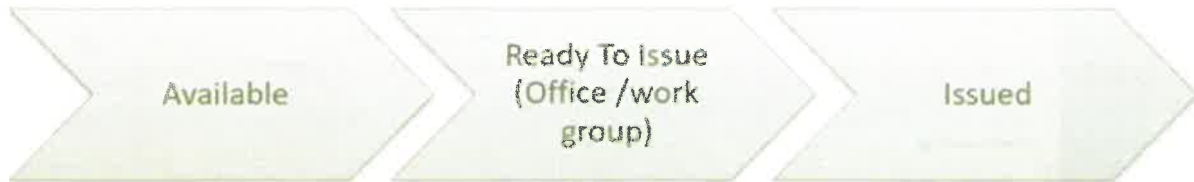
Inventory Management

Working together with DMVFirst, i3VDLS provides for adding or removing inventory items and types, placing inventory orders, maintaining packed / unpacked inventory records, transferring, and receiving orders, notifying for low inventory types as per the business rules and assigning inventory at the requested accountability levels. In Driver Licensing, inventory is typically bulk inventory such as Driver Handbooks and Exam Preparation Materials; however, the application includes inventory for Title and Vehicle Registration as well. Discussion for the purpose of this RFP is limited to Driver Licensing. The following is a sample screenshot of the system's inventory menu items:



The system's inventory management module uses the following procedures to ensure the proper accounting and accurate status of inventory items:

- Inventory assignment is by office location OR by work group or by User.
- Allocation of a range of inventory to office or office/ work group (Station number) after approval is done by internal users.
- Update of the status of inventory items.



The system's inventory module (Warehouse function) allows authorized users to order new inventory from the central warehouse. This process is used by a warehouse to place an order with a particular vendor. When creating an order to a vendor, the warehouse needs to specify the quantity, type, and class, and start range if applicable. Start range is used for controlled inventory only. Bulk inventory with no document control numbers is ordered in quantity (e.g. Number of boxes) rather than inventory range. The inventory management module uses the following procedures to ensure the proper accounting and accurate status of inventory items:

- Inventory assignment is by office location or by work group or by User.
- Allocation of inventory to office or office/ work group (Station number) after approval is done by internal users.
- Update of the status of inventory items.

Inventory Tracking:

As a general principle of the inventory process, the ordered commodities are delivered to the state's warehouse location for receipt and verification, after which commodities are distributed to the branch offices, third party agents and any/all state approved vendor locations, as required.

Notifications for this section include:

- E-mail or simulated notification on the WVDMA DVA Asset Manager (DVA AM) home page (or both, based on their preference) that the order has been received and accepted or rejected by the Procurement System.
- E-mail or simulated notification on the DVA AM's home page (or both, based on their preference) that the order will be delivered on a specific date at the DVA warehouse.
- E-mail or simulated notification on the DVA AM's home page (or both, based on their preference) that the order will be delivered on a different date at the DVA warehouse than originally estimated.
- Additional notifications as necessary.

We will work with WVDMA to incorporate their well-defined business rules into the i3VDLS during the requirements gathering phase.

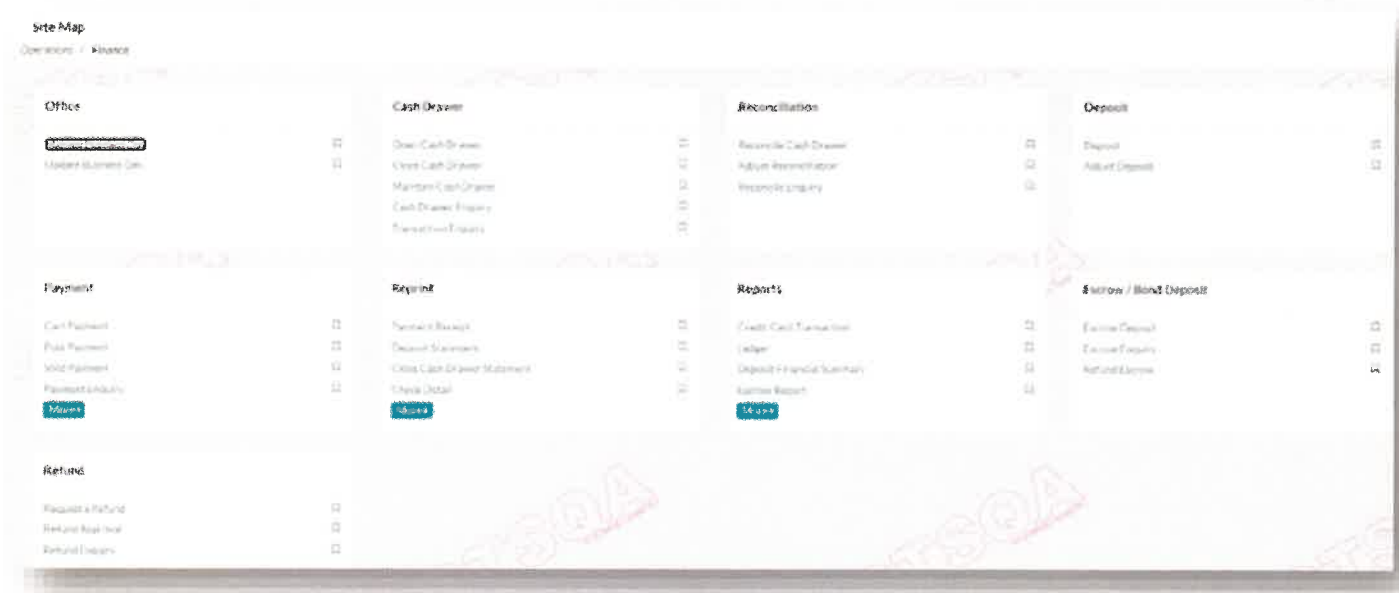
Finance

The Finance module includes cashier drawers, payments, refunds, and reports to support the distribution of funds.

This module provides a full payment collection and additional functionalities that allows users to:

- Use Cart payment to pay more than one transaction depending on business rules.
- Collect payment with multiple payment tenders, for example, part payment from multiple credit cards (including Visa, MasterCard, American Express, and Discover), part check and part cash or part check and part credit card and E-checks. Depending on the payment type, the system allows the user to enter payment reference number, auto populate the payment reference, or disable it. The date of payment by default is the date when the payment is collected.
- Create a payment receipt providing a transaction and payment receipt numbers and transaction details payment transaction assign a unique identifier for each payment transaction including a link between business transaction and payment cart, payment card and payment collection, payment collection and payment types, payment types and user cash drawer.
- Multiple financial reports and inquiries that are product proven. The system provides a detailed summary ledger report that includes all the supplements, payments, refunds, and the balance of each prorate account.

The following is a sample screenshot of the system's Finance Dashboard:



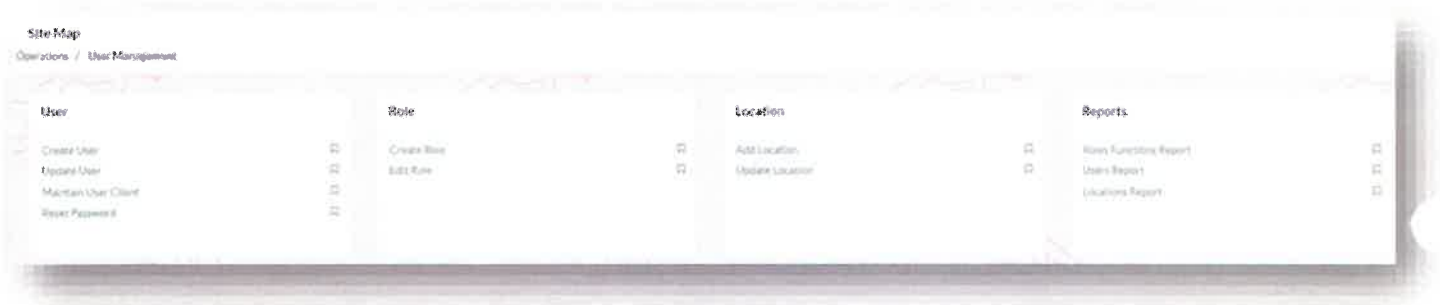
User Management

User management allows the authorized user to create and maintain users access and permissions as well as reset a password for new and existing users. The roles in the User Management Module define access controls and permissions down to the field level. Role Based Access Control (RBAC) is tied to the role and the role is assigned to each individual user.

Additionally, the user management module provides the following capabilities:

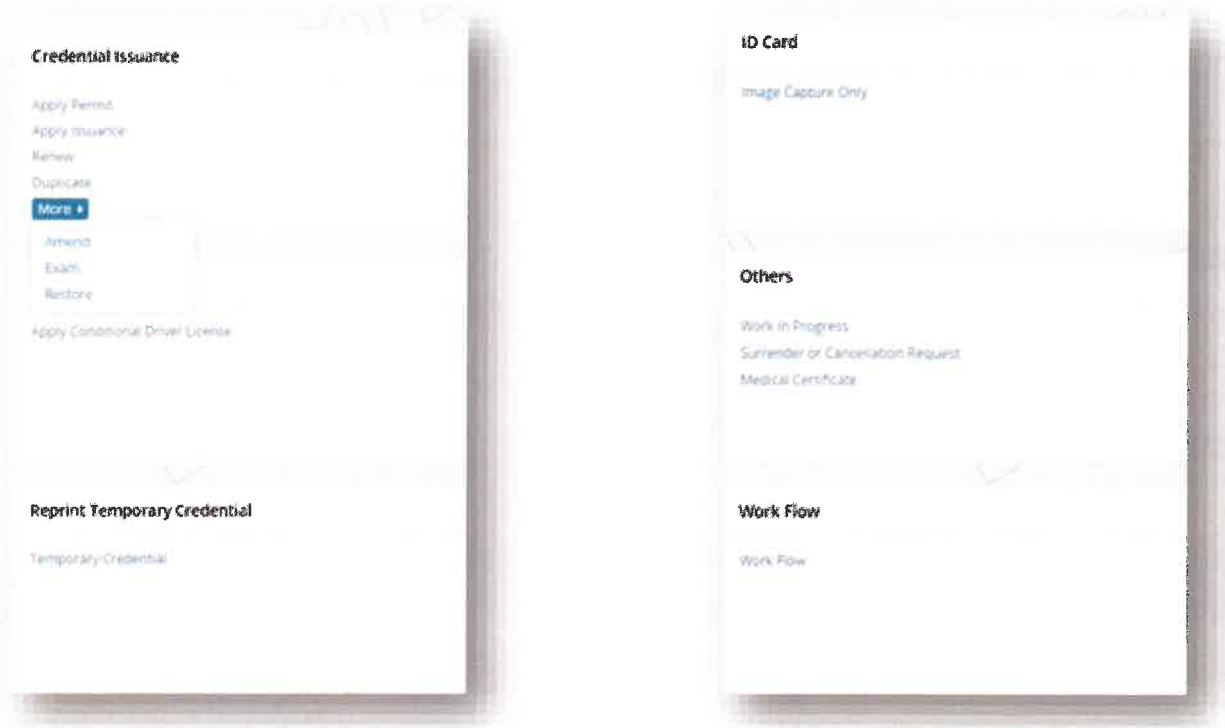
- Creation of roles for Customer, Third Party Agents, authorized users, and other designated department, and local users which will be granted based on the functionality they are approved to access.
- Reporting functions that include user account details, roles, and other details. The system provides statistics of user activity and other Management Information reports that includes performance statistics, user accounts reporting and system log reports.
- Creation of multiple branch locations that are assigned or reassigned management of inventories.

Below is a sample screenshot of the User Management Operations menu items:



Reporting:

i3VDLS contains the following list of transactions. Each Transaction is described in Detail.



Initial Learner Permit/Driver License/ID Card Transactions

i3VDLS allows drivers to apply for various types of credentials based on eligibility criteria and business rules for each type of transaction. Initial transactions are used for customers that:

- currently do not have a driver license, or ID card in West Virginia.
- are getting a driver license or ID card for the first time.
- have credentials in a previous jurisdiction and have moved to West Virginia including those that have had a previous West Virginia credential, left the state and are now returning. These are known as reciprocal licenses.

First time drivers who have never had a Driver License must first apply for a Learner Permit and once Permit requirements have been met, they will apply for a Driver License. The basic initial transaction flow is described below, and the flow is the same for Learner Permit and Driver License Issuance. Differences in business processes and edits are described below with the screen shot description.

Customer Search

See section 4.2.1.2 for detailed description of Customer Centric Module, customer search and customer creation functionality. This feature is the same for all customers and every transaction processed.

Credential Screen

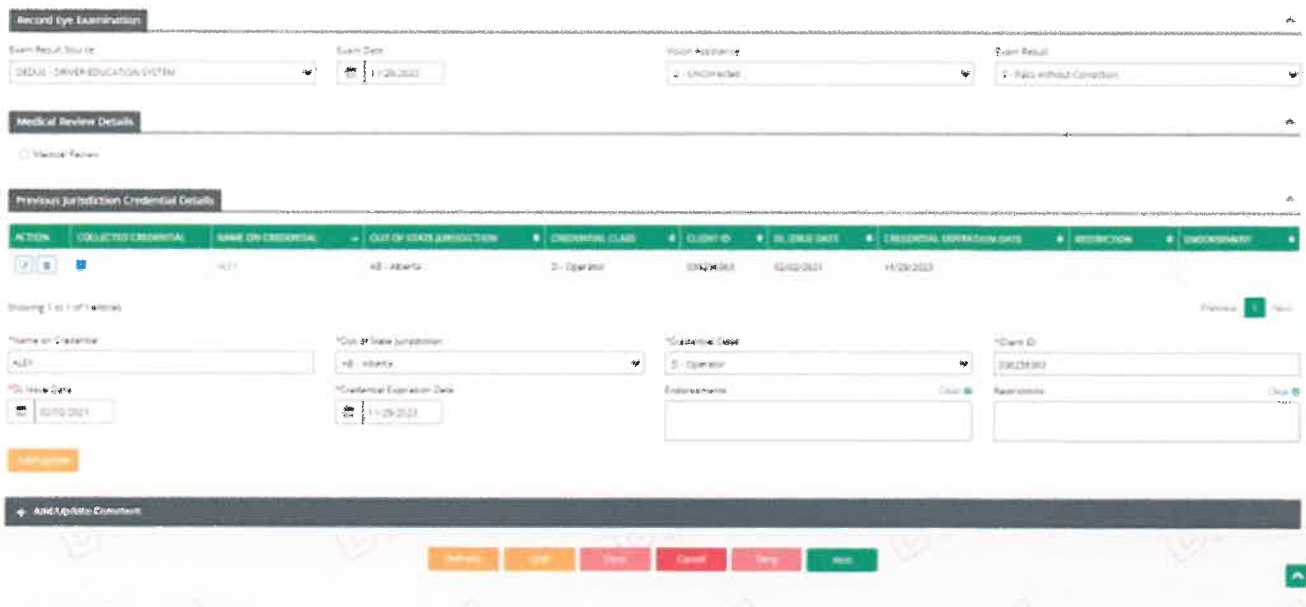
When the customer record has been located or created, the next screen in the transaction flow is the credential screen. The screen shot is shown below.

On the Credential screen, the user defines additional customer information such as citizenship status and provides an option for Motor Voter Registration and Organ Donor designation. Non-citizens lawfully present with a Temporary Visa will have credential expiration date set to match the Visa expiration date. For Citizens and permanent non-citizens, credential expiration date is set automatically by the application based on business rules.

The Credential Details section provides an option to apply for either a License or an ID card. If the ID card is selected the Exam screen is dynamically removed from the application flow because they are not required. Business rules, edits, enabled/disabled fields, and field data auto populated also dynamically change based on business rules and requirements.

Credential Classes are drop down values which dynamically change based on age of the driver. For example, a driver under age 18 would not be eligible for a standard operator license so the application does not present those as options. Credential type selected also controls the documents required on the document screen. Restrictions and endorsements can be added as required. The application edits for eligibility based on business rules.

The vision assistance field and exam results field control whether the vision restriction is automatically applied to the license.



The Credential screen also allows the user to enter Medical Certification details for a CDL application and allows the user to make a referral to the Medical Review Unit if the customer indicates a medical condition which may impact ability to safely drive exists. Previous Jurisdiction details capture the details of the out of state driver license transferred to West Virginia.

Each screen within the application contains a series of edits that run upon selecting NEXT from the screen. The system uses a rules engine for business rules which allows us to quickly add new business rules, edit existing rules or delete rules no longer needed without coding changes, making the system highly configurable and efficient to maintain.

If an error is identified, a message will be displayed on the screen which explains the error. Error messages are color coded:

- Red errors are hard stops. The user cannot proceed further without correcting the error. An example of a hard stop error on the Credential screen would be the driver who does not meet minimum age requirements for the class of driver license selected.
- Yellow errors are warning errors. These errors identify a potential conflict in the application and advise the user to investigate before proceeding further. The user can proceed with a warning message. An example of a warning message would be “You need to submit Military Waiver Certificate on the Document page” when the Military Waiver is selected for a CDL driver.
- Blue messages are informational only and the user can proceed. These messages are often successful messages. An example of an informational message would be “New customer record has been created”.

When the user selects the NEXT button, the Photo Credential Screen below will display.

Photo Screen

The Photo Screen captures both the photo and the signature of the customer.

Photos can be captured in several ways:

- Web Cam
- Image Capture Workstation
- Uploading a photo provided by the customer if business rules allow.

The system supports Photo First practices by associating a photo and signature captured at an Image capture workstation before the customer arrives at the DL Examiner workstation to be pulled into the application. The Image Capture Workstation assigns a file number to the customer photo and signature file. The customer can be provided with a document with that number which is presented to the DL Examiner. The user then enters this number in the MV1 Number field, and the associated photo and signature will be displayed in the application.

New photos are presented side by side with the last photo on file to facilitate 1:1 Facial recognition examination by the user. The application integrates seamlessly with other Facial Recognition systems to complete 1:N Facial Recognition for the purposes of ensuring the photo matches the correct driver and prevent fraudulent activity. The application also edits photo clarity and quality as well as business rules regarding photos (e.g. no sunglasses). If a photo is rejected, the user can delete the bad photo and retake it.

The application also allows users to exempt a driver from taking a new photo according to business rules (e.g., customer is badly disfigured and undergoing reconstructive surgery) and edits for when new photo is required based on jurisdiction business rules.

The application integrates with signature pads or other customer facing devices to capture and display signatures.

Once the photo and signature are displayed on the screen, the user selects the upload button to commit the photo and signature to the database and associate it with the customer record. This data will become a part of the Card Production File to be sent to the Card Production vendor at the end of the transaction. Upload functionality also sends the photo to the Facial Recognition System for the 1:N Facial Recognition review and approval.

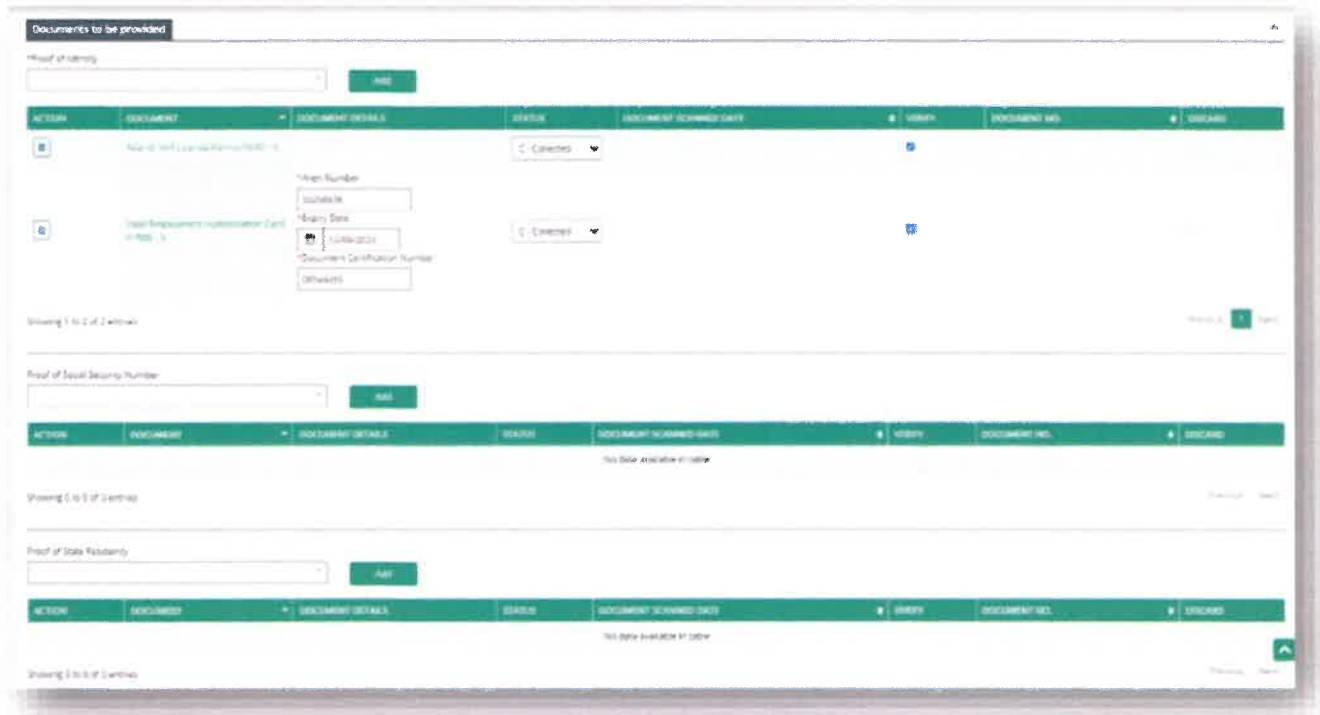
Selecting NEXT will run any additional business rule edits such as ensuring that the photo and signature were uploaded and once all edits are passed, the Document Screen will display.

The screenshot shows a web application interface with a progress bar at the top containing steps: 1. Information, 2. Photo and Signature, 3. NEXT, 4. DOCUMENT, 5. SIGN, 6. REVIEW. The current step is 'NEXT'. Below the progress bar, there are three main sections:

- Additional Information:** Contains fields for 'DOB', 'MARRIAGE STATUS' (with options: Single, Married, Separated), 'SIGNED ON DATE', and a checkbox 'Do you wish to register to vote?'.
- Credential Objects:** Contains fields for 'ASSOCIATION CODE', 'ID TYPE', 'DOB', and 'ASSOCIATION EFFECTIVE DATE'. Each field has a dropdown menu and a 'SELECT' button.
- Photo and Signature:** Contains a 'PHOTO NUMBER' field, a 'PHOTO UPLOAD' button, a 'PHOTO UPLOAD DATE' field, a 'PHOTO UPLOAD' button, a 'PHOTO SIGNATURE' field, and a 'PHOTO SIGNATURE' button. There are also visual representations of a photo and a signature box with 'SELECT' and 'PHOTO SIGNATURE' buttons.

Document Screen

The document screen captures identity documents to meet issuance requirements for both standard and Real ID credentials. Types of documents are categorized by Identity, Social Security Number, State Residency, Other Documents, and Proof of Name change. A drop-down list of available documents that meet the requirement for that category is provided. Each document has weighted points assigned. Six (6 points) are required to meet proof-proving requirements.



In addition to total document points, additional edits, such as the requirement to provide two (2) acceptable forms of proof of state residency are required. Edits are dynamic based on business rules and information entered on previous screens. Additional edits include, but are not limited to:

- Application form is required.
- Parent/guardian permission is required for drivers under the age of 18.
- Medical Certificate for CDL Drivers (this document is collected at the Credential page and automatically carried over to the Document screen to reduce need for duplicate data entry)
- Proof of Legal Name change when applicable.

The WVDPMV user then selects the document type from the drop-down list for the category and selects the Add button. This adds the document to the grid for that category. If additional information is required, such as a document number for a passport, the fields will display when the document is added to the grid. The user completes any additional fields displayed and marks the document collected and verified. i3VDLS allows any document added in error to be deleted.

Documents can be scanned when added to the transaction or can be scanned later. Scanned documents are associated with the document listed in the grid and a document number is assigned. This number is a link that the user can select to view the document. This same scanning functionality is available on all screens in the transaction flow where documents are required.

Once all documents are added, collected, and verified, the user selects NEXT. Edits are run and error messages displayed as noted previously on the credential screen. Once all edits have been passed, the Exam Screen will display.

Exam Screen

The Exam Screen allows WVDMV users to assign, track, and monitor required exams for an applicant based on License Class requirements. Exam details, including results can be entered manually or integrated with an external appointment management system to schedule exam appointments and/or external testing system to retrieve and display the data automatically. This includes exams for initial issuance as well as exams required to add CDL endorsements or upgrade to a higher class of license.

i3VDLS also includes an Exam Only Transaction for jurisdictions that require applicants to pass Knowledge Tests before beginning the application process. This separate transaction includes scheduling and completing the exam, accepting payment if required, assigning the test, and tracking results.

In the Driver Issuance transaction flow, a WVDMV user assigns the required exams by selecting from the Exam Type drop-down list, which is configurable based on jurisdiction requirements, and selects Add to add the exam(s) to the grid. The drop-down list can also be configured to dynamically present only the Exams required for the class of Driver License or endorsement the customer is applying for.

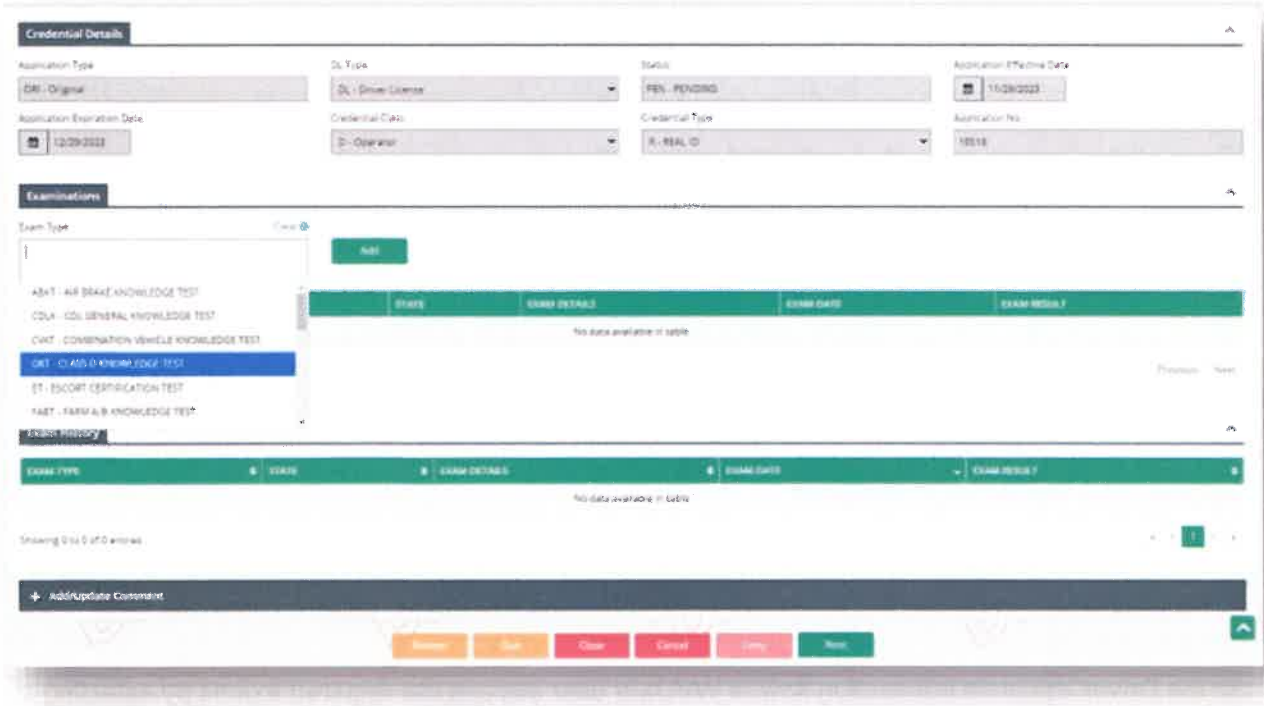
Once the exam(s) are added to the grid, additional fields will be displayed. The state the exam is being taken in defaults in the State field. Users will select the language of the Exam from the configurable drop-down list in the Exam Details field. Recording the exam language documents an exam where an Interpreter may have been involved in the event there is a need for review. The date of the exam is recorded in the Exam Date field. This data can be manually entered, or it can be automatically populated via integration with an external testing system. The exam result is selected from the Result drop-down list.

The system tracks the number of failed attempts to pass a particular exam and edits against business rules for mandatory waiting periods for retake. For example, jurisdiction business rules state that an applicant has three (3) consecutive attempts to pass a Knowledge Test with no waiting period between retakes. If the applicant fails on the third attempt, the applicant must wait 30 days before taking the test again. The system records and monitors the three (3) failed attempts and automatically edits for 30 days from the date of the third failure and will not allow a fourth exam to be scheduled prior to that date. The system displays details of all previous exams in the Exam History section of the screen.

The application also edits pre-requisites (example: applicant must pass the Knowledge Test before proceeding to the road test) and applies any waiting periods or other pre-requisites according to business rules before additional exams can be scheduled.

Once exam requirements for the class and stage of license have been passed, WVDMMV users select NEXT, and the edits will run. When edits have passed, the Billing Screen appears.

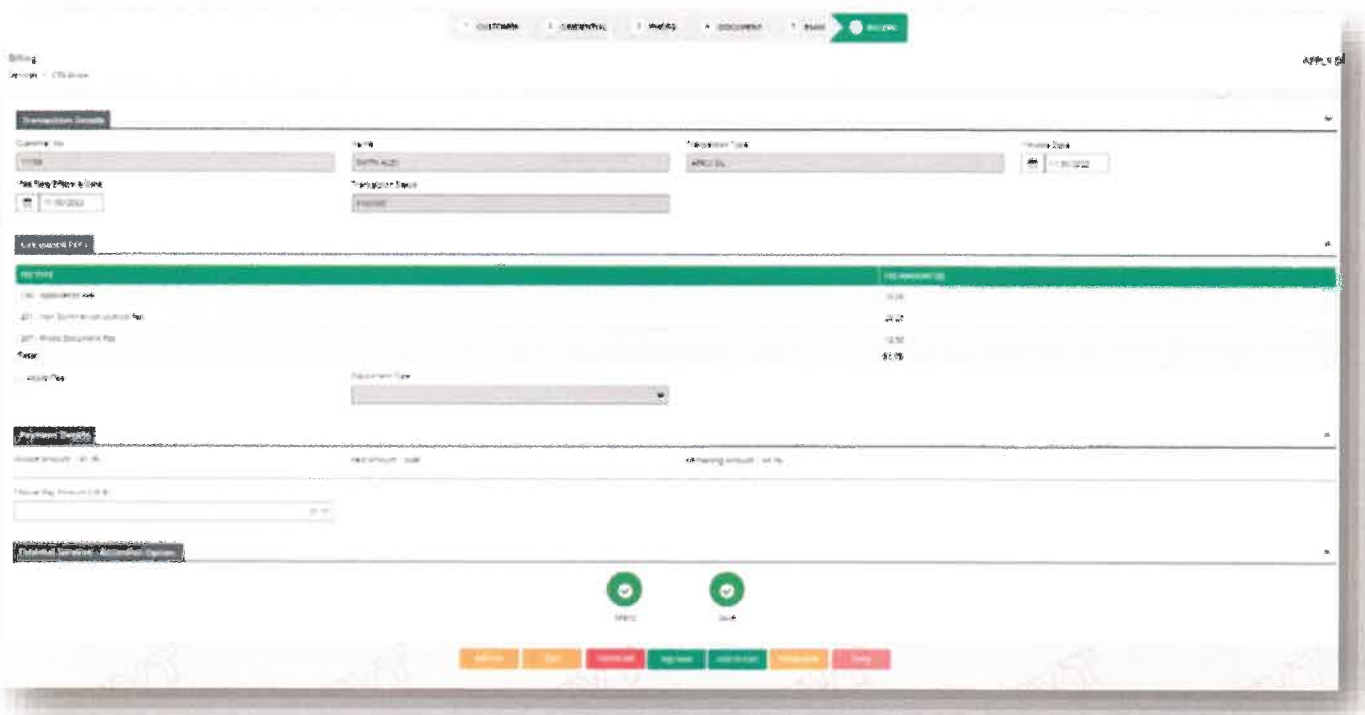
Below is a screenshot of the Exam Screen.



Billing Screen

The Billing Screen calculates fees and initiates creating the invoice and the payment process. Fees are calculated based on services and products included in the transaction based on business rules. The system has functionality to adjust fees and ability to adjust fees and can be limited by RBAC controls or an override can be provided according to business rules.

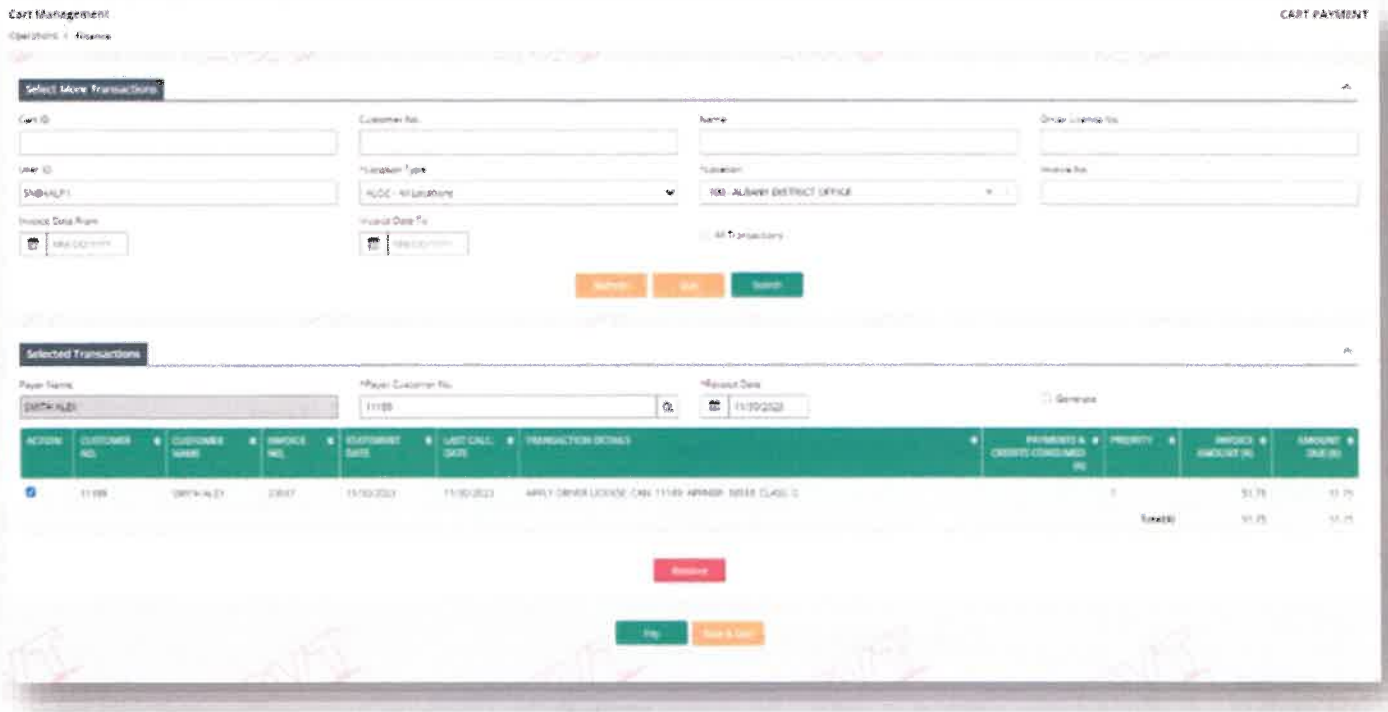
The user has the option to Add the invoice to the shopping cart or pay the invoice immediately by selecting Pay Now. The invoice may be recalculated or cancelled from this screen as well. Please see below for the Cart Management and Payment Screen process.



Cart Management & Payment Screen

If a WVDMV user selects Add to cart, the invoice is created and held in a Shopping Cart. The system allows the users to place multiple transactions for the same customer in a single Shopping Cart and provide a single payment. Invoices added to the cart can be removed as required. The invoice is produced and can be provided to the customer for payment later. When the customer is ready to pay the invoice, the WVDMV user accesses the shopping card and completes the payment process as described below.

Screenshot of Cart Management Screen



The screenshot shows the 'Cart Management' interface. At the top, there are navigation links for 'Cart Management' and 'i3VERTICALS - Finance', and a 'CART PAYMENT' button. Below this is a 'Select More Transactions' section with a search bar and a grid of input fields for 'Cart ID', 'Customer No.', 'Name', 'Group/Company No.', 'User ID', 'Transaction Type', 'Location', and 'Invoice No.'. There are also fields for 'Invoice Date Range' and 'Invoice Date To'. Below the form are buttons for 'Cancel', 'OK', and 'Save'.

The 'Selected Transactions' section features a search bar for 'Payment Name' and 'Payment Customer No.', and a 'Payment Date' field. Below this is a table with the following data:

ACTION	CUSTOMER NO.	CUSTOMER NAME	INVOICE NO.	CUSTOMER DATE	LAST CALL DATE	TRANSACTION DETAILS	PERMITS & CREDIT CONTINGENT (IN)	PRIORITY	INVOICE AMOUNT (IN)	BALANCE (IN)
	1199	DRYHALL	2807	11/03/2023	11/03/2023	APPLY DRIVER LICENSE ONL 1199 APRRSP 9588 CLASS C			\$1.75	\$1.75
									Totals	\$1.75

Below the table are buttons for 'Remove', 'Pay', and 'Pay & Save'.

Payment Details Screen

When the user selects Pay Now from the Cart Management or the Billing Screen, the Payment Details Screen displays. The transactions included in the customer's cart are displayed in the grid. The user has the option to remove any transaction that is not included for payment from the grid at this point. When the user is ready to proceed with payment, the user selects Pay. The screen then displays the fields to collect payment.

Multiple payment types are available in the drop-down list. The user selects the payment type. If a check or voucher payment type is selected the user must enter a check or voucher number in the Payment No. Field. The user enters the payment amount in the Payment amount field.

Credit card payment is available and is handled through an integration with a third-party Credit Card Processor. The payment information is sent electronically to the payment processor and no credit card information is retained in the i3VDLS. Payment authorization is sent back through the integration and payment processing is finalized.

Multiple payment types (up to three) can be used to pay a single invoice if needed. If a Credit Card is used as one of the payment types, all other payment types must be processed first so that the amount sent to the Credit Card processor is only the amount remaining after other partial payments have been applied.

Following successful payment processing, credentials are issued.



Payment Details Screen

Payment Details

CART PAYMENT

Customer / Invoice

Payment

Customer Name: SMITH ALEX	Payor Customer No: 11180	Invoice (\$): 0.00	Card ID: 17766	
INVOICE NO.	STATEMENT DATE	PAYER NAME	TRANSACTION DETAILS	AMOUNT DUE (\$)
23247	11/30/2023	SMITH ALEX	APPLY DRIVER LICENSE CAN 11189-APPLSR 18318 CLASS D	\$1.75
Total Amount Due (\$)				\$1.75

Payment Details (\$)

PAYMENT TYPE	PAYMENT NO.	PAYMENT AMOUNT (\$)
USDP - Cash		\$1.75
Totals (\$)		\$1.75
Remaining Balance (\$)		0.00
Change (\$)		0.00
Over payment (\$)		0.00
Net amount paid (\$)		\$1.75

Delivery

Electronic Delivery Type: DEDP

Print Pay

Payment Type Screenshot

Payment

Payer Name: COMEDOWN JERICH0 Payer Customer No: 6928 Escrow (\$): 0.00 Cert ID: 12893

INVOICE NO.	STATEMENT DATE	CUSTOMER NAME	TRANSACTION DETAILS	AMOUNT DUE (\$)
16741	12/01/2023	COMEDOWN JERICH0	APPLY LEARNER PERMIT, CAN 6028 AFFNR 12916 CLASS D3	51.75
Total Amount Due(\$)				51.75

Payment Details (\$)

DELETE	PAYMENT TYPE	PAYMENT NO.	PAYMENT AMOUNT (\$)
<input type="checkbox"/>	<div style="border: 1px solid #ccc; padding: 2px;"> LICSH - Cash LICSH - Cash LICHQ - Personal Check LICPH - Voucher LICED - Certified Fund LICENT - Enterprise Escribe </div>	<input type="text"/>	<input type="text"/>
<div style="display: flex; justify-content: space-around; margin-top: 5px;"> Delete Add Credit Card </div>			
Total (\$)			0.00
Remaining Balance (\$)			51.75
Change (\$)			0.00
Over payment (\$)			0.00
Net amount paid (\$)			0.00

Refund

Apply Issuance Credential

One output of an issuance transaction is to issue a Temporary Credential based on the transaction type; a Learner Permit Transaction will issue a Temporary Learner Permit; Driver License will issue a Temporary DL; and an ID card transaction will issue a Temporary ID card. If the Credential Type of Real ID is selected, the Real ID icon will be included on the Temporary Credential. The Temporary Credential printed on plain 8.5 x 11 paper from a standard printer so no special printer requirements or special paper is required, reducing cost for the DL.

The purpose of the Temporary Credential is to allow the user to drive while the actual physical card credential is being produced and mailed by the card production vendor. It is not intended to be an identity document and can be marked as such if required. This document contains the same information as the hard card and is configurable based on business requirements.

Authorized Users can reprint a copy of the Temporary Credential as allowed by Business rules using the Reprint Temporary Credential transaction. This transaction reprints an exact replica of the credential as it was originally issued and does not allow any changes in this transaction.

Additional documents produced post-payment include a payment receipt. Other required documents can be added as needed.

Temporary Credentials Screenshot

TEMPORARY DRIVER LICENSE

NOT VALID FOR IDENTIFICATION PURPOSES

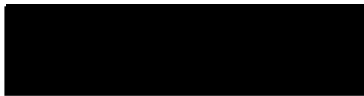
Client ID : [REDACTED]

Expires : 01/30/2024 10:26:37 AM

DL Expiration Date : 02/02/2028

Date of Birth : [REDACTED]

Credential Issue Date : 11/30/2023 12:00:00 AM



Class : D

Gender : M

Eyes : BLK

Height : 5 00

Characteristics : -



Client ID : [REDACTED]

Expires : 01/30/2024 10:26:37 AM

DL Expiration Date : 02/02/2028

Credential Issue Date : 11/30/2023 12:00:00 AM



DDRef Number : [REDACTED]

Endorsements :

Restrictions :

Other Transaction Outputs

During the finalization of a transaction, the system will create any necessary files, such as creating an order file to the Card Production Vendor. Records are held in a queue and a nightly batch job creates the order file and sends it to the Card Production Vendor. Additional files and batch jobs can be added as needed.

All transaction information is attached to the Transaction table and the transaction is marked as closed. Previous transactions must be closed before subsequent transactions can be processed.

Graduated Driver License Program Special Processing

For Learner Permit transactions for Graduated License (GDL) applications, fees for all subsequent credentials that will be issued as the driver moves through all of the GDL program stages are calculated and paid when the Learner Permit transaction is completed. A Pre-order

for each credential to be issued from Learner Permit through age 21 DL are created and stored in the database. As the driver documents requirement completion for the current stage, the system automatically adds the order to the order file and sends the order to the card production vendor. For example, the driver has a learner permit at age 15 and the current GDL Stage is Level I. The Driver turns age 16, has passed the road test, has held a Level 1 permit with no violations for at least 6 months, and 50 hour driving form has been submitted and approved, the system will then automatically order the Level II credential. When the driver is age 17 and has held a Level II License with no violations for a year, the application will issue the under age 21 regular driver License. At age 21, the application issues the regular DL for all drivers aged 21 and over.

This functionality is provided to reduce the need for customers to make several trips to the DMV over the course of the time they are participating in the GDL Program. The Pre-Order file is run through a daily batch job to identify drivers who can move to the next stage. An error list is created and provided to the DMV for manual review and any necessary correction for any record that fails the batch job for any reason. Records in the Pre-Order file that exceeded maximum pending dates are removed from the file via the Batch Process.

In situations where a document is required that may need to be reviewed and approved by WVDMV users, the application provides functionality for customers to upload documents via a web application which can be integrated with web accounts managed by WVDMV. Uploaded documents are associated with a customer and sent to a web processing queue. Users with appropriate permissions can view the documents by clicking a link and can either review and approve or deny the document. Approved documents are added to the customer document record and any associated flags required to allow the automated transactions to process are set and will show as met the next time the batch job processes.

This automated functionality reduces traffic in the DMV offices, reducing wait times for other customers who don't have access to on-line facilities, and improves efficiency for DMV customers and users overall.

All subsequent Issuance Transactions follow the same transaction flow as above.

The automatic preorder functionality is configurable so that the jurisdiction can issue each new stage license manually if required. In the case of manual issues of next state Graduated License, the Amend Transaction flow described below would be used for subsequent stages.

Amending a Transaction

The Amend Transaction is used to process changes in an existing Driver License such as downgrading a CDL to another License Class, adding or removing restrictions or endorsements, manually updating the next stage of a Graduated Driver License, or processing a name change. If the user attempts to process a "new" issuance transaction when the applicant has already been issued a Learner Permit or Driver License in West Virginia, the application will generate an error message stating that the license/permit already exists, and a new issuance transaction cannot be used. The Amend transaction allows the user to make changes to the existing driver's license or permit to support the goal of One Driver, One Record. AAMVA checks for the Amend transaction are performed and updated driver information is sent to AAMVA during this transaction.

A new photo may or may not be required during this transaction per business rules. If not required, the user may simply pass through the Photo screen without making changes. Any required Exams are entered on the Exam screen and appropriate edits are performed. Applicable fees are charged on the billing screen and the payment process screens are present

as described above. Temporary Credentials are produced, and an order is added to the order file to the production vendor to have the new hard card produced.

Duplicate Transaction

This transaction allows an authorized user to request a Duplicate of the current Driver License in the event the license is stolen or damaged. Requirement for police report for stolen licenses is configurable. No changes are allowed in these transactions. The system charges any applicable fees based on business rules and places an order to the vendor for a duplicate card.

Image Capture Only

This transaction allows authorized users to create an ID card for employee ID badges and can be used in WV to issue Bar Association IDs. This transaction also allows a customer to do a Photo Retake transaction. These are typically no fee transactions, however, if fees are associated, the billing and payment screens will be added in the transaction flow.

Renewal

This transaction allows users to renew Learner Permits, Driver Licenses, CDLs, ID Cards, if required, Restrictions and Endorsements. i3DLVS sends a renewal notice sixty (60) days in advance of the renewal date for customers who are eligible to renew using the customer's preferred option of either paper or e-mail. Drivers whose licenses are suspended are not eligible for renewal and will not be sent a renewal notice. Changes may be made during a renewal transaction. No change renewal is a shortened process that only shows screens required for renewal, such as the photo screen if a new photo is required. The system also auto determines the new eligibility end date based on lawful status of the customer and business rules. Online renewal is also available through the Web Processing feature and this feature can also be added to our Auto Assistant mobile application. Fees are charged based on the transaction. A Temporary ID is produced and an order to vendor for an updated credential is added to the order queue.

Late renewals will be processed based on business rules and additional late fees are charged as required.

Driver Improvement

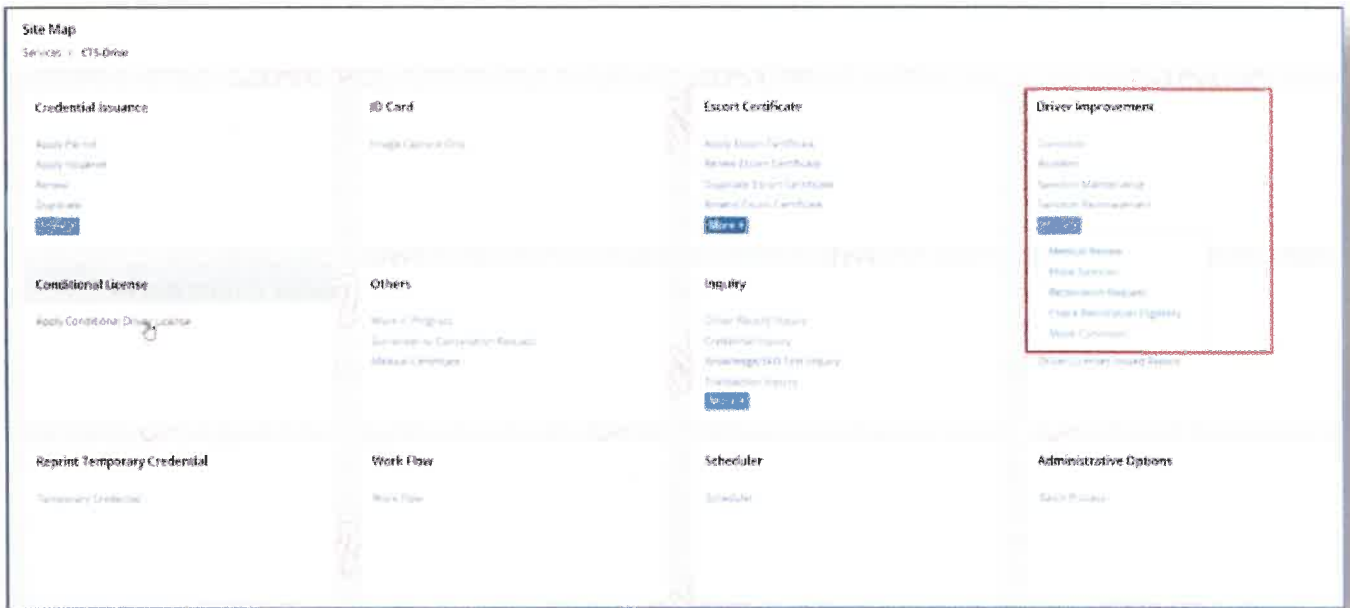
The Driver License Solution includes a Driver Enforcement component called Driver Improvement, which manages violations, citations, withdrawals, revocations, suspensions, and driving privileges for drivers with violations, accidents, and failing to meet other requirements. It also manages Drivers who are unable to drive for medical reasons and manages various administrative sanctions placed on drivers for administrative actions such as non-payment of Child Support per business rules. The Driver License Solution interfaces with courts and law enforcement agencies to obtain violation information and automatically applies the conviction to the driving record. The driver license solution sanction engine is powered by a Violation Code Table where jurisdiction violation codes are mapped to business rules that, when run, will automatically apply the correct sanction based on the business rule mapping and record the compliance items which must be met to be reinstated. The ability to record Ignition Interlock Device (IID) requirements and monitor compliance with IID program rules is also available. Users may also manually enter convictions, apply sanctions, and reinstate them as required by business rules.

The business rules associated with the sanction engine also differentiate between Commercial and Noncommercial Driver Licenses and will apply withdrawals according to driver privilege rules. The Driver Enforcement module also allows convictions and sanctions to be stayed due to

a court order or during a Fair Hearing. Based on the outcome of the stay, the conviction and any associated sanction can be removed or applied per business rules. The Sanction Engine also tracks convictions and sanctions and applies progressive sanctions based on history. For example, the first alcohol violation is a 6-month suspension, but the suspension period for the second violation is a 1-year suspension. The sanction engine records that the 6-month suspension was applied for the same violation code and applied the 1-year sanction when the second violation was recorded. Users can move sanctions from one record to another if the sanction is placed on the incorrect record. The Driver License Solution interfaces with AAMVA and CDLIS to report violations and sanctions and retrieve withdrawal and driving privilege information from other jurisdictions.

Screenshot of Driver Improvement:

Citations, Violations, or Tickets with a disposition of ‘Guilty’ will be added to the customer’s record by The Driver License Solution as a conviction. If the conviction requires that a sanction be added, the sanction engine will add the necessary sanction and compliance requirements. If the violation does not have a ‘Guilty’ status, the violation can be added with another disposition or without a disposition if configured.



The user will be required to enter a detailed description of the incident, such as the date, type of violation, violation code, and customer details, if they aren't submitted electronically from the issuing agency. Authorized Users can configure the fees for different types of violations using the code table or by using a separate fee table. Any fees to be paid by the customer will be calculated automatically based on the violation code. Finally, the citation record will be created with links to both the customer record and the vehicle record. All documents submitted for collection by the agency can be indexed by the date, customer, document category, and document type. The Driver License Solution sanction engine can be configured to mark any documentation compliance requirements as satisfied if the document is marked as ‘Verified’ by a user.

Administrative sanctions for violations such as 'Driving Impaired' may be added directly to the customer's record without a conviction if Admin Per Se rules apply. If/when a conviction for the same violation is added to the system, the sanction resulting from the conviction can replace the original sanction (if configured). Additionally, the i3VDLS supports the addition of administrative driving privilege sanctions for a non-driving related violation such as Failure to Pay Child Support or Failure to Provide Proof of Insurance, etc.

Citations, Violations, or Tickets with a disposition of 'Guilty' will be added to the customer's record by i3VDLS as a conviction. If the conviction requires that a sanction be added, the sanction engine will add the required sanction and compliance requirements. If the violation does not have a 'Guilty' status, the violation can be added with another disposition or added without a disposition if configured. When a sanction is added to a customer's record that requires reporting to AAMVA, i3VDLS will notify AAMVA of any changes to the customer's license and privilege statuses, including suspension, revocation, denial, or cancellation for non-commercial drivers and disqualification for the withdrawal of a commercial driving privilege.

i3VDLS will track all violations and administrative sanctions and can be configured to downgrade or suspend a driver for both individual violations and accumulating 'points' over a specific period.

i3VDLS will track all court-ordered suspensions by the violation code added to the customer's record. Compliance requirements which may include driving schools or Drug / Alcohol awareness classes will be added to the customer's record when the sanction is added to the customer's record.

i3VDLS will allow authorized users to add an administrative sanction without a conviction. Users can add or remove compliance requirements when the sanction is added.

i3VDLS supports a Medical Review of a driver that is designated as unsafe and can be configured to stop all issuance transactions, generate correspondence, and suspend the driver pending the medical review. Additionally, an 'Alert' message can be displayed, so any user accessing the driver's account will see a message appropriate to stop the transaction.

When received, i3VDLS can process a license and/or a driving privilege cancellation (or revocation) request. i3VDLS will immediately cancel or suspend the customer license and privilege specified in the violation code table when the user completes the transaction. The suspension or cancellation would take effect immediately if the violation code entered indicates a 0 (zero) days grace period.

i3VDLS supports jurisdiction Ignition Interlock Device programs as either a restriction to the customer's license or a 'Condition' added to an existing license and will not allow an IID restriction or condition to be added to a commercial license class. If the violation code allows, the customer may be enrolled in the jurisdiction Ignition Interlock (IID) program, receive a restricted or conditional license, receive a temporary driving permit, and require attendance at a driving school or an alcohol awareness program.

i3VDLS also supports the addition of compliance requirements, including court-ordered education programs such as attending Alcohol and Drug Awareness programs or requiring a driver to complete an evaluation before reinstatement.

Suspensions/restrictions will be added to customer records through automatic workflows that are triggered based on business rules. For example, the license suspension action is triggered if the payment due date has passed. This will be done through scheduled workflows that will be configured to meet agency needs and will be updated periodically via batch processes. Once a

customer has paid the citation fee, the Driver License Solution removes any restrictions and suspensions using business rules defined by the agency.

When the Driver License Solution receives a notification through AAMVA that a jurisdiction driver has received a 'reportable' violation from another jurisdiction, the Driver License Solution will apply the appropriate sanction based on the ACD code received with the violation. If the driver is from another jurisdiction, the Driver License Solution will apply conviction and sanction information as appropriate to the customer's 'in-state' record and notify the driver's jurisdiction of the violation if the violation is 'reportable' through AAMVA.

Conviction Leading to Sanction Screenshot:

The screenshot displays two main sections of a web application interface.

Document Details Section:

- Options: Scan Now, Scan Later (processed later from queue), No Scan Required.
- Document Details: A dropdown menu with "Court Order" and an "Add" button.
- Table Headers: ACTION, DOCUMENT, DOCUMENT DETAILS, STATUS, DOCUMENT SCANNED DATE, VERIFY, DOCUMENT NO., RECORD.
- Content: "No data available in table".
- Footer: "Showing 0 to 0 of 0 entries".
- Buttons: "+ Add/Update Comment", "Print", "Refresh", "Close", "Next".

Sanction Maintenance Section:

- Service: CTS-Drive.
- Alerts:
 - DU/DOR: [X] Sanction information of conviction no. 1054 and violation code 1471 - DRIVING UNDER THE INFLUENCE OF ALCOHOL WITH BAC AT OR OVER .04 received successfully. Sanction no. 1792
 - DU/DORVD: [X] Conviction information of conviction no. 1054 and violation code 1471 - DRIVING UNDER THE INFLUENCE OF ALCOHOL WITH BAC AT OR OVER .04 received successfully.
- Customer Details: [Empty]
- Additional Information: [Empty]
- Sanction Search:
 - Sanction Start Date: [dd/mm/yyyy]
 - Sanction End Date: [dd/mm/yyyy]
 - Violation Code: [Dropdown menu]
 - Actual Reimbursement Date: [dd/mm/yyyy]
 - Action Date: [dd/mm/yyyy]
 - Case No.: [Text input]
 - Sanction No.: [Text input]
 - Ticker No.: [Text input]
 - Sanction Status: [Dropdown menu]
- Buttons: "Refresh", "Close", "Search", "Add".
- Table Headers: ACTION, ACTION DATE, CONVICTION NO., SANCTION TYPE, VIOLATION CODE, SANCTION EFFECTIVE DATE, CASE NO., SANCTION NO., TICKET NO., STATUS.
- Table Data:

ACTION	ACTION DATE	CONVICTION NO.	SANCTION TYPE	VIOLATION CODE	SANCTION EFFECTIVE DATE	CASE NO.	SANCTION NO.	TICKET NO.	STATUS
[Icon]	06/05/2023	1054	REV - Revoked	1471 - DRIVING UNDER THE INFLUENCE OF ALCOHOL WITH BAC AT OR OVER .04	06/05/2023		1792		ACT - Active
- Footer: "Showing 1 to 1 of 1 entries".

Sanction Maintenance Details Screenshot

Sanction Maintenance Details
Service: LTS Onse

Customer Details

Additional Information

Sanction Details

Conviction No. 1084	Sanction No. 1568	Sanction View DL - Driver License	Sanction Type REV - Revoke
Violation Code 1471 - DRIVING UNDER THE INFLUENCE OF ALCOHOL (WV)	ACD Code AB6 - Driving or operating a motor vehicle under the influ	Sanction Effective Date 06/05/2022	Sanction End Date 09/05/2023
jurisdiction WV - Wyoming	Ticket No.	Case No.	Sanction Status ACT - Active
Exempt Severity 3 - Sanction for both CDL and Reg driving privileges	Conditional License Expiry Date 07/01/2023	Restriction Issue Date 06/05/2022	EDL <input type="radio"/> Yes <input checked="" type="radio"/> No
EDL <input type="radio"/> Yes <input checked="" type="radio"/> No	Hazardous Material <input type="radio"/> Yes <input checked="" type="radio"/> No	Letter <input type="radio"/> Yes <input checked="" type="radio"/> No	<input type="checkbox"/> Exercise Later
Issue AB024	Time Served		

Reinstatement Details

Reinstatement Expiry Date 06/05/2023	Actual Reinstatement Date 06/05/2022
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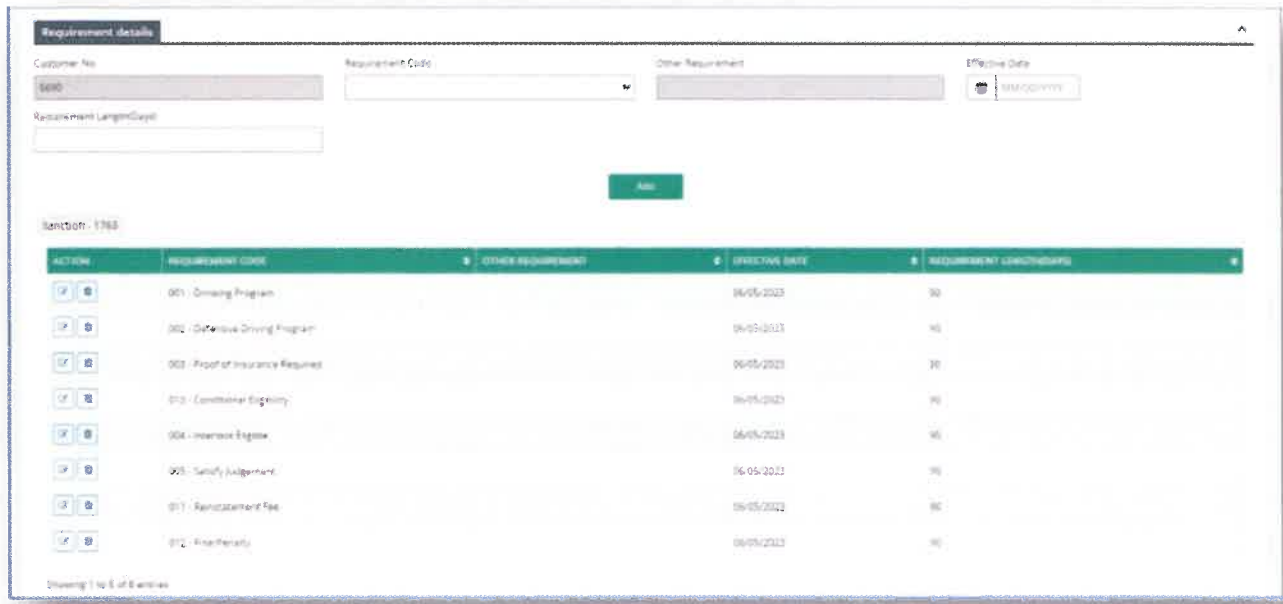
Court Details

Court Type CR - Civil Court	Court Location No.	Order No.	Court Name
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Insurance Details

Insurance Event Type	Insurance Policy No.	Date of Lapse 06/05/2022	Date of Accident 06/05/2022
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Sanction Requirement Details Screenshot



Surrender or Cancellation Request

This transaction allows a user to cancel an active, valid driver license at the customer request. Some customers, especially as they age, determine that they are no longer able to or no longer want to drive and will request that the Driver License be cancelled. Once the Driver License is cancelled, the customer can be issued a State Non-Driver ID card.

Medical Certificate

The Medical Certificate transaction allows a CDL Driver to submit an updated Medical Certificate Document as and when required outside of a Driver License Transaction. The user can then associate the Medical Certificate with the Driver Record. This is a no fee transaction, and no new credential is issued.

Work In Progress

At any point during a transaction, a WMDMV user can select the Quit or the Quit and Save button and the system automatically saves the transaction in the Work in Progress (WIP) queue. When the WMDMV user is ready to finish processing the transaction, the user can select the Work in Progress transaction, search for the customer and resume the transaction at the point they left without having to start at the beginning and re-enter data. Data is saved up to the point where the WMDMV user selects the Quit button. The system will save transactions in WIP for a period defined by business rules and will cancel and delete any transactions that are not completed within the timeframe allowed. A WMDMV user may also search for the pending transaction in WIP and select the Cancel button to cancel the transaction per business rules. Cancelled transactions are removed from the application as if they had never been started. Authorization to cancel transactions is governed by Role Based Access Control.

Workflow

The Driver License Solution supports the creation of work queues and workflows which provide the capability to categorize specialized work and assign to a specific work unit or can allow work to move from one business unit to another. Work within a work queue for a specific business unit can be assigned to a workgroup or to an individual. Individuals may also self-assign work items.

The system can be configured to automatically send certain work to a workflow as a part of a transaction per defined business rules. Access and permissions for individual workflows are defined by RBAC.

When an authorized WVDMV user needs to complete work in the workflow, the WVDMV user accesses the workflow module, and a search screen will display. The WVDMV user selects the work queue they want to work in from the drop-down list in the Process field. For multi-step workflows, the WVDMV user can select the step within the workflow that they need to work on.

The WVDMV user can search for a specific transaction by entering the Transaction ID number or can enter a Description of the transaction. A date range can be included if required. The WVDMV user can also search for those items that are assigned to that WVDMV user, to the WVDMV user and their work group, another work group or another WVDMV user by selecting the radio button. Once the search criteria are entered, the WVDMV user selects a search and all the items that match the criteria entered will be populated in the grid.

The WVDMV user can then choose to assign each item to themselves, another workgroup or another WVDMVA. Or the WVDMV user can select Work to work the item without assigning. Once work is selected, the transaction opens, and the WVDMV user processes the transaction according to business process and rules. Items can be approved or denied in the workflow. The status is then sent to the transaction in the application and the WVDMV user takes appropriate action based on the workflow result.



Screenshot of Workflow Process

Work Flow Transaction Search

Search By

Process: Step Name: Transaction ID: Transaction Description:

Transaction Status: Process Start Date: Process End Date: Assigned To:

Assign To User: Create User:

SELECT	ACTION	TRANSACTION ID	TRANSACTION DESCRIPTION	PROCESS NAME	STEP NAME	PROCESS START DATE	TRANSACTION STATUS	ASSIGNED TO	CREATE USER	STATUS	GROUP	DETAILS	REMOVE
<input type="checkbox"/>	<input type="button" value="v"/>	4842	SYSTEMS INC - 1226 CUSTOMER SERVICE	Service Engine Driver License Work Flow	Supervisor Approval	11/29/2023	Incomplete	WELSH	WELSH	Work	WELSH	<input type="button" value="Details"/>	<input type="button" value="Remove"/>
<input type="checkbox"/>	<input type="button" value="v"/>	4841	CUSTOMERS INC - 1222	Driver License Work Flow	Inspector Approval	11/28/2023	Incomplete	DEKANE	DEKANE	Work	DEKANE	<input type="button" value="Details"/>	<input type="button" value="Remove"/>
<input type="checkbox"/>	<input type="button" value="v"/>	4843	CUSTOMERS INC - 1282	License Suspension Request Workflow	HEALTH BUSINESS License Suspension-Require Workflow	11/26/2023	Incomplete	KATZDAR	KATZDAR	Work	KATZDAR	<input type="button" value="Details"/>	<input type="button" value="Remove"/>

Showing 1 to 3 of 3 items



Transaction Detail

Work Flow Transaction Detail Work Flow Transaction

System: CTS Workflow

Work Flow Transaction Detail

Process Name: Step Name: Process Start Date: Process End Date:

Date: Assigned To User: User Update On:

ACTIVITY	Relative Order	START TIME	STATUS
Start		11/29/2023 09:08:00 AM	Completed
Supervisor Approval		11/29/2023 09:08:00 AM	Pending

Additional information

Version Code: AC Code: Section Type: Section Start Type:

Is Moving Violator: Is DMV: Is Renewal: License Status:

Division/Section Number: Section Duration: Grace Period: Is Approved:

Work Flow Transaction Search Work Flow Transaction

System: CTS Workflow

Search By

Process: Step Name: Transaction ID: Transaction Description:

Transaction Status: Process Start Date: Process End Date:

Assigned To User: Create User:

SELECT	ACTION	TRANSACTION ID	TRANSACTION DESCRIPTION	PROCESS NAME	STEP NAME	PROCESS START DATE	TRANSACTION STATUS	APPROVED	CREATE USER	ASSIGN	STATUS	REACTIVE
<input type="checkbox"/>	<input type="checkbox"/>	4543	CUSTOMER NO - 12238 CUSTOMER NAME - WILLIAMS	Senior Engine Driver License Work Flow	End	11/29/2023	E - End	NO	WILLIAMS			Not Assigned

Showing 1 to 1 of 1 entries

Handicapped Placards

In i3 Verticals' experience, handicapped placards have typically been issued by the vehicle services unit rather than driver services, therefore, handicapped placard issuance functionality resides in our Vehicle Title Registration System (VTRS). However, we will integrate this functionality with i3DLVS to provide a seamless process for the WVDMVA without accessing a separate application, if desired. The current issuance process is as follows:

To obtain a temporary or permanent disabled placard, the customer will complete an application form and provide certification of disability to the entity which issues placards. The applicant may be the person with the disability or the parent or legal guardian of a person who is permanently disabled.

Placards are inventoried items with a control number that are associated with the customer record.

Temporary placards are available to those with a temporary disabling condition, are valid for six months, and can be reissued according to business rules.

Permanent placards are renewable based upon business rules. Replacement placards can also be issued if permitted.

To issue a handicapped placard, the user chooses the placard type (Temp or Perm). A placard card number is entered along with a class code.

The application requires that the placard entered exists in local inventory, but the WVDMVA does have to enter the control number.

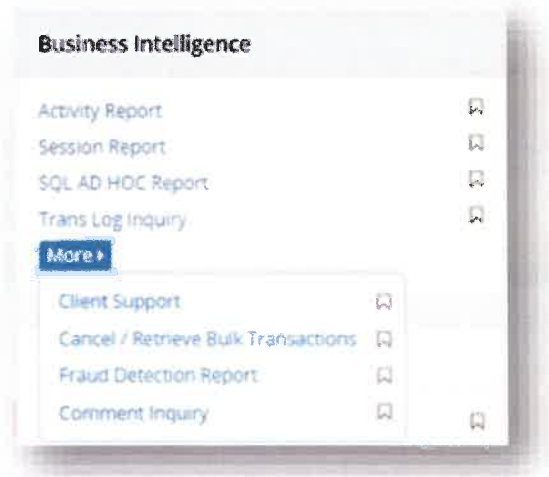
The expiration date is auto calculated based on the transaction type. Along with the Customer's name and address, SSN and Birth date can be provided, as well as comments.

i3 Verticals will work with WVDMV users to identify business rules and incorporate this functionality in the Driver License application flow in an efficient and simple manner. The WVDMVA can access this transaction type from the Customer Dashboard and be taken to the transaction to complete processing and issue the placard to the customer in the same manner as other Driver License transactions.

Reporting

The i3VDLS has robust reporting capability and produces standard "canned" reports that are created on a regular basis, on demand reports that can be run whenever a customer needs them, and ad hoc reporting which allows a WVDMVA to create a special report as and when requested (e.g., legislature asks for a special report to support a bill being drafted or introduced). The application also provides Inquiries which the WVDMVA can run in real time within the application to view information for a particular customer or customers.

Reports are available within both the Enterprise and the Application layer.



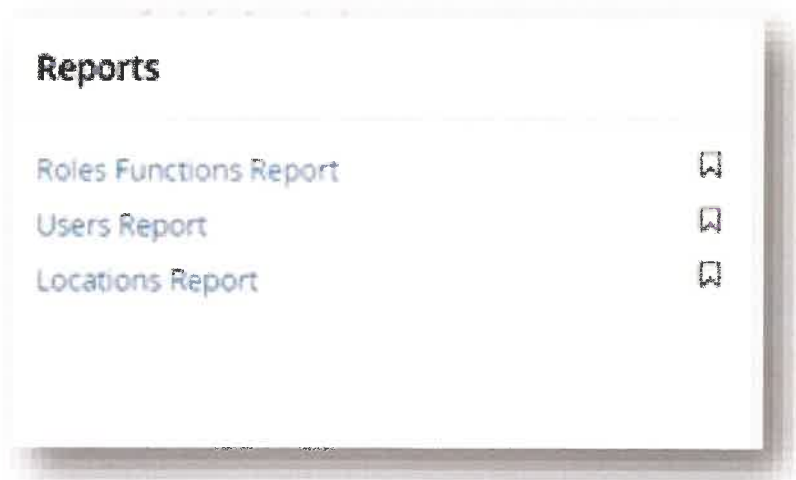
Driver License Inquiries and Reports



Driver Abstracts are also available in a separate transaction due to the need for payment processing. Payment can be removed per business rules.

User Management Reports

Reports can be produced for a single location or multiple locations as needed. They can also be date specific or produced for a range of dates as needed. Reports that are routinely produced on a regular schedule have pre-defined dates and locations, however, are configurable and can be modified to meet WVDMV needs. Data within a report can be added, deleted, or modified and new reports can be added as required. Access to reports is managed through RBAC and only authorized users can produce or view reports and/or certain information within a report.



i3 Verticals will work closely with WVDMV to identify required reports to meet business needs.

- *Data Dictionary*

i3 Verticals Response:

i3 Verticals will build a Requirements Traceability Matrix (RTM) that will be used throughout the project to ensure all requirements are included in the solution and to ensure each requirement is fully tested and cross referenced to a test case. The business priority of the requirements in RTM will be marked with inputs received from WVDMV. After the RTM is finalized, we will work with the State of West Virginia business area experts to go through our COTS solution step-by-step, screen-by-screen, out of the box reports, and WVDMV specific reports and inquiries, documenting any necessary configurations and modifications required to meet the WVDMV

requirements. The business rules will be analyzed and documented. The result of this activity will be a deliverable called the COTS Product Verification Document (PVD) / Functional Requirements Document (FRD). The FRD/PVD will provide the design criteria needed for the development team to make the necessary configurations and customizations to the solution. The requirements phase will be executed in iterations/sprints.

Our entire team will be involved in developing the use cases and models for this project. Our program execution protocols will ensure that each of the use cases is mapped to the functional, financial, and technical components required for the successful development and delivery of the WVDMV modernization solution. We will use the existing WVDMV artifacts to develop an initial set of use cases, which we will review with the appropriate WVDMV users during requirements analysis and design activities.

Each use case will be accompanied by domain models that will show the relationships to other components, inputs and outputs, dependencies, and shared components.

The functional requirements document would include recommendations on functionalities that can be used out of the box (OOTB) from the COTS product, configurations needed, and modifications on the COTS product. The functional requirements document is then submitted for WVDMV review and signed off.

4.2.2.16 Meetings

The vendor shall participate in a kick-off meeting within one (1) week of the contract effective date to review the draft Project Schedule and all draft components. The final version of the Project Schedule shall be submitted to the department for review and approval within thirty (30) calendar days after the kick-off meeting.

i3 Verticals Response:

i3 Verticals will participate in a kick-off meeting within one (1) week of the contract effective date. The goal of the meeting is to review the draft Project Schedule and all draft deliverables, adjust the draft schedule in conjunction with WVDMV requirements. The final version of the Project Schedule will be submitted for review and approval within thirty (30) calendar days after the kick-off meeting. We typically view the kickoff meeting as an opportunity to meet the WVDMV team members and to also discuss project structure, roles and responsibilities, and processes. We would suggest including these additional activities if WVDMV would find them valuable.

4.2.2.17 Project Schedule

The vendor must provide a project schedule which includes a detailed breakdown of the tasks necessary to provide the contract deliverables and the timeline for carrying out all tasks to complete the project. The Project Schedule shall include tasks related to all phases of the project identified in the Implementation Plan, functions, and activities. At a minimum, the Project Schedule shall include:

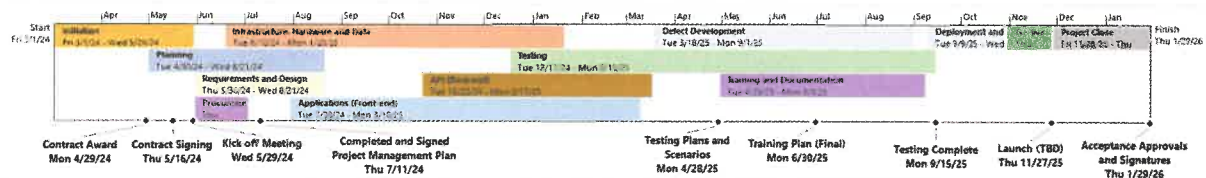
- *A detailed project management plan pursuant to industry standard guidelines for project management plans for major system implementation, including staffing and resource requirements, and describes how the solution will meet AAMVA, NHTSA, REAL ID Act, State Code, Administrative Rules, and FMCSA.*
- *Staff Interviews defining desired use cases.*
- *A detailed technical design that describes the use cases and steps for developing the new solution.*

- A training and post-implementation support plan for the system.
- Development and administration of a user test plan and provision of a test liaison to the department during acceptance testing.
- Preparation and provision of concise, accurate weekly reports of the project's status to the department outlining:
 - Main tasks worked on during the week,
 - Milestones reached,
 - Deliverables provided,
 - Main tasks to be worked on next week,
 - Project concerns and problems, and
 - Items needed from the department's project management team, including a personal meeting or telephone conference to review the project status.
- Change Management Process – Preparation and documentation of a change management process for all proposed changes to the project plan once the plan is base-lined. The change management process shall include, but not be limited to, change requests and approval levels, as well as associated risks. Additionally, the change management process shall address priorities and other relevant information pertinent to the proposed changes and the effect on the project in terms of time, money, and resources. Both parties, as part of the final Implementation Plan, shall mutually agree on the change management plan and processes.
- The vendor must provide an hourly rate for professional services (value add).
- Risk Management Plan – Preparation and documentation of a Risk Management Plan, including but not limited to, identification of all risks associated with the project, the triggers that will alert the project manager to the risk's likelihood of occurring, and a mitigation plan. Both parties, as part of the final Implementation Plan, shall mutually agree on the Risk Management Plan.
- Documentation of all assumptions made in preparing the Implementation Plan and those associated with the completion of the project as well as what the vendor needs the department to provide in terms of resources, workspace, and computing environment.

i3 Verticals Response:

Below we have provided an outline of the proposed timeline for the WVDMV i3VDLS project. Also provided is a detailed breakdown of the tasks necessary to execute all requirements of the contract deliverables. The timeline and WBS will be finalized during the testing planning phase and our PMO team will work with the WV DMV team to complete the final project management plan.

The full draft of the project plan can be found in [Attachment 7](#). (insert the WV_DL_ProjectPlan.xlsx)



Project Milestone	Task Name	Start	Finish
	WV DMV Driver System	Fri 3/1/24	Thu 1/29/26

Initiating	Initiation	Fri 3/1/24	Wed 5/29/24
1. Initiating and Kick-off	Submit RFP Response	Fri 3/1/24	Fri 3/1/24
1. Initiating and Kick-off	Contract Award	Mon 4/29/24	Mon 4/29/24
1. Initiating and Kick-off	Define Milestones and Deliverables	Tue 4/30/24	Mon 5/6/24
1. Initiating and Kick-off	SOW Review and Complete	Tue 5/7/24	Mon 5/13/24
1. Initiating and Kick-off	Contract Signing	Tue 5/14/24	Thu 5/16/24
1. Initiating and Kick-off	Kick-off Meeting	Wed 5/29/24	Wed 5/29/24
Planning	Planning	Tue 4/30/24	Wed 8/21/24
2. Planning	Project Management	Tue 4/30/24	Thu 7/11/24
2. Planning	Project Management Plan	Tue 4/30/24	Mon 6/10/24
2. Planning	Project Charter	Tue 4/30/24	Mon 5/27/24
2. Planning	Define Scope	Tue 4/30/24	Mon 5/27/24
2. Planning	Work Breakdown Structure (WBS)	Tue 4/30/24	Mon 5/27/24
2. Planning	Develop Project Plan/Schedule	Tue 4/30/24	Mon 5/27/24
2. Planning	Document Project and Product Draft Requirements	Tue 4/30/24	Mon 5/27/24
2. Planning	Develop Risk Management Plan / Risk Register	Tue 4/30/24	Mon 5/27/24
2. Planning	Develop Communications Plan	Tue 4/30/24	Mon 5/27/24
2. Planning	Develop Change Management Plan	Tue 4/30/24	Mon 5/27/24
2. Planning	Identify Stakeholders	Tue 4/30/24	Mon 5/27/24
2. Planning	Develop Issue Management Plan	Tue 4/30/24	Mon 5/27/24
2. Planning	HR and Staff Management Plan	Tue 4/30/24	Mon 5/27/24
2. Planning	Create RACI Matrix	Tue 5/28/24	Mon 6/10/24
2. Planning	Plan Quality Management	Tue 5/28/24	Mon 6/10/24
2. Planning	Draft Implementation Plan / Transition Plan	Tue 5/28/24	Mon 6/10/24

2. Planning	Draft Training Plan	Tue 5/28/24	Mon 6/10/24
2. Planning	Infrastructure /Architecture Planning	Tue 5/14/24	Mon 6/24/24
2. Planning	Procurement Planning	Tue 4/30/24	Wed 6/12/24
2. Planning	Product Planning	Fri 5/17/24	Thu 6/27/24
2. Planning	Business Specifications (JAD Sessions)	Fri 5/17/24	Thu 6/27/24
2. Planning	System Security Plan	Tue 6/11/24	Mon 7/8/24
2. Planning	Physical Security Plan	Tue 6/11/24	Mon 7/8/24
2. Planning	Disaster Recovery Plan	Tue 6/11/24	Mon 7/8/24
2. Planning	Completed and Signed Project Plan/Schedule	Fri 6/28/24	Thu 7/11/24
2. Planning	Completed and Signed Project Management Plan	Fri 6/28/24	Thu 7/11/24
3. Requirements and Analysis	Requirements and Design	Thu 5/30/24	Wed 8/21/24
4. Procurement	Procurement	Thu 5/30/24	Wed 7/3/24
5. Setup and Configure	Infrastructure, Hardware and Data	Tue 6/18/24	Mon 1/20/25
5. Setup and Configure	Infrastructure Setup	Tue 6/18/24	Mon 10/21/24
5. Setup and Configure	Hardware Installation (if applicable)	Thu 7/4/24	Wed 7/17/24
5. Setup and Configure	Data Conversion	Mon 9/30/24	Mon 1/20/25
5. Setup and Configure	Data Parsing (from applicable APIs)	Tue 10/1/24	Mon 11/4/24
6. Development	Application Development	Tue 7/30/24	Mon 3/17/25
6. Development	Applications (Front-end)	Tue 7/30/24	Mon 3/10/25
6. Development	API (Back-end)	Tue 10/22/24	Mon 3/17/25
7. Testing	Testing	Tue 12/17/24	Mon 9/15/25
7. Testing	Testing Plans and Scenarios	Tue 12/17/24	Mon 4/28/25
7. Testing	Testing / UAT	Tue 3/18/25	Mon 9/1/25
7. Testing	Defect Development	Tue 3/18/25	Mon 9/1/25

7. Testing	Disaster Recovery Testing	Tue 9/2/25	Mon 9/15/25
8. Training	Training and Documentation	Tue 4/29/25	Mon 9/8/25
8. Training	System and User Documentation	Tue 4/29/25	Mon 6/9/25
8. Training	Help Desk / Call Center Training Plan	Tue 6/10/25	Mon 6/23/25
8. Training	Training Plan (Final)	Tue 6/10/25	Mon 6/30/25
8. Training	On-site Training	Tue 9/2/25	Mon 9/8/25
9. Deployment and Transition	Deployment and Transition	Tue 9/9/25	Wed 10/29/25
9. Deployment and Transition	Determine Final Deployment Strategy and Schedule	Tue 9/9/25	Mon 9/15/25
9. Deployment and Transition	Secure Deployment Resources	Tue 9/16/25	Wed 9/17/25
9. Deployment and Transition	Production Phase-In	Thu 9/18/25	Wed 10/29/25
9. Deployment and Transition	Determine Go-live Strategy and Schedule	Thu 10/9/25	Wed 10/29/25
10. Go-live	Go-live (TBD)	Thu 10/30/25	Thu 11/27/25
10. Go-live	Final Go-live Strategy and Schedule	Thu 10/30/25	Wed 11/12/25
10. Go-live	Go/No Go Decision	Thu 11/13/25	Thu 11/13/25
10. Go-live	Launch (TBD)	Fri 11/21/25	Thu 11/27/25
Monitor and Control	Monitoring and Controlling	Thu 5/30/24	Wed 12/10/25
11. Monitor and Control	Weekly Meetings	Thu 5/30/24	Wed 12/10/25
11. Monitor and Control	Status, Milestone Reports and Meetings	Thu 5/30/24	Wed 12/10/25
11. Monitor and Control	Risk Analysis	Thu 5/30/24	Wed 12/10/25
11. Monitor and Control	Sprint Walk-throughs / Demos	Tue 12/17/24	Mon 4/7/25
Project Close	Project Close	Fri 11/28/25	Thu 1/29/26
12. Project Closing	Post Implementation Review	Fri 11/28/25	Thu 1/8/26
12. Project Closing	Document Lessons Learned / Retrospectives	Fri 11/28/25	Thu 12/18/25
12. Project Closing	Distribute and Review with Team Members	Fri 12/19/25	Thu 12/25/25

12. Project Closing	Review Maintenance Plan	Fri 12/26/25	Thu 1/1/26
12. Project Closing	Monitor Performance and Assess Satisfaction	Fri 11/28/25	Thu 1/8/26
12. Project Closing	Handover Plan / Closeout Report	Fri 1/9/26	Thu 1/15/26
12. Project Closing	Acceptance Approvals and Signatures	Fri 1/16/26	Thu 1/29/26
12. Project Closing	Post Implementation Review Complete	Thu 1/29/26	Thu 1/29/26

Along with the WBS the following table provides details of the project milestones and associated deliverables that will be expected throughout the lifecycle of the project and in accordance with the approved project plan.

Project Milestone	Task Name	Deliverable
1. Initiating and Kick-off	Submit RFP Response	REQUEST FOR PROPOSAL: CRFP 0802 DMV2400000002
	Contract Award	1.1 Deliverable - Recommendation to Award
	Define Milestones and Deliverables	1.2 Deliverable - Milestones and Deliverables
	SOW Review and Complete	1.3 Deliverable - Signed Statement of Work
	Contract Signing	1.4 Deliverable - Signed Contract
	Kick-off Meeting Agenda and Presentation	1.5 Kick-off Meeting Agenda and Presentation
2. Planning	Network Topology Diagram	2.1 Deliverable - Network Topology Diagram
	Server and Network Specifications	2.2 Deliverable - Server Network Specifications
	Procurement Plan	2.3 Deliverable - Procurement Plan
	Business Specifications (JAD Sessions)	2.4 Deliverable - Business Requirements
	System Security Plan	2.5 Deliverable - Security Plan (System)
	Physical Security Plan	2.6 Deliverable - Security Plan (Physical)
	Disaster Recovery Plan	2.7 Deliverable - DR Plan
	Completed and Signed Project Plan/Schedule	2.8 Deliverable - Project Plan/Schedule
	Completed and Signed Project Management Plan	2.9 Deliverable - Project Management Plan
3. Requirements and Analysis	Data Dictionary	3.1 Deliverable - Data Dictionary
	DB Schema	3.2 Deliverable - ER Diagrams
	JAD Sessions / Use cases	3.3 Deliverable - Requirements and Design Documents
	Data Parsing and Error Handling	

	UI/UX Wireframes	3.4 Deliverable - Web Portal UI - Requirements and Design Documents
	Web Portal(s) / Dashboard(s)	3.4 Deliverable - Web Portal UI - Requirements and Design Documents
	Reports	4.1 Deliverable - Procurement Agreement
4. Procurement	Hosting (TBD)	5.1 Deliverable - Environments Verification
5. Setup and Configure	Setup Dev & Test Sandbox Environments	5.2 Deliverable - Data Conversion Plan
	Setup Database and Conversions	5.1 Deliverable - Environments Verification
	Setup Staging/UAT & Production Environments	6.1 Deliverable - Error Codes & Error Handling
6. Development	Application Development	7.1 Deliverable - Testing Plans and Scenarios (Test Cases)
7. Testing	Testing Plans and Scenarios	7.2 Deliverable - Requirements Traceability Matrix
	Requirements Traceability Matrix	7.3 Deliverable - Provided test samples for test cases
	System Testing	7.4 Deliverable - Approvals and Acceptance
	UAT	7.5 Deliverable - Disaster Recovery Test
	Disaster Recovery Testing	8.1 Deliverable - System and User Documentation
8. Training	System and User Documentation	8.2 Deliverable - Training Plan and Documents
	Training Plan (Final)	9.1 Deliverable - Deployment/Transition Plan
9. Deployment and Transition	Determine Final Deployment Strategy and Schedule	10.1 Deliverable - Go-live Strategy and Schedule
10. Go-live	Final Go-live Strategy and Schedule	10.2 Deliverable - Go/No-Go Decision
	Go/No Go Decision	Deliverable - Meeting Agenda/Minutes and Action Items
11. Monitor and Control	Weekly Meetings	Deliverable - Status Reports
	Status, Milestone Reports and Meetings	Deliverable - Risk Analysis
	Risk Analysis	Deliverable - Meeting Minutes and Action Items
	Sprint Walk-throughs / Demos	12.1 Deliverable - Lessons Learned Report
12. Project Closing	Distribute and Review with Team Members	12.2 Deliverable - Handover Plan / Closeout Report
	Handover Plan / Closeout Report	12.3 Deliverable - Acceptance Approvals and Signatures
	Acceptance Approvals and Signatures	

4.2.2.18 Implementation Plan

The vendor must provide an implementation plan that includes all implementation activities and should address the activities related to the migration and all activities leading to a fully functional and operational WVDMVDS system using new architecture and technologies. This plan should identify the iterative delivery capability and describe whether this includes iterative customer rollout.

i3 Verticals Response:

i3Verticals affirms our commitment to implementing our Solution in a phased approach within the specified timeframe. Our Agile implementation methodology offers a flexible and adaptive approach to project management, enabling teams to respond to change, deliver value incrementally, and achieve customer satisfaction through collaboration and continuous improvement.

Project Phase	Task Name
1. Initiating	Initiation
2. Planning	Project Management
3. Requirements and Analysis	Requirements and Design
4. Procurement	Procurement
5. Setup and Configure	Infrastructure, Hardware and Data
6. Development	Application Development
7. Testing	Testing
8. Training	Training and Documentation
9. Deployment and Transition	Deployment and Transition
10. Go-live	Go-live (TBD)
11. Monitor and Control	Monitoring and Controlling
12. Project Close	Project Close

i3 Verticals project team members will be introduced and will participate in the Project Kickoff meeting to close out the Initiating phase. i3 Verticals will finalize the work on the key planning deliverables/ artifacts, such as the Project Management Plan and Project Schedule during the Planning phase.

Project Requirements/Analysis

i3 Verticals will conduct a demo of the i3VDMV Solution as a start to the Requirements phase. During this demo, i3 Verticals and the WVDMV business SMEs will identify the product gaps and deviations required to meet the WVDMV requirements and document them in the Product backlog as user stories. During the execution of each sprint, i3 Verticals will conduct Joint Application Design (JAD Sessions) with the Business users to finalize the functional design for each identified user story from the product deviation backlog. The User experience will be validated with Business stakeholders, and necessary UI changes will be incorporated into the final product.

We will elicit, document, and manage all requirements and the WVDMV business rules to support the project deliverables. Business Rules will be identified as part of the JAD sessions.

WVDMV will sign off the commonly generated requirement document(s) for the project deliverable.

During this phase, we will also discuss and review the current legacy data dictionary and data to begin the mapping exercise between the legacy data store and the new database. We will also analyze and discuss how we can create a common customer for the IRP and IFTA systems, as required, if it does not already exist. This task will help form the data conversion plan and provide early converted data to the business group for feedback.

i3 Verticals' proposed system will function in conformance with WVDMV Business Rules. i3 Verticals will configure business rules provided by WVDMV in the system, and those rules will be validated as part of User acceptance testing. Our rules engine can transform legislation and policy regulations into executable and maintainable transactions. This will empower policy owners to assess the impact of new and existing policies while achieving consistency across all delivery channels. Business units will provide detailed decision reporting to understand how decisions are reached and enforce compliance requirements.

Traceability Matrix

i3 Verticals will leverage Project Management's best practices applicable to the Agile framework. The i3 Verticals Project Team includes a seasoned Project Manager with extensive experience in managing similar projects. Our Project Manager will collaborate with the WVDMV Project Manager counterpart from the start of the project through go-live while working with WVDMV to track and ensure the quality throughout the project duration and ensure that the program is delivered on time and within budget. The Project Manager will be supported by the Product team, Engineering, and PMO team to ensure the successful execution of the Agile releases.

i3 Verticals will build a Requirements Traceability Matrix (RTM) that will be used throughout the project to ensure all requirements are included in the solution and to ensure each requirement is fully tested and cross-referenced to a test case.

After the requirements and use cases are finalized, we will work with the WVDMV's business area experts to go through our COTS solution step-by-step and screen-by-screen, documenting any necessary configuration changes and modifications required to meet the WVDMV's requirements.

While the analysis and documentation are being performed, we will work with the WVDMV IT experts to identify and document the interfaces in the Interface Control Document (ICD) to define exactly how we will interface with internal and external systems. The i3VDLS solution has been developed using a Universal Interface Controller (or UIC) that acts as an intermediary between the external systems and the application programs to minimize the need for program changes due to external system changes. When external systems change, the UIC will be changed, eliminating the need to change the application program code.

Data Conversion

i3 Verticals provides a controlled methodology for maintaining data quality at various stages of the project:

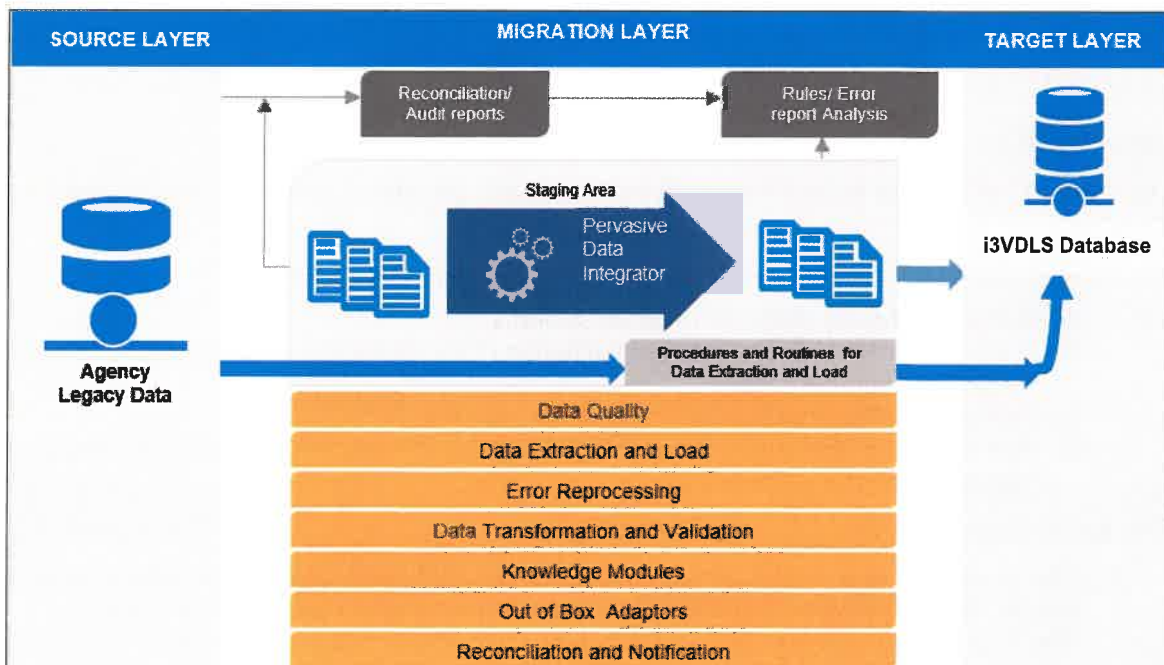
Data Quality during migration:

Maintaining data quality is essential for ensuring the accuracy and reliability of data. i3 Verticals proposes the following methods and tools to maintain data quality:

- Data profiling: Analyzing data to identify and understand its quality, structure, and content and identify any inconsistencies or errors.
- Data cleansing: Identifying and correcting data errors such as missing values, incorrect data types, and inconsistencies.
- Data quality rules: Ensures that data meets quality standards; custom rules flag any data that does not meet these standards.
- Data quality reports: Used to monitor data quality and identify any issues that need to be addressed.

i3 Verticals' data migration process will identify and fix invalid field values, such as invalid codes and invalid phone numbers, USDOT numbers, VIN, and more.

The following diagram represents the process, tools being used, and ETL process for the migration of legacy data to the i3VDMV database structure:



Data Quality in the application:

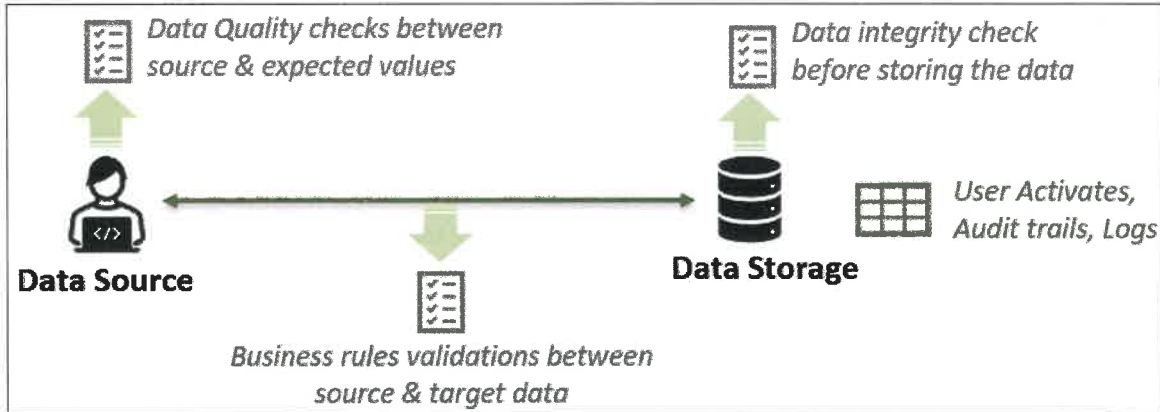
i3VDMV completes the data quality check at each step of the transaction flow as follows to ensure the quality of data being captured:

- Enforcing the correctness of fields and datatype.
- Validation of duplicates, nulls, and more.
- Cross tables and system validation.

Data Quality in design:

i3VDMV tables contain values uniquely identifying each row in the table, known as the table's primary key (PK). PK constraints guarantee the uniqueness of the data. A foreign key (FK) column establishes and enforces a link between the data in two tables, e.g., Driver License Records cannot be created without a Customer and Account Number.

The following diagram represents data being moved from the data sources to the storage layers that need to be validated as part of the WVDMV-side validation, business validations, and data integrity check:



Data Migration

Our solution will use the Actian Pervasive tool to extract, transform, and load data into the target database.

The proposed data migration solution caters to the following requirements:

- A. Extracting legacy data from source systems.
- B. Perform profiling, cleansing, and validation of the extracted source system data by i3 Verticals proprietary tools.
- C. Perform needed transformations and load to target MMCIS.
- D. A configurable metadata driven ETL Framework is built, and error logging and data reconciliation are performed.

The solution can be divided into three logical layers:

1. The Sourcing Layer: The sourcing layer consists of Legacy Data Stores, which have the master data for Driver Licensing. The data cleansing activity can be done here.
2. The Migration Layer: This layer contains all components used for migration. The data is extracted from the sourcing layer and loaded to Source Staging Area. This data is then transformed and loaded to an intermediate Target Staging Area. The intermediate Target Staging/storing area is used for storing transformed data aligned with the Target data model and can be loaded directly to Target. The validation, reconciliation, and auditing of transformed data can be performed in this intermediate Target Staging Area. The tools used by i3 Verticals in this layer would be Actian Pervasive and an RDBMS (Microsoft SQL Server) Solution for the Source Staging Area and the intermediate Target Staging Area.
3. The Target Layer: The target layer would be the i3 Verticals i3VDLS Solution. The transformed data will be shared as extract files in specified locations which can then be loaded to the OLTP data store of the proposed i3VDLS Solution.

Below is a typical sequence of steps that make up our data plan and would be part of the WVDMV data conversion:

1. Identify the required data sets to be converted during requirements gathering.
2. Obtain initial conversion files.

3. Table/Column level two-way mapping (Legacy to i3VDLS and i3VDLS to Legacy).
4. Create conversion SQL for code tables.
5. Create delete SQL to clear data out of the database.
6. Conversion map creation.
7. First conversion.
8. Prepare data clean-up reports.
9. Weekly clean-up reports review meeting with WVDMV.
10. Second conversion.
11. Prepare data clean-up reports.
12. Perform data cleansing activities.
13. System test.
14. Define test scripts and acceptance criteria.
15. System test – PASS.
16. Team i3 Verticals readiness reviews.
17. Integrated system demonstration.
18. Review/update final (Cut-over) data conversion plans and schedule.
19. Review/update final transition/cut-over plans and schedule.
20. Review/update final education and training plans and schedule.
21. Review/update final testing plans and schedule.

i3 Verticals will migrate all the identified tables to the new i3 Verticals data structures. We will create a two-way mapping plan to ensure no data fields are missed in the old format and ensure all the fields in the new data structure will contain valid values.

The migration activity will consist of multiple steps depending on the current data conditions. i3 Verticals will create various reports at each step of the conversion to ensure:

- Counts in and out are consistent.
- Data fields contain expected values.
- Records that are not converted have an explanation, so they can be fixed and/or deleted.

The i3 Verticals conversion approach eliminates any conversion exceptions before the final run by having multiple conversions using copies of production data and fixing exceptions as they occur. Our conversion programs will identify invalid field values, such as invalid codes and invalid phone numbers, names, addresses, etc.

As part of this proposal, included as [Appendix 3](#) is the WVDMV Conversion Plan.

Project Management

The Project Manager has the overall responsibility for managing and executing this project according to the Project Management Plan. By following a systematic approach to the design, development and implementation (DDI) of the WVDMV project, the Project Manager shall ensure that a comprehensive and expandable system is delivered. The project management methodology that will be used is based on principles set forth by the Project Management Institute (PMI) and on industry best practices. The Project Manager will utilize the PMI model including its templates or a comparable methodology and templates similar to PMI.

i3 VERTICALS focuses on being agile and utilizes an iterative, team-based approach to project management. i3 VERTICALS uses tools such as Kanban/Scrum boards to help visualize work, limit work-in-progress, and maximize efficiency. i3 VERTICALS also uses tools like MS Project

for help with scheduling, timelines and defining resources. i3 VERTICALS also takes advantage of the widely industry used and accepted project management tools such as Azure DevOps (ADO), Jira Software and other Atlassian ecosystem applications to aid in collaboration and organization within the project team.

The project team will consist of a Project Manager from i3 VERTICALS, Product Analysts, Software engineers, Solutions Architects, Database Engineers, and the i3 VERTICALS Implementation division, which consists of requirements analysts, quality control/assurance team, testers, installers, and trainers. There will be a Technical Lead that will be responsible for managing and performing the technical analysis, design, and implementation. There will also be a Product Director that will be responsible for managing and performing the business/requirements analysis and documentation.

The Project Manager will work with all resources to perform project planning. All project management plans will be reviewed and approved by Project Sponsors, Project Steering Committee, and Key Project Stakeholders. All funding decisions and approvals will be made by the Project Sponsors. Any delegation of approval authority to the Project Manager should be done in writing and be signed by the Project Sponsors and Project Manager.

All personnel, hardware, and software resources will be managed by the project team. All project work will be independent of daily and ongoing operations and all initial testing will be done by the project team.

The WVDMV system will undergo both automated and manual system, unit, integration, and load testing prior to the production phase. The WVDMV project will also provide time for user acceptance testing and the system must receive approval before continuing to production.

The WVDMV project team will provide testing, QA, training, system implementation, and support. The development and implementation of the WVDMV project will allow all BUSINESS and State level systems and processes to continue without interruption throughout the life cycle of the project.

The WVDMV project team will work in conjunction with the BUSINESS to determine a final deployment strategy and transition plan. The WVDMV project team will provide user manuals and system documentation before the system implementation and will provide on-site training during the transition and deployment of the live system. Once the system has been fully implemented, all personnel have been trained, and after all technical documentation is complete and distributed to the appropriate personnel, this project will be led by the Implementation teams for ongoing support and maintenance.

Completed/Closed status shall be obtained after the solution is deployed, post implementation review is complete, and once the final project approval and acceptance is given by the appropriate key stakeholders.

All WVDMV software development work will be performed internally, and no portion of the project development will be outsourced. The scope of this project does not include any changes in requirements to standard operating systems in order to run the software, any software updates, or revisions.

Key components of the project management approach include the following:

- a. **Project Plan:** Sequential, detailed project schedule designed to guide the control and execution of the (DDI) design, development, and implementation phase of this contract. The project plan includes DDI milestones, and the related, subsidiary tasks required to complete each milestone. The project plan includes agreed upon start and complete dates per task, rolling up to the milestone. Tasks include, but are not limited to, task owner(s), estimated level of effort, and dependencies.

Milestones are provided and changes may be made without the need for a formal amendment, but will require written approval of these changes from the BUSINESS. The project will be managed against the project plan for overall project schedule adherence. Separate signoff will be required for each milestone throughout the duration of the DDI phase of the contract. The project health will largely be determined by the overall adherence to the project plan and DDI milestones.

- b. **Deliverables-Based Project Acceptance Criteria:** The project will include deliverables-based acceptance criteria. Deliverables may include formal documentation, proof of concepts, demonstrations, requirements, testing, and other business standards used in reviewing project milestones and outcomes. The BUSINESS will use deliverables-based acceptance criteria to ensure the project has produced the deliverables that meet their expectations. i3 VERTICALS will be responsible for the deliverables outlined in the contract SOW. Separate signoff will be required for each milestone through the DDI phase of the contract.
- c. **Monitoring and Controlling Project Practices:** These practices include activities used to monitor the overall health of the project and control any areas requiring concerted support and adherence to the agreed upon project scope, schedule, and budget. Monitoring and controlling practices shall be used to determine the greater rollup adherence to this SOW and Contract. These activities include sections documented in the subsequent sections of this document. They include but are not limited to the key monitoring and controlling practices below:
 - i. **Requirements Management:** This includes requirements solicitation, formal requirements approval, and requirements traceability throughout the duration of the project as approved by the business stakeholders.
 - ii. **Risk Identification and Management:** Through the duration of the project, the project team may identify “risks”. Risks are defined as uncertain events or

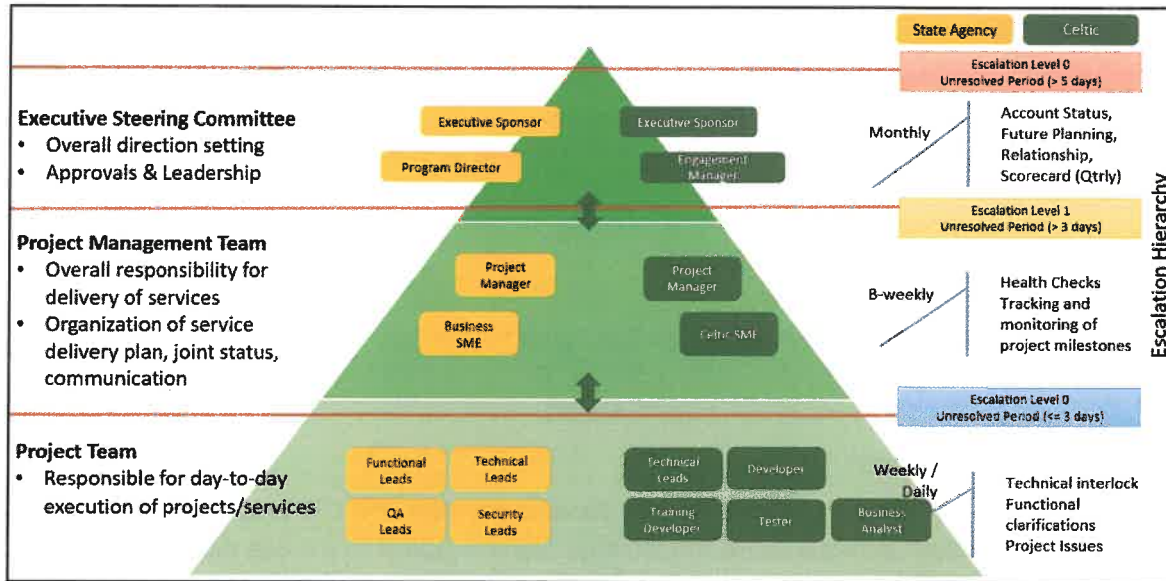
conditions that, if they occur, will affect one or more project objectives and/or milestones. The project team will work in close collaboration to identify perceived and realized risks. High probability, high impact risks will be subject to contractual review as it relates to the continuation of the project.

- iii. **Communications Management and Governance:** Through a defined set of communications and project governance practices, the project team will establish a cadence of consistent, transparent communications throughout the duration of the project. Communication and governance activities range from weekly status meetings, weekly status reports, monthly reviews, and beyond.

If project remediation is necessary, the project manager will employ the critical path method to prioritize resources, putting more emphasis into the most important work and rescheduling lower-priority tasks. In this method, the project manager, in collaboration with the project team, will allocate resources for the most crucial, high-priority tasks — the “critical chain” — and will build in buffer time around these tasks to ensure the project plan's main milestones are met. Ultimately, any project remediation identified by the project manager may be subject to contractual review.

Project Governance

- We recommend a project governance model built around proven program management principles, emphasizing clear and timely communication and decision-making model designed to ensure full collaboration across all tracks in scope for the engagement. This will create a shared vision/understanding of program objectives, plans, risks, issues, and changes and facilitate consensus in multi-level planning, with clearly defined roles and responsibilities, agreed-upon work methods, and transparency in communication. This model maximizes engagement with stakeholders while minimizing overlapping agendas. It also ensures a complete understanding of intra and inter-program dependencies.
- i3 Verticals shall deploy a seasoned Project Manager with extensive experience in managing similar projects as a single point of contact. i3 Verticals will also ensure the constant availability of the product engineering team to help the implementation team and the users. This is a Best Practice from our earlier implementation successes.
- Our recommended governance framework is built around proven program management principles, with an emphasis on clear and timely communication and decision-making. The Governance Structure recommended by i3 Verticals is organized along multiple tiers. Interaction and communication channels between the tiers, their respective key accountabilities, and the frequency of their execution are represented in the figure below:



Executive Steering Committee: People at this level will provide thought leadership and vision and help resolve any escalated issues from the program management team.

Project Management Team: People at this level will ensure effective engagement between stakeholders. They will help monitor, control, and report the status, SLAs, risks, status, budget, changes, communication plan, and resources to manage and ensure the program's success.

Project Team: Members from this team need to be available as per the agreed plan for sharing the information, knowledge transfer, and discussing the functions, process, tools, data, and measurements for in-scope applications with the Assessment team.

Key expectations from the WV DMV Team:

- Organization structure with key roles such as Project manager, Lead Functional SME, Lead Technical SME, Scrum Master, Product Owner, etc., published with i3 Verticals team names.
- Infrastructure team support for the environment, connectivity, and access setup.
- Participate in the requirements meetings with the i3 Verticals team. It is assumed that the --- Product owner will have the list of detailed functional requirements. During the requirements phase, the user stories/product backlog will be finalized by the WVDMMV Product Owner and i3 Verticals team.

Change Management

The following steps comprise the organization change control process for all projects and will be utilized on the WVDMMV project:

Identify and Submit Change Request

This process provides the ability for any member of the project team to submit a request for a change to the project.

The Change Requester:

- Identifies a requirement for change to any aspect of the project (e.g. scope, deliverables, timescales, and organization)
- Completes a Change Request form (CR) and distributes the form to the Project Manager.

The CR summarizes the change:

- Description
- Reasons/Goals for changes
- Recommendations
- Impacts (Cost, Scope, Schedule, and/or Quality)
- Solution
- Disposition (Approve, Reject, Defer)

Review Change Request

The Project Manager/Change Control Gate Keeper reviews the CR and determines whether additional information is required for the Change Control Board to assess the full impact of the change to the project time, scope, and cost. The decision will be based on factors, such as:

- Number of change options presented.
- Feasibility and benefits of the change
- Complexity and/or difficulty of the change options requested.
- Scale of the change solutions proposed.

The Project Manager/Change Control Gate Keeper will record the CR details in the Change Log to track the status of the change request.

Managing Change Request

The Project Manager/Change Control Gate Keeper will forward the Change Request Form and any supporting documentation to the Change Control Board (CCB) for review and final approval. The CCB will determine the feasibility of this change by examining factors, such as:

- Risk to the project in implementing/not implementing the change.
- Impact on the project in implementing the change (time, resources, finance, quality).

After a formal review, the CCB may:

- Approve the change as requested.
- Reject the change.
- Defer the change:
 - Request more information related to the change.
 - Postpone to a later phase.

Any team member or stakeholder may submit a Change Request for the WVDMMV Project. The WVDMMV Project Sponsor will chair the CCB and any changes to project scope, cost, or schedule must receive approval. All change requests will be logged in to the Change Log by the Project Manager and tracked through to completion whether approved or not.

i3 Verticals Project Team

The following table provide detailed roles and responsibilities for i3 Verticals Project Team Members:

Roles	Responsibilities
Executive Sponsor	<ul style="list-style-type: none"> • Overall accountability for the Business Process activities (definition, validation, and sign-off). • Responsible for the overall program strategy, scope, budget, and timeline. • Responsible for Strategic cross-functional alignment & dependencies for other IT initiatives.
Engagement Manager	<ul style="list-style-type: none"> • Establishes project standards and processes. • Responsible for the overall quality of services provided. • Review business and risk issues related to the project with WVDMV. • Review and finalize project plans, schedules, and budget. • Participate in project executive meetings. • Manage i3 Verticals internal Quality Assurance (QA) review process. • Assess the effectiveness of resources, organizational structure, and roles. • Make sure the project is functioning effectively. • Responsible for WVDMV contract management and amendments, as necessary. • Serve as a primary point of contact for WVDMV/ITS project executives. • Serve as a primary point of contact to WVDMV key project staff prior to project initiation.
Senior Project Manager	<ul style="list-style-type: none"> • Point of Contact (POC) from i3 Verticals, who is responsible for the project execution. • Primary responsibility to connect portfolio to enterprise strategy. • The project Manager will work closely with the WVDMV to make scope change decisions and make sure that all project milestones are met. • Works with i3 Verticals functional, technical, and development managers to review and monitor project status.

Roles	Responsibilities
Senior Business Architect	<ul style="list-style-type: none"> • Lead and participate in different phases of the engagement. • Leads and contributes to conceptualizing an innovative solution. • Proactive in surfacing any client issues or concerns and developing new ideas to resolve them. • Has a good understanding of the Motor Vehicle domain and partners with the WVDMV Product Manager / Product Owner(s) and business SMEs.
Testing Co-Ordinator (QA Lead)	<ul style="list-style-type: none"> • The Test Co-Ordinator is responsible for the overall effort involved in system testing, including test strategy, planning, execution, and status reporting. • The Test Co-Ordinator will manage and oversee all phases of testing, including functional, security, performance, accessibility automation, and support user acceptance tests.
Senior Technical Solution Architect	<ul style="list-style-type: none"> • Primarily responsible for the solution architecture for Team i3 Verticals. • Will be responsible for all solution architecture and technical design artifacts, translating the functional requirements into the technical architecture of the solution. • Assesses architectural impact on implementing proposed requirements. • Participates in meetings and presents potential changes needed to application architecture along with recommendations for implementation. • Works with the functional and technical leads to identify and resolve both intra-phase and inter-phase integration issues.
Training Co-Ordinator	<ul style="list-style-type: none"> • Primarily responsible for defining training needs, developing training curriculum and training manuals, delivering end-user training, and supporting WVDMV's training efforts.
Release and Deployment Lead	<ul style="list-style-type: none"> • Works with WVDMV to plan upcoming releases and manages functional support teams. • Receives and responds to requests. • Works with Teams to support the requirements and design of the application. • Leads to ensure there are no requirements and/or design gaps between business needs and application development. • Triage defects to Teams during Regression, Performance test phases.

Roles	Responsibilities
	<ul style="list-style-type: none"> Performing quality assurance and control activities for the release. Collaborate with the WVDMV IT team on post-go-live activities.
Scrum Master	<ul style="list-style-type: none"> Responsible for the overall project (Sprint) success and deliverables. Helps resolve impediments, ensures the team is fully functional and productive. Provide prioritization of Architectural changes vs. User Story development. Facilitate Sr. Management reviews, provide status updates, and sign-off process. Manage project communications, issues, and risks.
Senior Data Analyst	<ul style="list-style-type: none"> Data Architect will be responsible for all data design artifacts, database architecture, data migration, and data governance model.

WVDMV Project Team Recommendations

The following table provides recommended WVDMV roles for the project:

Roles	Responsibilities
Program Manager/PMO Manager	<ul style="list-style-type: none"> Approve Project Scope, strategic planning. Contractual agreement(s). Attends and contributes portfolio, strategic meetings, and scope definitions. Provides sign-off of each milestone completion. Authority to make project-related decisions. Reviews the risk management plan
Product Owner	<ul style="list-style-type: none"> Attends Scrum stand-up calls. Addresses questions, resolves questions, and work to remove obstacles. Defines Product Roadmap and provides inputs for Release planning. Develops product backlog and provides user stories, issue resolutions, and prioritizes user stories. Performs User Acceptance testing and defect prioritization.

Roles	Responsibilities
	<ul style="list-style-type: none"> • Formally accepts/rejects product at completion. • Provides direction to the Project Management team on issues impacting triple constraints. • Reviews and audits the project at regular intervals. Formally accept the project at completion. • Prepares list of Backlogs. • Sprint planning on prioritizing user stories. • Reviews and approves project document drafts, artifacts, and deliverables in the Planning phase. • Participate in sessions to help the team understand the different roles, functions, and requirements; involves additional stakeholders and agencies, as needed.
<p>Functional / Business – Subject Matter Expert</p>	<ul style="list-style-type: none"> • Participates in design JAD sessions. Assist the functional team in understanding the different programs and modules to provide detailed business knowledge. • Reviews and provides feedback on functional deliverables. • Go-to person for any domain or program-related questions. • Addresses questions, resolves questions, and works to remove obstacles. • Provides signoffs and approves the design and functional implementations.
<p>Technical/ Systems Architect</p>	<ul style="list-style-type: none"> • Understands the WVDMV Policies and will be able to address any Technical Questions/clarifications regarding legacy systems. • Reviews architecture recommendations from the i3 Verticals team and provides signoff(s). • Reviews the architecture and systems requirements implemented by the i3 Verticals team are as per WVDMV requirements.

Our team has been dedicated to working in the DMV space for over twenty years. The total combined experience of the collective team totals over 1000 years.

To minimize overall schedule and performance risk and produce a high-quality system on time, we implement complex software-intensive systems in individually testable increments following two weeks of sprints and release them into a sandbox environment at the end of 3 to 4 sprints with Release Notes. The overall risk is reduced because customization segments are scoped to a manageable size. Substantial software can be developed in shorter than normal timeframes as small Rapid Application Development (RAD) teams can work independently of each other in concurrent project periods. As modules are available for review, we will deploy to the sandbox

environment for the WVDMV i3VDLS project team. Feedback from the use of the sandbox environments provides early user understanding and acceptance and sets expectations regarding the new solution.

The key to accomplishing this risk reduction and to meeting the project’s schedule is a sound application architecture and database design that clearly identifies the interfaces or shared data among separately developed subsystems or modules. i3 Verticals System Architects and product engineers produce such a model and database design early in the schedule and pay close attention to maintaining them as refinements are brought forward during their respective design phases.

Testing and Go-Live Phase

In the Pilot testing phase, the developed functionality will be tested in parallel with the legacy system for all transactions.

Our cut-over approach is mentioned below-

- **The rollout of all system functionality** will be done for the defined set of users for the testing phase. All developed functionalities will be tested with various flows. It will be validated against the same transactions executed in the legacy system.
- **Final Go-live** of all modules after the end of the testing Phase.

The key activities, deliverables, and signoff criteria are explained in the table below.

Activities Involved	Key Deliverables	Sign-off criteria
Environment setup for Go-live		
Preparation of Pilot environment Data Conversion to New System Deployment of documents in preparation for the release	Migrated data to the Pilot environment Deployed code to the Pilot environment	Successful data conversion completion
Training for Go-Live		
User Training on the new system Communication with users on what to expect from the new system	Training Delivery and manual available for the DMV	End User Training Completion
Testing and Go-Live		
Parallel testing of functionalities in Legacy and New systems Data Validation between Legacy and new systems Deployment Support Retire / de-commission the Legacy application during Go-live Announce the success of the rollout with key highlights	Go-live of the new system for all users	Signoff on the testing results Successful System Go-live for all users with no Level one defects

Key Expectations from the DMV Team:

- Setting up the office for Testing Phase with key users from the Business and IT teams
- Infrastructure team support for the environment, connectivity, and access setup.
- Provide logistics and support for End User training by i3 Verticals.

Post Implementation Support

The Post Implementation Phase involves warranty support, Maintenance and Operations activities, and Knowledge Transfer.

i3 Verticals' Solution Implementation Methodology creates a customized and flexible process for delivering DMV's modernization solution and brings the following benefits:

1. **Flexibility:** Allows a tailored implementation approach to meet the specific needs of project teams and business users.
2. **Better alignment with business goals:** Align the development process with DMV's business goals by incorporating an agile approach emphasizing planning and control.
3. **Improved communication and collaboration:** Foster better communication and collaboration between teams and stakeholders by incorporating Scrum elements emphasizing teamwork and regular feedback.
4. **Increased transparency and accountability:** Incorporating elements of Kanban allows visualizing work and limiting work-in-progress. Increases transparency and accountability throughout the implementation process.
5. **Better adaptability:** Allows to respond quickly to changing requirements and priorities.

4.2.2.19 Implementation

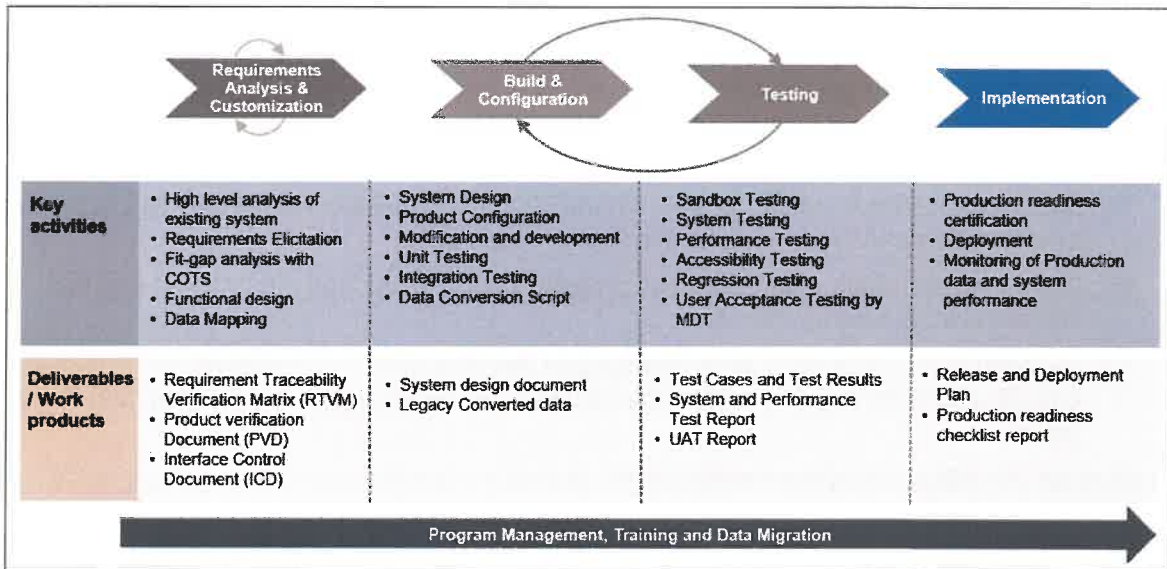
The vendor is to perform the entire project through a phased implementation of the replacement system. Each activity has a deliverable that must be submitted to WVDMV for approval. WVDMV will have a minimum of 10 business days to review each deliverable and provide feedback.

i3 Verticals Response:

Implementation Methodology

At i3 Verticals, we practice an Agile Methodology that is rapid, adaptable, co-operative, quality-driven, and iterative. This methodology is tailored to the project plan and exceeds PMBOK, Sixth Edition in providing and focusing on delivering a project, including all the Methods, Models, and Artifacts, ensuring deliverables and timelines are met, plus setting expectations at the beginning of the project, providing documentation throughout the entire project.

i3 Verticals finds the Agile Methodology successful in an overall effort to efficiently implement configuration and customizations to our COTS Products as well as new development, as depicted in the following diagram.



This approach has additional advantages:

1. Our clients gain valuable familiarity with the system and feel a sense of ownership and buy-in to the new way of doing business.
2. The application is validated using the converted data.
3. The converted data is validated using the application.

We have utilized wireframes, business rules, workflows, interface functional requirements, and report specifications to build the current COTS i3VDLS Solution. Additional wireframes, business rules, workflows, interface functional requirements, and report specifications will be added to i3VDLS to comply with WVDMV's requirements.

Design/Configuration

The architecture of the i3VDLS solution is designed to be modular, scalable, and easy to maintain. Our VDLS design pattern provides cross-platform compatibility, performance, and security. i3VDLS provides integration of the technical components within the required solution and the interfaces with WVDMV's enterprise components. Following is our approach to achieving interoperability:

- 1) The modularity of the solution: i3 Verticals has been developing and delivering modularly designed systems. This ensures the interoperability of modules/ components. Each component can be developed using best-of-breed technologies and upgraded in the future based on the cutting-edge technology of that time.
- 2) Adherence to standards: Define common protocols and formats for data exchange, allowing different systems to exchange data without custom integration.
- 3) Use of Universal Interface Controller (UIC): i3 Verticals proposes an integration solution named UIC (Universal interface controller) for any integration within the solution. The UIC will provide extensive capabilities for delivering security and auditing requirements for any communication with the proposed solution, including syntactic, semantic, and cross-domain interoperability. UIC supports a variety of industry-standards, including RESTful APIs, SOAP, JSON, XML, and OpenAPI formats.
- 4) API Management: Azure API management will provide a unified entry point across internal APIs and control user access. API Management and an API gateway are also crucial for securing microservices.
- 5) Microservices Architecture (MSA): With MSA, each service is independently scaled to meet the demand for the application feature it supports.
- 6) Containerized deployment: Ensures a possibility of multi-cloud deployment and the highest level of interoperability.
- 7) Separation of concerns: Tiered architecture and separation of concerns (UI, Business Layers, and Data Layers) ensure the solution can be deployed on-premises and in the cloud.

i3 Verticals will follow the system architecture, as noted in the diagram within [Section 4.2.2.15](#).

Interface/Integrations

i3 Verticals proposes the following tools and technologies for performing the development, customization, and configuration management processes of our COTS Products:

Tools proposed in the Implementation Phase			
Activity	Sub-Activity	Tools Used	EOL
Code	Code Development	Visual Studio 2022	Jan 13, 2032
	Code Analysis	Visual Studio 2022 Code Analysis	Jan 13, 2032
	Framework	.NET 6	Nov 12, 2024
	Testing Tools	Postman	N/A (evergreen)
	Automated Unit Testing	xUnit tests	N/A (evergreen)
	Gated Commit with Continuous Integration	GIT in Azure DevOps services	N/A (evergreen)
	Inspection of code quality	SonarQube	N/A (evergreen)
Deploy	Simultaneous Deployment for Multiple Environments	Azure DevOps CI/CD pipelines	N/A (evergreen)
Reports	Application Reports	Apache PDFBox 2.0.16	N/A (evergreen)
Documentation & communication	Documentation	Office 365 Tools (Word, Excel, and PowerPoint)	N/A (evergreen)
	Communication	Email, SharePoint, and Teams	N/A (evergreen)
Operations & Maintenance Phase			
Support	Issue Ticket Management	Jira Service Desk	N/A (evergreen)

Design/Analytics

Active Directory Interface

i3 Verticals has experience interfacing with single sign-on solutions, including Okta. The Proposed solution shall be integrated with the state-owned Microsoft Active Directory for i3 Verticals, Client staff, and other state agencies. The public and business users for application authentication and OpenID Connect (OAuth 2.0) based interoperable protocol to enable single sign-in flows with other applications as a token for the identity of signed-in users. REST API-based integration will be used for active directory and OpenID connectivity. Connectivity between Azure-hosted i3VDLS and the state's Datacenter will be established using Azure ExpressRoute. The diagram below depicts the overall flow for application user authentication and application access authorization to be maintained at the i3VDLS application level.

The i3 Verticals project team will participate in groups associated and work simultaneously, based on the nature of work as needed.

As pieces of functionality are configured, they will be released to a sandbox environment for user verification. This approach will help validate both the application and the data. As users provide early feedback, action can be taken to amend the configuration and/or data prior to the next sandbox release. With each sandbox release, a version of the converted data will be deployed to the sandbox environment. In this way, the users can see that their feedback is addressed and reflected in the next sandbox release.

4.2.2.20 Quality Assurance Plan

The vendor must implement, and maintain a Quality Assurance Plan (QA) that documents the processes to be used in assuring the quality of services provided for each requirement in the scope of work, including but not limited to, timely provision of services, professional quality reports and documentation, a process for addressing customer service issues, and a plan for addressing necessary changes resulting from changes in WVDMV needs, findings of substandard performance, or other external factors.

i3 Verticals Response:

QA Plan/Testing

Risk Mitigation

i3 Verticals has maintained a log of risks identified over our 20 years in business, including those that are no longer a threat to the project, those that have been prevented or mitigated, and new issues. This log is a permanent record of project risks and provides an on-going trail of lessons learned for future projects.

The following is a sample log that has been derived from lessons learned on previous projects:

Risk Description	Impact	Mitigation
Go-Live date	High	<ul style="list-style-type: none"> State Agency to ensure support for final cut-over State Agency team and pilot Customer's availability during UAT, training, and implementation plan
Interfaces: External Data Interface	Medium	<ul style="list-style-type: none"> Approval from external agencies (financial system, data consumption) State Agency and i3 Verticals team to plan for full implementation in parallel If there is any delay, the i3 Verticals team will work with the State Agency on the alternate ways
Interfaces	High	<ul style="list-style-type: none"> State Agency and i3 Verticals team to work together on the identified interface requirements, with minimal impact on the go-live date
Subject Matter Experts	Medium	<ul style="list-style-type: none"> State Agency team to plan their availability and holiday plans for the project implementation. Mandatory sandbox participation
Timely Deliverables Approval	Medium	<ul style="list-style-type: none"> Ensure all critical items are addressed during weekly Cadence meetings. Where required, the i3 Verticals team to reach out to the State Agency critical stakeholders for immediate decision and action State Agency and i3 Verticals team to work collaboratively and provide review/feedback as per timelines stated in the project plan

Risk Description	Impact	Mitigation
System Testing	High	<ul style="list-style-type: none"> State Agency users and pilot Customers complete their testing as scheduled

In addition to our experience of previous managed risks,

Regression Testing

It is critical to validate the impact on the existing functionality due to the new changes/defect fixes. Regression testing will ensure the code being released will be fully tested and stable.

Regression testing will be performed as part of each sprint level so that we can validate that the functionality delivered in earlier sprints is working correctly. The approach for identifying the regression suite is defined in the approach section.

Approach:

- During user story analysis and test case preparation, the key scenarios are marked for regression testing, and these will be added to the master regression suite. The business analyst and business teams will review this regression suite to ensure regression coverage.
- The manual regression execution will be done for the test cases which cannot be automated.
- Key regression test cases will be automated so that they can be used in further sprints and releases.

Quality Assurance

i3 Verticals has experience implementing our Driver, Vehicle, and Motor Carrier solutions in multiple jurisdictions. i3 Verticals' rigorous QA process ensures high quality code, reduced risk of defects, and improved user satisfaction.

Quality gates are essential to the software development process as they help ensure that the software being developed is high quality, meets the user's requirements, and is delivered on time and within budget. By implementing quality gates, development teams can improve the efficiency of their processes and reduce the risk of defects or issues in the final product.

i3 Verticals recommends the following quality gates as an essential part of our QA approach:

- 1) **Test Coverage:** The test cases cover all the relevant functional and non-functional requirements. This can be achieved by using a variety of testing techniques, such as functional testing, regression testing, and performance testing.
- 2) **Test Automation:** Automated testing will be used to execute repeatable and time-consuming tests, freeing up the testing team to focus on more complex and critical tests. Automated tests help ensure consistent results by removing the possibility of human error.
- 3) **Test Environment:** Set up and maintain the test environment and ensure that it is in a known state before each test execution.
- 4) **Defect Management:** Utilize incident tracking (JIRA) to log defects and prioritize and communicate them to the development team.

- 5) **Test Data Management:** Create and manage test data and ensure that the test data represents real-world scenarios.
- 6) **Test Metrics:** Defined test metrics, such as test case pass/fail rate and defect density, to measure the testing process's effectiveness and identify areas for improvement. Track and analyze these metrics to improve the testing process.
- 7) **Continuous Improvement:** Identify areas for improvement and how to implement changes to the testing process.

These mechanisms work together to create a comprehensive and consistent QA approach that ensures the solution is thoroughly tested and the results are reliable and predictable.

Below are the testing types we will perform throughout the project.

Sl. No	Testing Type	Responsibility	Testing Phase	Activity	Goals/Outcome
1	Unit Testing	i3 Verticals	Sprint	Unit Testing of the OOTB functionality, which has been customized or configured, and new functionality or Interfaces developed to fit WVDMV's requirements.	Unit Testing will ensure the newly developed code is tested properly before the start of System Testing. This helps to identify issues early in the SDLC cycle.
2	Functional Testing	i3 Verticals	Sprint	Validate that the functionality is working as per WVDMV's requirements.	Functional testing will ensure that system functionality is working as per the WVDMV's Requirements.
3	Regression Testing	i3 Verticals	Sprint	Risk Based Approach will be used for Regression Testing. Scenarios that cannot be Automated will be tested manually.	Regression Testing will validate that there is no code breakage done during the defect fixing process before the start of UAT or production release.
4	Cross Browser Testing	i3 Verticals	Sprint	Functional test cases will be executed in different browsers as part of functional testing. This testing will be performed for the most commercially used browsers for 10% of most used transactions.	Cross-browser testing will ensure that functionality is working correctly in all browsers per requirements.
5	Data Verification	WVDMV / i3 Verticals	As per the plan	Data Verification Testing. Sample data validation will be done manually to validate Data synchronization. i3 Verticals will support WVDMV for validation.	Data Verification Testing will ensure data integrity, quality, and completeness.

Solution Upgrades

i3 Verticals coordinates with our clients to produce a matrix that will help determine deployment frequency. The matrix will consider various factors such as the type of fix (hot fix / new features/ product upgrade/ maintenance release), severity, the priority of the defect, or functionality to produce the release frequency.

Following is a typical matrix. This may vary for each client.

	Severity	Priority	Frequency	Duration
Hot fix	High	High	Scheduled	1 Hr.
New Features	Medium	High	Major/Quarterly	4-6 Hrs.
System Upgrade	Medium	Medium	Depends on the Roadmap	8-24 Hrs.
Maintenance Release	Medium	Medium	Monthly	2 Hrs.

i3 Verticals will deploy i3VDLS solution updates in the pre-production environment (UAT) to ensure there is no unintentional disruption to the security mechanisms of the application or supporting hardware. UAT will be undertaken by a client subject matter expert and/or a business user. The UAT team will validate the system functionality based on the test scenarios, scripts, and sign-off for the production move.

Monthly server patching is completed in the UAT and Production environments. The planned monthly schedule is shared with the Client PM for review and approval of dates and times. This included all critical patches for operating systems, databases, web services, etc.

4.2.2.21 Quality Assurance Plan Approval

Submit a final version of the Quality Assurance Plan (QA) to the department for review and approval within ninety (90) calendar days after the contract effective date.

i3 Verticals Response:

i3 Verticals has included our standard QA Plan, included in [Appendix 4](#), of this response, which would be tailored to this WVDMV project. The i3 Verticals' Project Team, during the Initiation Phase will investigate any specific needs as input to this plan.

4.2.2.21.1 Data

The vendor must utilize a quality assurance process to ensure one hundred percent (100%) accuracy of the migrated data. There shall be zero (0) defects for all test cases performed by the department during User Acceptance testing in the UAT environment.

i3 Verticals Response:

Acknowledged and agreed. Outlined in [4.2.2.20](#), testing with migrated data is included within our QA Plan.

4.2.2.21.2 Restore

A description of how the system can revert to a previous version.

i3 Verticals Response:

A deployment package outlining the system changes for each deployment is created and maintained. Should a need arise, that would require i3 Verticals to revert to a previous version,

the current version would be uninstalled, and the database would be synced to the previous version if required.

4.2.2.22 Hosted Environment

The vendor solution shall be hosted in a state owned public or private cloud environment. Vendor(s) must present as part of their TECHNICAL PROPOSAL a detailed description of a RACI model, a proposed cloud architecture design plan and software licensing list. The vendor is also required to provide information detailing considerations for network inbound and out bound traffic.

Information related to the proposed total cost of ownership, (yearly) for both the solution and cloud infrastructure should be included in the vendor's COST proposal which is to be submitted separately.

Microsoft Azure - <https://azure.microsoft.com/en-us/pricing/calculator/>

i3 Verticals Response:

i3 Verticals will prepare a technical architecture document as a deliverable that will capture the configuration of all hosting environments, network, and security architecture of the solution in accordance with Statewide Architecture Requirements.

The table below is the RACI matrix for the project. WMDMV will use this RACI matrix to clearly indicate project responsibilities throughout the duration of the project.

R= Responsible, A= Accountable, C=Consulted, I=Informed

ID	Key Activity	Related Deliverable(D) or Work Product(W)	i3 Verticals	Azure Cloud Vendor	WMDMV
1.	Create Technical Architecture Document	Tech. Architectural Document (D)	R	I	A
2.	Provide Data Classification and Accountability Documents	Listing of Classification & Accountability (D)	I	NA	R, A
3.	WVDMV project tools agreed and provisioned	List of agreed tools (W)	C, I	C, I	R, A
4.	i3 Verticals project tools agreed and provisioned	List of agreed tools (W)	R, A	C, I	C, I
5.	Steering committee convened and meeting cadence established	N/A	I	I	R, A
6.	Change control process defined	Change control process document (W)	R	I	A
7.	RAID log established	RAID Log (W)	R	I	A

ID	Key Activity	Related Deliverable(D) or Work Product(W)	i3 Verticals	Azure Cloud Vendor	WVDMV
8.	Draft an initial Internal and External Communication Plan that documents specific communications (key message, intended audience, delivery medium) needed throughout the hosted project.	Communication Plan (D)	I	I	R, A
9.	i3 Verticals project team mobilized	N/A	A, R	I	I
10.	The WVDMV project team mobilized	N/A	I		R, A
11.	Define third party interfaces	List of interfaces (D)	R, A	I	R, A
12.	Prioritized product backlog established	List of prioritized items, including description, SME, i3 Verticals contact, timeline, sponsor	R		A
13.	Define Application-Level Controls	List of WVDMV Agents including hierarchy (D)	I	NA	R, A
14.	Hypervisor		NA	R, A	NA
15.	Facilities Datacenter		I	R, A	I
16.	Create an Environment Plan that covers the build and support of the WVDMV owned environments to which i3VDLS will be integrated. WVDMV will ensure any environments owned by 3rd parties will be built or provided and support personnel confirmed. i3 Verticals will build and connect the i3VDLS environments to the WVDMV and WVDMV's third-party environments. The process must be created for repeatability and consistency. Cyber Security scans and remediation will be included in the plan.	Environment Plan (D)	R		R, A
17.	Provide existing i3VDLS architectural standards which includes the development of Enterprise Solution Architecture and processes that include all work streams including integrations.	i3VDLS Technical Architecture Document (D)	R		A
18.	Coordinate with third parties to confirm the version of products to be used and availability of environments.	3rd Party Coordination (W)	C, I		R, A

ID	Key Activity	Related Deliverable(D) or Work Product(W)	i3 Verticals	Azure Cloud Vendor	WMDMV
19.	The WVDMV Enterprise review of existing and planned environments and architecture conducted.	Existing Technical Architecture (W)	C		R, A

i3 Verticals proposed technical architecture is compatible to be hosted on any virtualized infrastructure and will remain private. For the proposed Driver License system, i3 Verticals recommends an environment to be hosted on Azure cloud in US East region as the primary environment and US Central region as a secondary disaster recovery environment. The proposed i3VDLS solution deployed on the Azure Platform will include:

- Solution should be deployed on US East Region for Production and Non-Production Environments
- The solution should be deployed under two Azure Subscriptions – Production and Non-Production for better management and Control.
- Solution should have a total of nine Environments – Production, Pre-production, disaster recovery, UAT, integration test, system test, training, sandbox, and development.
- The architecture should be designed based on Hub and Spoke Model of Virtual Datacenter reference architecture. This will provide better Security and Management of the environment.
- Azure Container (Kubernetes) based architecture.
- Multi-Tiered Storage for immediate Access and archival (Hot and Archival Tier)
- Higher Service Availability for the critical components
- Robust Infrastructure Security Layer – Network Firewall, Network Security Groups, Application Gateway & Web Application Firewall
- Enhanced Data Availability through Geo Replication service across regions
- Holistic Monitoring Solution for Periodic system notification and alerts

4.3 Qualifications and Experience

Vendor should provide information and documentation regarding its qualifications and experience in providing services or solving problems similar to those requested in this RFP. Information and documentation should include, but is not limited to, copies of any staff certifications or degrees applicable to this project, proposed staffing plans, descriptions of past projects completed (descriptions should include the location of the project, project manager name and contact information, type of project, and what the project goals and objectives were and how they were met.), references for prior projects, and any other information that vendor deems relevant to the items identified as desirable or mandatory below.

i3 Verticals Response:

Referenced Company, Corporation or Organization	Tennessee Department of Revenue
Customer name (point of contact most familiar with the services your firm provided and was directly involved with the implemented solution)	Allison Raymer, Director Department of Revenue Vehicle Services Division)

Customer address	500 Deaderick Street Nashville, TN 37242
Current telephone number of a customer employee most familiar with the offered solution's implementation	615-532-5072
Customer email address	allison.raymer@tn.gov
Time period over which each offered solution implementation was completed	2015 to 2017 for complete modernization of the old mainframe vehicle and title registration system, electronic insurance verification system, law enforcement integration, and dealer drive out tag system.
Brief summary of the offered solution implementation	<p>i3 Verticals (BIS at the time) was awarded the Tennessee Department of Revenue Vehicle Title and Registration System (VTRS), document management system, inventory management system, Electronic Insurance Verification System, financial management system, and print on demand dealer drive out tag system that integrates with the VTRS.</p> <p>The system that processes over 6.8 million vehicle title/registrations per year was promised in 24 months, and we went live in 23 months. Tennessee had multiple failed modernization attempts since 1998 and worked for 8 years building in-house. So, we priced this so that we wouldn't charge anything until the system was live.</p> <p>Since then, we have also implemented Motor Vehicle Data Services to automate abandon vehicles processes for towing companies and provide real time title validation, ownership, and lienholder status for financial institutions.</p> <p>The State of Tennessee previously did not participate with NMVTIS. Once the Commissioner made the decision to participate with NMVTIS, i3 Verticals worked with AAMVA and went live with NMVTIS in 2019. Our extensive experience and active AAMVA membership make this an easy transition for our partnering clients.</p> <p>In 2022 we signed a new contract with the State of Tennessee, utilizing lessons learned to develop new software to replace the existing software that already brought a 5 to 1 efficiency. We went live with our newest software for electronic insurance verification system EIVS 2.0, inventory management system (i2), and newest State title and registrations STARState live in January 2024. All at no additional charge to the State.</p> <p>i3 Verticals continues to support and maintain the integrated solution for Tennessee. As well as meet and plan for future projects on regular basis.</p>
List of offered solution products installed and operational	<p>Vehicle Title and Registration System (VTRS) includes:</p> <ul style="list-style-type: none"> • Real-time motor vehicle titling and registration functions. • Inventory management (plates, title control numbers, placards, temporary tags, print-on-demand registrations, decals, etc.).

	<ul style="list-style-type: none"> • Centralized Document Management System for all branch offices to scan and electronically submit documents. • ACH functionality for all branch offices to submit to the State of TN Department of Revenue. • Numerous online services options. • Business tax and boat tax features. • Fleet vehicle management. • POS cash and check management. • Integrated credit card processing. • Receipting functions. • Print-on-demand vehicle registrations. • Online personalized plate ordering and validation • Print-on-demand temporary tags. • Electronic document scanning and management. • Self-service motor vehicle renewal kiosk options. • One-swipe motor vehicle renewals through Auto-Assistant app. • Integrated general ledger system. • Employee management capabilities. • Professional call center support services for state, county and online users.
<p>Number of vendor or technical staff supporting, maintaining, and managing the offered solution</p>	<ul style="list-style-type: none"> • One Executive Vice President of Transportation – Stoney Hale • On Senior Project Manager – Robert Mello • One State Operations manager – James Buchanan • One VTRS support manager – Andrew Black • 6 technical supports • Pool of 27 technical persons (including Solution Architects, Developers, Analysts, and QA)
<p>Number of end users supported by the offered solution</p>	<p>7,197 Internal users and over 1.7 million External users (online transaction processing, law enforcement, tow truck companies, finance companies, dealerships, etc.)</p>
<p>Number of sites supported by the offered solution</p>	<p>Supports 142 sites for internal users.</p>

4.3.1 Vendor should describe in its proposal how it meets the desirable qualification and experience requirements listed below.

i3 Verticals Response:

i3 Verticals exceeds the desirable qualifications and experience requirements with our vast experience in large-scale complex software solutions. We also have experience in various hosting environments such as Azure, AWS, State Data Center, etc. Our current product suites for Driver License, Ticketing, Client, Finance, Title and Registration, Dealer Licensing, Electronic Insurance Verification, Inventory Management, IFTA, CVIEW, and IRP are developed on the most current versions of .Net and Java technologies. We also have extensive experience integrating with Self-Service Kiosks. i3 Verticals has set a clear path for our product



development, product enhancement, and technology advancements streamlining both our day-to-day work and long-term goals.

i3 Verticals also implemented and maintains DMV First, which the Driver License application currently integrates with and is required to integrate with in the modernization effort. DMV First calculates fees, accepts payment, and manages inventory. Because i3 Verticals maintains DMV First, we are aware of the challenges users face in having to go two places to perform transactions and are in the process of enhancing DMV First to send information to DMV First automatically through an API and eliminate duplicate data entry.

Our experience with DMV First gives i3 Verticals unique qualifications that exceed minimum requirements. Our proposal creates a seamless transaction flow where the user accesses a single system to process a transaction from start to finish without having to duplicate data entry for a seamless, efficient process flow starting with the Customer Module, providing improved user and customer experiences.

Our COTS System for Registration, Title, Driver's License, Driver Control, and IRP is in the final phase of implementation in the province of Manitoba. Our Driver License Team has direct experience managing Driver License issuance and Driver Control within a specific jurisdiction. Our team understands the requirements and challenges DMVs face in day-to-day operations such as long wait times at service centers, difficult customers, fraud, complying with federal regulations, state laws and regulations, etc. i3 Verticals leverages this expertise to assist DMVs in modernizing business processes in addition to implementing systematic solutions to address challenges, resolve issues, improve customer satisfaction, and increase efficiency during the Manitoba Project. We do more than just implement a new system; we fully engage the WVDMV Project Team to fully modernize the entire program to their needs.

On the following page is a table of our current clients with reference to their hosting, i3 Verticals solution and Business Management inclusion.

Customer Name	Hosting Option	Motor Carrier Solution (CMCS)					Business Management		
		IRP	IFTA	CMEW	Trip Permits	Driver License	Title and Registration and iPRIME	Enterprise Cash Drawer	DMS
US State(s)		22	10	14	6	1	4	22	27
Alabama	State Data Center	✓	✓	✓	✓			✓	✓
Alaska	i3 Hosted (Azure Gov)								✓
Arkansas	State Data Center	✓	✓					✓	
Connecticut	State Data Center	✓						✓	✓
Delaware	i3 Hosted (Azure Gov)								✓
District of Columbia	State Data Center	✓		✓				✓	✓
Florida (July 2024 Go-live)	State Data Center	✓	✓					✓	
Georgia	State Data Center	✓		✓				✓	✓
Idaho	i3 Hosted (Azure Gov)	✓		✓	✓			✓	✓
Indiana	AWZ Gov Cloud						✓		
Iowa	State Data Center	✓	✓					✓	✓
Kansas	State Data Center	✓					✓	✓	✓
Michigan	i3 Hosted (Azure Gov)								✓
Minnesota	i3 Hosted (Azure Gov)								✓
Missouri	i3 Hosted (Azure Gov)	✓	✓	✓	✓			✓	✓
Montana	i3 Hosted (Azure Gov)	✓	✓	✓	✓			✓	✓
Nebraska (January 2025 Go-live)	State Data Center	✓	✓	✓	✓				
New Hampshire	i3 Hosted (Azure Gov)								
New York	State Data Center	✓						✓	✓
North Carolina	i3 Hosted (Azure Gov)								✓
Ohio	State Data Center	✓		✓				✓	✓
Oregon	i3 Hosted (Azure Gov)								✓
Pennsylvania	State Data Center	✓		✓				✓	✓
South Carolina	State Data Center	✓	✓	✓				✓	
US Virgin Islands	i3 Hosted (Azure Gov)								✓
Texas	i3 Hosted (Azure Gov)								✓
Tennessee Department	State Data Center						✓	✓	✓
Washington	i3 Hosted (Azure Gov)								✓
West Virginia	State Data Center	✓		✓				✓	✓
Wyoming	State Data Center	✓	✓	✓				✓	
Canadian Province(s)									
Alberta	Celtic Hosted (Azure Gov)	✓		✓				✓	✓
British Columbia	Celtic Hosted (Azure Gov)	✓		✓				✓	✓
Manitoba (Under Construction)	Province Data Center	✓	✓			✓	✓	✓	✓
Ontario	Province Azure Cloud	✓			✓			✓	✓

Below is a detailed description of the i3 Verticals Motor Carrier and Motor Vehicles Solutions:

Product	Description
Client	System for Enterprise Common Customer Management
Vehicle Registration & Title	System for Vehicle Registration & Title, and fee calculation integrated with NMVTIS, State Finance System, Electronic Insurance Verification System, Finance and configurable to interface with other State Enterprise Components (Internal/Third Party)
Driver's License	System for Driver's Licensing & fee calculation as well as Driver Control and Medical Review. Provides integration with AAMVA Services, Finance System, Ticketing, Courts, and configurable interfaces with other State Enterprise Component (Internal/Third Party).
IFTA	System for International Fuel Tax Agreement, fully compliant with IFTA, Inc
IRP	System for International Registration Plan, fully compliant with IRP, Inc Clearinghouse, Audit Requirements, and IRP Data Repository requirements

i3 Verticals adheres to Specific, Measurable, Achievable, Realistic, and Timely (SMART) principles to transform our future, long-term vision, and strategic plans into a clear course of action.

Following is our approach to support emerging technologies and industry standards:

- Research – Our R&D team identifies new and emerging technology for potential solutions, highlights the pros and cons, and involves other team members in the initiative.
- Analysis – Our business analysis team measures cost/benefits, customer acceptance, and develops our buy decisions.
- Planning and Development – Our team prepares for the idea of the approved technological change. We emphasize proof of concept (POC) for minimum work disruption and modify existing procedures and work practices wherever possible.
- Implementation – We involve the people (SME, QA, business users, stakeholders) who must work with the new technology. We incorporate training on the implemented tasks, gather, and apply user feedback to gain user acceptance of new technology.
- Evaluation – Our evaluation process is designed to correct performance, technical, and user perceptions, leading to successfully implementing new technology and functionalities.

4.3.3 Include various testimonials from third party trade journals or publications that attest to the vendor's experience. This may include vendor references which outline the number of enterprise class installations.

i3 Verticals Response:

i3 Verticals' (noted as the legacy company, BIS) is listed in the AAMVA 2019 Issue 1.

In 2022 we began upgrading those systems Electronic Insurance Verification, Title and Registration, and Inventory Management to our newest software Electronic Insurance Verification 2.0, TNSTAR new State Title and Registration System and Inventory Management System 2.0 at no additional charge to our partners in Tennessee. We took all the lessons learned and analyzed the previous systems installed that brought a 5 to 1 increase in efficiency and enhanced that even more to provide even greater levels of automation, efficiency, and process improvements with our newest systems. This includes more online services and features such as Motor Vehicle Data Services. We have included a copy of the article as [Appendix 5](#).

4.3.4 Any references that are provided should include Name, Title, Company Represented, Phone Number, and Email Address information.

i3 Verticals Response:

Referenced Company, Corporation or Organization	Tennessee Department of Revenue
Customer name (point of contact most familiar with the services your firm provided and was directly involved with the implemented solution)	Allison Raymer, Director Department of Revenue Vehicle Services Division)
Customer address	500 Deaderick Street Nashville, TN 37242
Current telephone number of a customer employee most familiar with the offered solution's implementation	615-532-5072
Customer email address	Allison.Raymer@tn.gov

Referenced Company, Corporation or Organization	Kansas Department of Revenue, Property Valuation and Vehicles
Customer name (point of contact most familiar with the services your firm provided and was directly involved with the implemented solution)	David Harper, Director
Customer address	300 SW 29 th Street, PO Box 2505, Topeka, KS 66601-2505
Current telephone number of a customer employee most familiar with the offered solution's implementation	785-296-3686
Customer email address	David.Harper@ks.gov

4.3.5 Vendor’s proposal should include a detailed list of team members that will be involved in the system design and implementation. The vendor may include resumes, certifications, and any other documentation necessary to substantiate experience.

i3 Verticals Response:

Resumes and certifications have been included as part of this proposal within [Appendix 6](#), Staffing Plan.

4.3.6 All personnel providing technical support or installation of the recommended solution should be badged representatives that are employed by the hardware/software manufacturers for all hardware components.

i3 Verticals Response:

All i3 Verticals’ personnel providing technical support or installation of the recommended solutions shall be badged representatives that are employed by i3 Verticals. Additionally, i3 Verticals conducts a full background check on all employees prior to their hire. Offers of employment are only made to those who successfully pass the background check.

4.3.2 The Vendor should provide the following documentation:

4.3.2.1 A detailed description of the integrated hardware/software procedure/process for testing the impact of software and firmware updated prior to installation in the production environment.

i3 Verticals Response:

i3 Verticals Project Testing

System Integration testing (SIT) will be carried out after each module has undergone unit testing and that testing has been passed. During SIT, i3 Verticals testers will test the system after all sub-modules and third-party interfaces have been integrated. The result of SIT will then be passed on to UAT.

The key activities of each SIT phase are defined as follows:

Entry Gates

1. All user stories are completed and signed-off.
2. UI Validations Completed
3. Completion of unit testing
4. Priority bugs have been fixed and closed.
5. Test cases/scripts are ready.
6. Ensured that there are no open showstoppers / critical defects.
7. All the interfaces are being developed and validated at list once.
8. Required data are available to test the interface (Interface provider required to provide the date to test the interface).
9. All environments and access requests sorted out.
10. SIT users identified.

Objectives

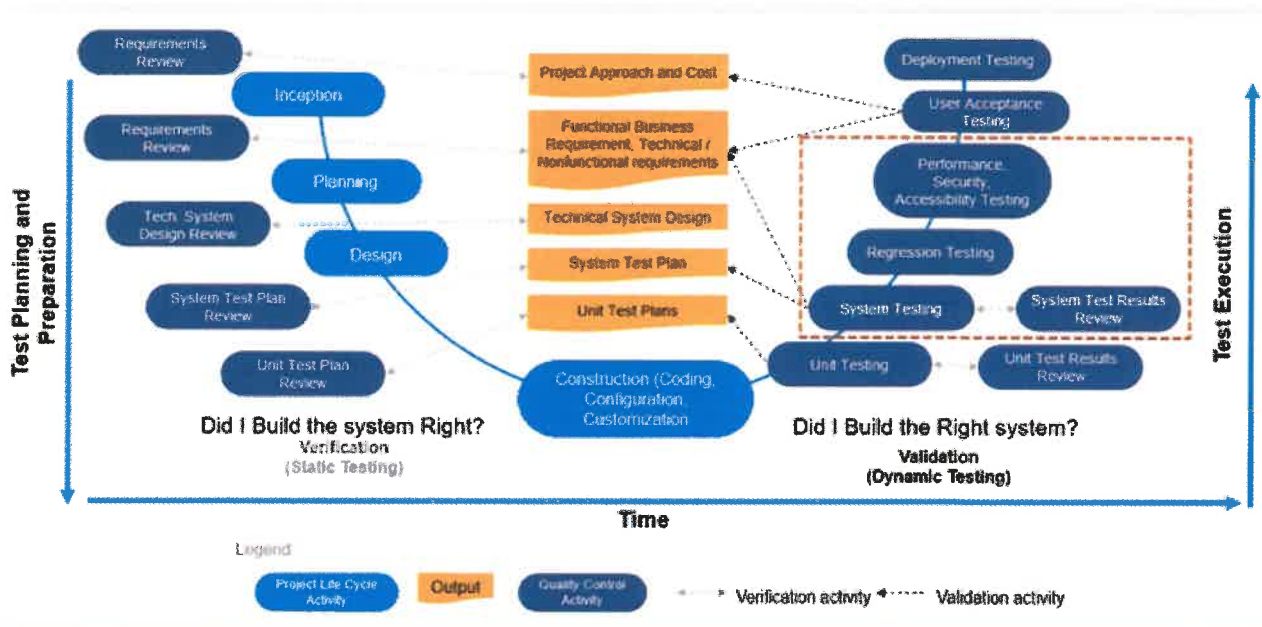
1. Interactions between the modules
2. Interfaces with other systems
3. Data flow and data integrity is maintained across applications.
4. Performed by testers.

Exit Criteria

1. Successful execution of the test scenarios
2. Priority bugs have been fixed and closed.

The following diagram depicts i3 Verticals V-Model for agile development testing for each sprint:

i3 Verticals team analyzes the ongoing process and performs the root cause analysis on process issues to proactively prevent the recurrence or replication of any incidents and known errors.



i3 Verticals' Project Team analyzes the ongoing process and performs a root cause analysis on process issues to proactively prevent the recurrence or replication of any incidents and known errors.

Performance testing will be done for in-scope applications and modules based on the feasibility analysis. It includes Load, Stress, Endurance and Volume testing. Performance Scripts will be developed in a dedicated integrated or Pre-production environment and the same will be used for execution in the respective environment. A production copy of the data will be loaded into the database prior to performance testing in the pre-production environment.

Business-critical transactions as well as high volume transactions will be identified for performance testing based on the following criteria:

1. Peak hour user load
2. Average hour user load
3. Peak hour transaction volumes
4. Average hour transaction volumes
5. Future volume forecast
6. User concurrency
7. Segregation of external user load

Types of Performance Testing considered in scope:

1. Load Test: To validate the performance when applied to peak load.
2. Stress Test: To validate the performance when applied to a very heavy load (considering future growth) to identify the performance bottlenecks.
3. Endurance Test: To validate performance when applied to peak-load for a longer duration to see the impact on system performance in terms of response time, memory leaks etc.

4.3.2.2 *A detailed description of the vendor's experience interfacing/integrating with AAMVA.*

i3 Verticals Response:

i3 Verticals has deep experience in interfacing/integrating with AAMVA during the implementation of NMVTIS in Tennessee Title and Registration Project. AAMVA requirements and specifications were provided by the jurisdiction and development followed AAMVA guidelines.

4.3.2.3 *A single point of contact to support all hardware and software that is outlined in this procurement.*

i3 Verticals Response:

i3 Verticals has found throughout all our solutions, the Project Manager leading the entirety of the project from beginning to end throughout the life of the project is the best possible team member to act as each client's single point of contact. This is due to their involvement in the implementation, knowledge of the desires and requirements of the client, and who acts as the client's advocate throughout each step of the process.

The Project Manager assigned to this WVDMV Project will be the single point of contact for all hardware and software outlined in this procurement, throughout the contractual lifetime. For this project, the Project Manager will be Manish Gohil, who will provide support as the primary contact for West Virginia DMV.

4.3.2.4 *The proposed solution and how it will be custom built and tailored to meet the specific requirements outlined in this RFP.*

i3 Verticals Response:

i3 Verticals has all the required features in its current product suite, however, some configuration and customization to tailor the application to meet WVDMV business rules will be required. i3 Verticals will use the below process to ensure that all required configuration and customizations are completed.

i3 Verticals will build a Requirements Traceability Matrix (RTM) that will be used throughout the project to ensure all requirements are included in the solution and to ensure each requirement is fully tested and cross referenced to a test case. The business priority of the requirements in RTM will be marked with inputs received from DMV. After the RTM is finalized, we will work with the State of West Virginia business area experts to go through our COTS solution step-by-step, screen-by-screen, out of the box reports, and DMV specific reports and inquiries, documenting any necessary configurations and modifications required to meet the DMV requirements. The business rules will be analyzed and documented. The result of this activity will be a deliverable called the COTS Product Verification Document (PVD) / Functional Requirements Document (FRD). The FRD/PVD will provide the design criteria needed for the development team to make

the necessary configurations and customizations to the solution. The requirements phase will be executed in iterations and sprints.

Our entire team will be involved in developing the use cases and models for this project. Our program execution protocols will ensure that each of the use cases is mapped to the functional, financial, and technical components required for the successful development and delivery of the DMV modernization solution. We will use the existing DMV artifacts to develop an initial set of use cases, which we will review with the appropriate DMV users during requirements analysis and design activities.

Each use case will be accompanied by domain models that will show the relationships to other components, inputs and outputs, dependencies, and shared components.

The functional requirements document would include recommendations on functionalities that can be used out of the box (OOTB) from the COTS product, configurations needed, and modifications on the COTS product. The functional requirements document is then submitted for DMV review and signed off.

4.3.2.5 *How the vendor will install, configure, and provide functional readiness for the following:*

- State to State (S2S) Verification Service for WVDMV.*
- Driver History Record (DHR) functionality for WVDMV.*
- Exclusive Electronic Exchange (EEE) for WVDMV.*
- Drug and Alcohol Clearinghouse Exchange (DACH) for WVDMV.*
- State Pointer Exchange Services (SPEXS) 6.3 for WVDMV.*
- National Registry of Certified Medical Examiners (NRCME) for WVDMV.*

i3 Verticals Response:

To initiate the installation, configuration, and achieve functional readiness for the specified interfaces, i3 Verticals will follow a systematic approach.

For the installation, we will contact AAMVA to secure a position in their testing schedule, facilitating coordinated efforts. Subsequently, a comprehensive project plan will be developed to guide the configuration process, outlining key milestones and timelines.

Following the project planning phase, the i3 Verticals Project Manager will determine the forms of communication required for the integration. This includes deciding on communication channels that align with the integration requirements. Once this is determined, the necessary forms will be completed to set up connectivity with AAMVA's Certification system.

Configuration and connectivity testing will then be conducted to ensure the efficient transfer of data. This phase verifies that WVDMV can effectively send and receive data through AAMVA's system.

Upon successful completion of connectivity testing, i3 Verticals will proceed with functional readiness testing. This phase aims to validate that each form of communication can be sent and received by both WVDMV and AAMVA.

This strategic and systematic approach ensures a seamless process for installing, configuring, and achieving functional readiness for the specified interfaces.

4.3.2.6 *Suggested training courses and methods, both onsite and available via online resources. If optional training courses are available, the vendor should include pricing.*

i3 Verticals Response:

Training

As the final phases of the implementation project, i3 Verticals will implement a full and complete training program, based on the needs of WVDMV. Typically, our Train-the-Trainer program is the standard for any project, however, with the magnitude of this project, we would collaborate with WVDMV and determine which training program would be best.

Our experience has shown, in modernization projects of this size, business processes are also changed along with implementing a new system, so we have typically used a hybrid training approach done in conjunction with the jurisdiction. i3 Verticals is equipped to train regarding the system implementation, but understands with the changes to business processes, WVDMV business process and policy questions should be addressed by DMV Subject Matter Experts (SME).

Below we are including the following training as a part of this proposal for consideration, additional training details may be found in section [4.3.2.16](#).

Train the Trainer

In-person classroom sessions, which generally take planning to schedule facilities and equipment, take staff away from their daily work, especially if travel is involved, and incorporates cost and time for a complete delivery. We have typically used a Train the Trainer model for these types of classes where our Training Lead trains a group of WVDMV Trainers who then conduct the in-person sessions with the remaining users. With this approach, i3 Verticals provides training materials for the system portion of the training, typically in a PowerPoint Presentation.

Online Instructor Led Training

On-line instructor led sessions which are conducted using virtual meeting applications such as Microsoft Teams, WebEx, Zoom, etc. These types of sessions are more cost effective than in person sessions because participants can attend at their desks reducing travel time, costs, and time away from daily work. Sessions are interactive with the instructor presenting information, conducting demonstrations and participants can ask questions through voice or chat. This type of training could also be Train the Trainer model or could be vendor instructor as travel would not be required. We believe Train-the-Trainer would be most cost effective for WVDMV, however, are willing to provide an on-site training package as well.

Online Recorded Training

Online only training sessions are self-directed on-line courses prepared in advance with each participant completing the training on their own time and at their own pace. This is the most cost-effective option because it does not require a trainer for each session. However, without a trainer or SME questions may be left unanswered for the participant.

iLearn

i3 Verticals has a Knowledge Management System (iLearn) which West Virginia already uses. Our recommendation is that courses be made available in iLearn with tests to ensure that the participant has successfully learned the course content. Passing scores can be pre-determined and the participant may need to retake the module until a passing score is achieved. Once a passing score is achieved, the user can move to the next module.

iLearn also includes an administrator function where participants can be assigned training courses, and the administrator can track and monitor the progress of each participant. Training courses can be grouped and specialized curriculums designed for user roles, even for stakeholders and external partners that may need to access the application. Enrollment can be done in bulk to minimize the amount of time spent enrolling participants. Reports are available to monitor course completion, test scores, and other participant information. A certificate of completion is issued to each participant upon course completion.

This training is specific in nature and courses will need to be developed specific to this project. Benefits include courses being used to onboard and train new users, and on a as needed basis. We would assist WVDMMV to maintain the first training modules as part of the project. More courses could be developed by WVDMMV users as needed and added to the curriculum later if desired.

Suggested courses would include, but are not limited to:

- Using the Customer Dashboard
- Learner Permit Processing
- Graduated License Processing
- Commercial License Processing
- Convictions
- Sanctions
- Reinstatement
- Medical Review
- Amending/Downgrading a Driver License
- Issuing ID cards – State issued Non-Driver, Employee ID, Bar Association ID
- Corrections
- AAMVA integrations
- Reports
- User Management

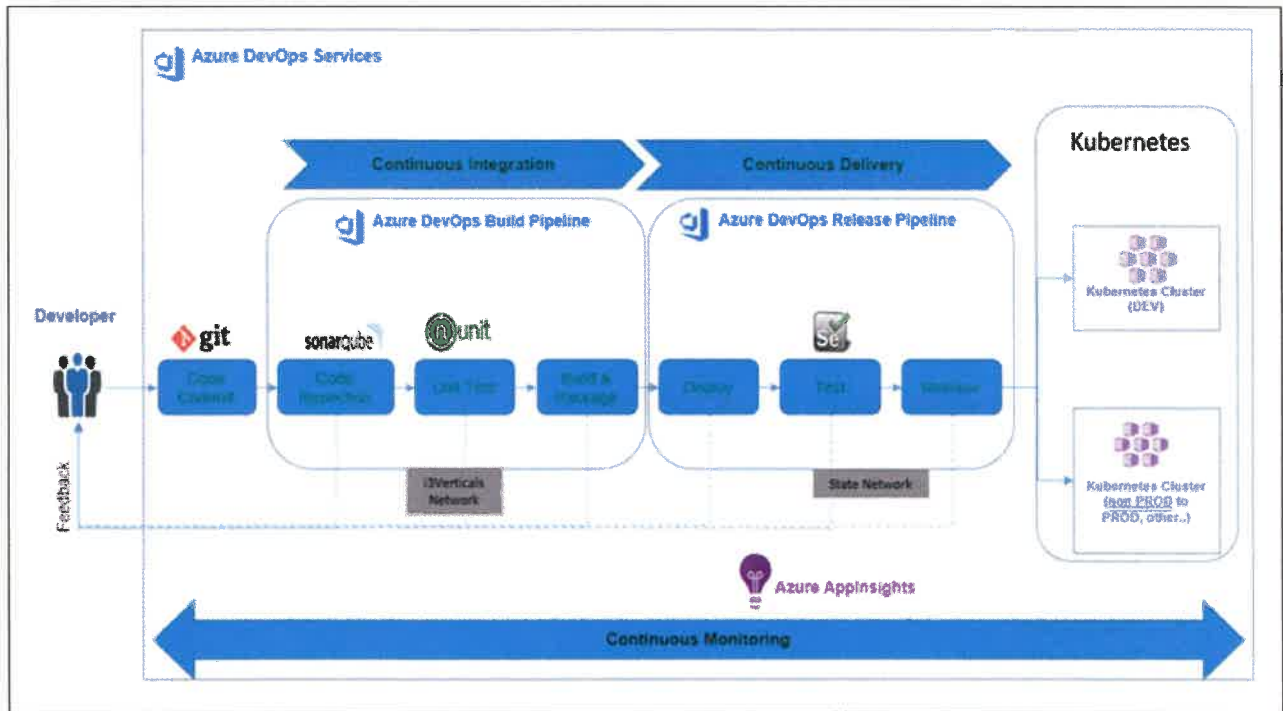
i3 Verticals will identify training topics throughout the life of the project based on WVDMMV needs and revise our training plan, if needed. The i3 Verticals Project Team will introduce this at the Initiation Phase as a discussion point for further input.

4.3.2.7 *The quality control of firmware and software verification process to ensure compatibility with all proposed system components.*

i3 Verticals Response:

We propose a single code base deployed in all environments, making sure the release is tested properly in all proposed environments.

On the following page is a diagram showing the Continuous Delivery Process for Multiple Environments:



4.3.2.8 Health check hardware/software status procedure and describe this process.

i3 Verticals Response:

Health and Performance monitoring is performed by hosting provider and/or 3rd party tools. Anything exceeding a defined threshold raises an alert which can notify either i3 Verticals or WVDMV personnel as desired. Escalations and auto-corrective actions can be leveraged.

4.3.2.9 Details outlining how the proposed solution can accommodate both expected and unexpected growth. This description should detail any costs that may be associated with such growth.

i3 Verticals Response:

i3VDLS will be deployed using containerization tooling. Vertical and/or Horizontal scaling can accommodate growth and/or demand which exceeds expectations. As a part of the support and maintenance of the solution, i3 Verticals will include upgrades relating to the growth of the system within each upgrade for WVDMV. The cost for this support is included in the costing sheet, Attachment A, provided with this proposal.

4.3.2.10 *Description of how the administration of access controls within the solution can be transferred to WVDMMV.*

i3 Verticals Response:

The Driver License Solution has a built-in RBAC (role-based access control) module for application access management. This module facilitates Role-based authorization to create and assign new roles and permissions. i3VDLS includes administration screens for Roles, Business functions and Permission management. Role access can be configured with desired business functions and only roles which have necessary access can perform assigned functions. WVDMMV will have the capability to create new roles and grant the required permission(s) to manage the application access control matrix. These users can be back office, partners/external agencies, or Front Desk Agents based on their job type.

4.3.2.11 *A detailed description of how the system can be used to support an electronic mobile identification solution that allows citizens to display their credentials on their phone.*

i3 Verticals Response:

i3 Verticals has a mobile application called Auto Assistant (www.getautoassistant.com) which currently provides e-copies of Vehicle Registrations and allows users to verify Auto Insurance. The mobile app is available for iPhone and Android devices and is available for free download to customers. We propose extending this application to display Driver and ID card credentials.

In our experience, mobile DL credentials are provided by card production vendors and generally included in their product suite. Displaying a driver or ID credential would require integration with the card production vendor in order to display the information in the same format as the physical credential. The actual DL card design is housed with the centralized card production vendor and due to security requirements, this design document is generally not shared with i3 Verticals nor is the design of the credential housed within the i3 Verticals system.

Auto Assistant also includes functionality for Registration renewal which includes payment processing functionality to allow customers to complete registration renewal via a mobile device. A notification feature is also included. This functionality could also be extended to include Driver License and ID card renewal if allowed by WVDMMV and provide notifications to customers.

i3 Verticals would work closely with the WVDMMV business and IT security teams as well as the card production vendor to ensure that mobile credentials are secure, and risk of fraudulent credential creation is mitigated.

4.3.2.12 *A recommended target system, environment, and infrastructure, proposal for the sizing of the target production environment, architecture overview, server sizing estimate and a list of third-party tools and utilities necessary to run the system.*

i3 Verticals Response:

Below, we have included what we believe is a reasonable quantity of servers required for this project, however, within the Initiation phase, i3 Verticals' Project Team will be able to identify if any further systems, environments, and infrastructure may be needed. Our proposal includes this bill of material within our costing for this project.

Service Category	Purchased From	Service type	Service name	Description
Security	Microsoft Azure	Microsoft Defender for Cloud	Microsoft Defender For Servers	Microsoft Defender for Cloud by Resource: 1 Plan 2 servers x 744 Hours
Security	Microsoft Azure	Microsoft Defender for Cloud	Microsoft Defender for SQL Server	Microsoft Defender for Cloud by Resource: 1 SQL Database servers on Azure,
Security	Microsoft Azure	Microsoft Defender for Cloud	Microsoft Defender for Containers	Microsoft Defender for Cloud by Resource: 1 Container vCores x 744 Hours,
Identity	Microsoft Azure	Azure Active Directory (Azure AD)	Azure Active Directory	Premium P1 - 30 users, Premium P2 - 0 users, Enterprise tier, User forest - 744 Hours, Resource forest - 744 Hours.
Compute	Microsoft Azure	Virtual Machines	Virtual Machine for (PROD, Non-PROD, Data Migration)	1 D4 v3 (4 vCPUs, 16 GB RAM) 1 month Windows (License included), OS Only; 1 managed disk – E15, 1,000 transaction units;
Compute	Microsoft Azure	Virtual Machines	Low Power VM (FTP, TESTING)	1 D2 v3 (2 vCPUs, 8 GB RAM) 1 month, Windows (License included), OS Only; 1 managed disk – E15, 100 transaction units;
Compute	Microsoft Azure	Azure Kubernetes Service (AKS)	Azure Kubernetes Service Windows	1 D8s v4 (8 vCPUs, 32 GB RAM) 1 month, Windows (License Included); 1 managed OS disk – P10, 1 clusters
Compute	Microsoft Azure	Azure Kubernetes Service (AKS)	Azure Kubernetes Linux	1 D8 v3 (8 vCPUs, 32 GB RAM) 1 month, Linux; 1 managed OS disk – E15, 1 cluster
Databases	Microsoft Azure	Azure Cache for Redis	Azure Cache for Redis Production	Premium tier; 1 Shard per Instance, 1 Additional Replica per Shard, 2 P2 instances,
Compute	Microsoft Azure	Virtual Machines	SQL Server	1 E8ads v5 (8 vCPUs, 64 GB RAM) 1 month, Windows (License included), SQL license;

Service Category	Purchased From	Service type	Service name	Description
				3 managed disks – E50, 100 transaction units;
Analytics	Microsoft Azure	Azure Data Factory	Azure Data Factory for Conversion	Azure Data Factory V2 Type, SQL Server Integration Services Service Type, 1 D8V3 Virtual Machine(s)
Networking	Microsoft Azure	Application Gateway	Application Gateway (1 per env)	Web Application Firewall V2 tier, 5 TB Data transfer
Networking	Microsoft Azure	Security	Azure Firewall	Premium tier, 1 Logical firewall units, 5 TB Data processed
Networking	Microsoft Azure	Security	Azure Firewall Manager	1 Parent Policies. "Policy 1" (Policy 1); 1 Firewall(s), 1 Region(s); 1 Child Policies;
Networking	Microsoft Azure	Security	VPN Gateway State, Celtic and P2S	VpnGw2 tier, 0 additional S2S tunnels (beyond included amount of 10), 0 additional P2S connections (beyond included amount of 10), 2 TB Data transfer
Networking	Microsoft Azure	Security	Azure DDOS Protection	Protection for 100 resources
Networking	Microsoft Azure	Security	Azure Bastion for Remote	1 TB Outbound Data Transfer
DevOps	Microsoft Azure	Security and Monitoring	Azure Monitor Log, alerts	Log analytics: 10 GB Daily logs ingested; Application Insights: 10 GB Daily logs ingested, 3 months Data retention, 0 Multi-step Web Tests; 100 resources monitored X 10 metrics time-series monitored per resource, 20 Log Alerts at 5 Minutes Frequency, 10 Additional events, 3 Additional emails, 2 Additional push notifications, 2 Additional web hooks (in millions)

Service Category	Purchased From	Service type	Service name	Description
Networking	Microsoft Azure	Network	Network Watcher	1000 GB Network Logs Collected, 0 Checks for Network Diagnostics, 100 Connection Metrics, 10 DNS or App Gateway Servers x 10 GB logs ingested, 15 GB logs collected for Traffic Analytics (Standard processing), 10 GB logs collected for Traffic Analytics (Accelerated processing)
Management and governance	Microsoft Azure	Backup and recovery	VM site recovery for each VM	0 Customer instances, 1 Azure instances
Storage	Microsoft Azure	Storage Accounts	Storage Account	Managed Disks, P40 Disk Type 1 Disks; Snapshot: 500 GB; 7,500 expected max IOPS, 250 expected max MB/s, 30 minutes per workday, 20 workdays; 1 Shared Disk(s) with 5 Total Additional Mount(s)
Security	Microsoft Azure	Key Vault	Key Vault	Vault: 1,000,000 operations, 1,000,000 advanced operations, 20 renewals, 0 protected keys, 0 advanced protected keys; Managed HSM Pools: 0 Standard B1 HSM Pool(s)
Networking	Microsoft Azure	Virtual Network	Virtual Network Cost	10 TB Outbound Data Transfer "NAT Gateway created; US Gov Virginia (Virtual Network 2):
Management and governance	Microsoft Azure	Backup and recovery	Azure VM Backup	Azure VMs, 1 Instance(s) x 200 GB, GRS Redundancy, 6 GB Average monthly snapshot usage data
Management and governance	Microsoft Azure	Backup and recovery	Azure SQL Server Backup	SQL Server on Azure VMs, 1,024 GB, GRS Redundancy,

Service Category	Purchased From	Service type	Service name	Description
Storage	Microsoft Azure	Azure Data Box	Azure Data 1 Box for the Conversion monthly	Data Box Disk, 2 Orders
Security	Microsoft Azure	Microsoft Sentinel	Microsoft Sentinel Security Analytics	Logs ingested - 500 GB Basic logs per day, 10 GB Analytics logs per day; Azure Monitor Retention - 3 months of Data Retention, 0 months of Data Archive; Azure Monitor Data Restore - 500 Basic log queries per day, 1000 GB data scanned per query, 2000 GB Data Restored, 0 days data restored; Azure Monitor Search Queries and Search Jobs – 0 queries per month, 0 GB data scanned per query of Basic Log Queries, 0 queries per month, 0 GB data scanned per query of Search Jobs
Networking	Microsoft Azure	Load Balancer	Internal Load Balancer 1 per env	Standard Tier: 25 Rules, 5 TB Data Processed
Networking	Microsoft Azure	Network	Bandwidth	Internet egress, 20000 GB outbound data transfer from US Gov Arizona routed via Microsoft Global Network
Integration	Microsoft Azure	Service Bus	Service Bus	Premium tier: 2 daily message units x 744 Hours
Compute	Microsoft Azure	Batch	Batch Servers	Cloud Services: 2 F4SV2 (4 Cores, 8 GB RAM); Virtual Machines: 1 D4DV4 (4 Cores, 16 GB RAM)
Analytics	Microsoft Azure	Azure Managed Grafana	Azure Grafana for Log Review	2 active users
Analytics	Microsoft Azure	Analytics	Power BI Embedded	2 node(s) x 744 Hours, Node type: A3, 4 Virtual Core(s), 10GB RAM, 601-1200 Peak renders/hour

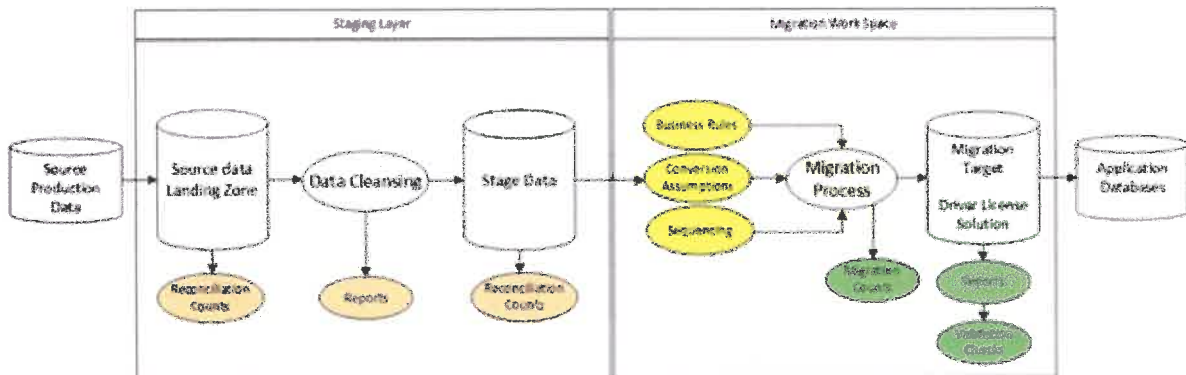
4.3.2.13 A proposed strategy for migrating data from the mainframe to the target database system with appropriate checkpoints.

i3 Verticals Response:

i3 Verticals will be following an iterative and repeatable process for migrating the data from legacy mainframe systems (DB2, VSAM, etc.) to Windows Server SQL Server databases.

High Level strategy is as follows:

1. Define overall scope of the data migration.
2. Identify Roles and Responsibilities of each team involved.
3. Obtain source data, data-dictionaries, schemas, and data volumes for legacy data. Identify critical data, relationships, and dependencies.
4. Review artifacts provided by the WVDMVDS team.
5. Schedule and facilitate recurring meetings to drive effective communication and collection of questions, concerns, and action items.
6. Working with WVDMVDS team, build an appropriate data-conversion environment consisting of the following schemas/databases:
 1. Source data Landing Zone Database:
 - a. Contains Raw Source data extracted from live legacy application databases for review and cleansing.
 2. Staging database (ETL Source):
 - a. Contains Cleansed Source data, ready for the migration process to load to load to the SQL Server target databases.
 3. Target database (ETL Target):
 - a. Contains Migrated data – Ready for reporting and review and eventually deployment with the application.
7. Create Initial data mapping. Review and discuss with WVDMVDS team database objects and elements. Determine the authoritative sources of data.



8. Create initial conversion assumptions, based on the business rules determined by Requirement Elicitation Process.
9. Multiple Migration Cycles drive the conversion process. This allows for improvement of data quality and updates to the conversion steps throughout the project.

These steps are completed for each identified migration cycle:

- a. Update data mapping as needed based on SME and Requirement Elicitation sessions.
 - b. Create / update migration scripts and processes as needed based on SME and Requirement Elicitation sessions. Refine transformation rules.
 - c. Obtain new Source data. Load Landing zone database.
 - d. Perform data quality checks and validation of source data.
 - e. Perform data cleansing. Produce Pre-Conversion Reports.
 - f. Publish to Staging. Load Staging database.
 - g. Reconcile counts between landing and staging databases.
 - h. Run Migration Processes steps.
 - i. Record Run Results (Records read, Records written, Error counts)
 - j. Reconcile counts between staging and Target databases.
 - k. Perform data integrity checks and validation.
 - l. Create post-conversion reports and provide them to Stakeholders.
 - m. Deploy converted data with the application for Application testing.
10. Document and Discuss Go-Live Migration Implementation Plan.
- a. Identify key resources.
 - b. Includes Reversal Strategy.
 - c. Check Point times and dates.

4.3.2.14 An overview of the vendor's security practices, how the solution uses NIST 800 best practices <https://csrc.nist.gov/publications>.

i3 Verticals Response:

Below is a high-level overview of our system security plan. During implementation, i3 Verticals will work with the WVDMV team to finalize and implement a mutually agreed security plan.

i3 Verticals' proposed solution comprises security controls derived from various regulatory requirements, standards, and industry best practices. The security practices in place to meet the logical and physical security requirements are detailed below:

- All application and system users will be provisioned in Active Directory and named users. Application and system service accounts will be configured for use without actual login privileges, thereby avoiding the need to have multiple users share mechanisms to grant access.
- Authentication and Authorization controls, combined with Encryption where possible (Data at rest and Data in motion), will be implemented to protect against unauthorized information disclosure. All Users will be authenticated using a State provided authentication solution, i.e., Microsoft Active Directory for all users of the MDT system, and the i3 Verticals COTS solution, which is the core component of the solution, provides role-based authorization where each user can be assigned a role based on their job function.
- All user access with privileges to modify data/software will be controlled via Azure Active Directory and will be combined with strong change management procedures. Where possible, all builds, and deployments will be automated to ensure that only authorized and approved software is moved to the production environment. Further data security controls such as Encryption, IP-based access to the database, security audits, and monitoring for DB activity will be implemented to prevent unauthorized access/modification to data. All privileged user actions will be audited and configured with Azure Sentinel to detect anomalies and unauthorized access attempts.

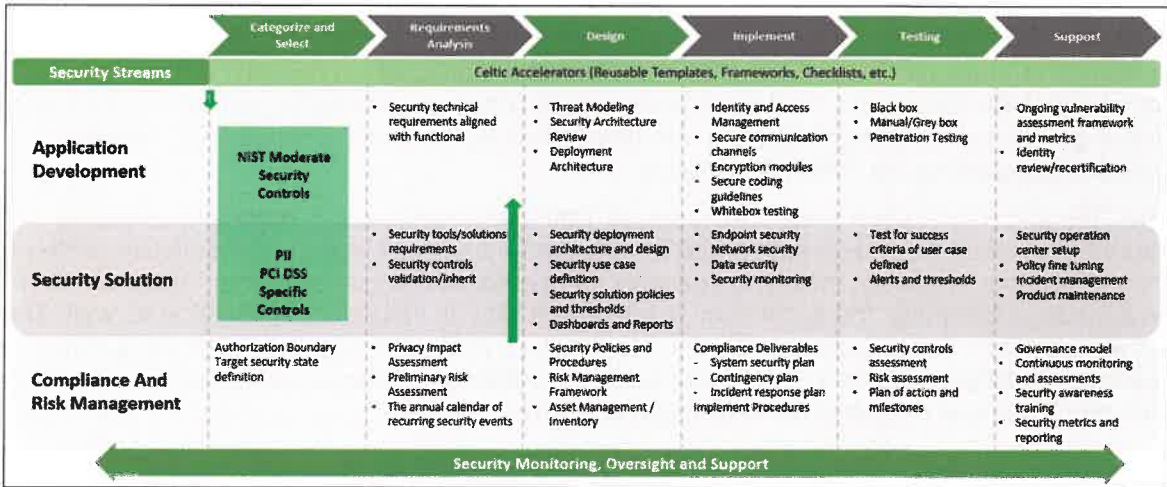
- The proposed solution will be deployed in a Highly Available (HA) configuration of the data/application. Transaction traffic will be load balanced to ensure traffic volume is distributed to all Pods of the HA configurations.
- Security Audit configurations will be enabled on all critical applications and supporting Infrastructure (Container services, Database, etc.); audit configurations will include:
 - User Authentication login/Log off, User Activity Log
 - Event Logging, Transaction logging
 - Access to sensitive Data or Files - transaction logs, confidential record logs (application logging and database triggers)
 - Modification/ Deletion of Sensitive data or files. - transaction logs
 - Addition/ Modification/deletion of application roles - user and roll management logging.
 - Addition/ Modification/deletion to application configuration files/parameters.
 - Application service or System restarts
 - The above configurations will help identify any anomalies and audit any changes. i3 Verticals has proposed to use Azure Sentinel to support continuous monitoring requirements.
- All sensitive application configuration files will be protected and will leverage Integrity monitoring solutions authorized by the state. Any system-specific configurations will be limited to specific roles and users.
- The proposed solution will be configured with session timeouts to prevent unauthorized system usage. The system will further use timestamps to be matched for any system-to-system communications; any difference in timestamps will lead to a request being denied. Any privileged emergency accounts created for administrators will be time bound only for the duration required, and permissions will be rolled back to the least privilege for their day-to-day operations.
- Users need to satisfy multiple conditions such as – successful Authentication, Authorization to access certain objects & permissions via RBAC, and in some instances, restricted access from specific IP addresses/subnets, etc., will be implemented before granting access to the application and systems. Multiple conditions are met before granting permissions to an object.
- As indicated in the overall application architecture, multiple layers of defense will be implemented to prevent a successful attack/unauthorized access – An in-depth defense strategy includes – network protection via firewalls/proxy solutions and gateways, OS security, application security controls, access security controls, data protection strategies, continuous monitoring for User and Application activity.
- Each time user is required to access sensitive systems or information, access control checks will be performed, which include validating for an active session, user roles and associated privileges, access location, and in some cases, access restricted to business hours.
- Secure coding practices and validated libraries will be re-used for any development involved. i3 Verticals will adopt secure coding practices from OWASP and SANS and adopt secure libraries in the .NET Security framework.
- If any vulnerabilities/risks are identified for critical components which can compromise the system, appropriate remediation measures or compensating controls will be implemented to protect the system. i3 Verticals has proposed various vulnerability assessment tools such as Azure Defender for Infrastructure Vulnerability Assessment and Container Vulnerability Assessment. i3 Verticals will conduct periodic assessments to ensure known vulnerabilities are identified, and remediation steps are implemented.

For information exchange between different systems and external systems/interfaces – secure channels will be used, such as HTTPS, SFTP, Azure ExpressRoute, etc., where end-to-end channels are encrypted. If any data file exchange is involved, files will be encrypted where supported using FIPS-compliant encryption modules to support confidentiality requirements. Application and database will support fail-safe configurations where the system rolls back any uncommitted changes when the system is unable to complete its action or task before terminating to protect data Integrity. In case of any system failure, the application and underlying infrastructure will be configured such that any sensitive data is not accessible during system failures. Regular backups will be taken to ensure data/system can be restored to the last known good configuration. All critical system components will be configured to support high availability for multiple scenarios – single component failure, site failure, and DR scenarios.

NIST 800 Series best practices

i3 Verticals will comply with the Security and Privacy mandates defined in NIST 800 Series best practices for the proposed solution. Many Security controls overlap between various compliance requirements, and i3 Verticals proposes to develop a common security controls catalog that can be inherited while implementing or validating a regulation/standard-specific security control.

i3 Verticals will work with State authorized security and privacy officer to develop a detailed Security Plan, conduct a privacy impact analysis, and perform risk assessments to ensure compliance requirements are addressed throughout the project's lifecycle. The following diagram provides i3 Verticals' approach to implementing security controls and shows deliverables produced at various stages of the WVDMV program:



The approach defined above is indicative and will be enhanced/modified based on findings during the Initiation phase.

4.3.2.15 *A description of the vendor's approach to designing, developing, and testing a solution of similar size and scope.*

i3 Verticals Response:

i3 Verticals experience comes from the acquisition of BIS in February of 2021 and bringing experience in providing and tailoring the solution for TN DOR. Our experience with Tennessee provided the i3 Verticals project team with knowledge of TN DOR Vehicle Title and Registration System (VTRS) processes. In 2022 we signed a new contract with the State of TN with the agreement to install our latest Inventory 2.0, Electronic Insurance Verification 2.0, and latest State Title and Registration System (STAR) in 2023.

Through this project, the team was able to assist the TN DOR with business process improvements, increasing efficiency and reduced redundancies, along with the rollout of a modern, new, faster, more effective solution. More from how the State of Tennessee and this replacement above is detailed in the article we've included with this proposal.

i3 Verticals modernized the State of Tennessee Vehicle & Title Registration System from a mainframe system to an API driven system in 23 months. This project went live in 2017, one month ahead of our proposed Go Live Date. The solution, hosted on the State's datacenter, could be hosted on a state's public or private cloud or via our Azure cloud hosting.

i3 Verticals is currently implementing a full Title, Registration and Driver License Solution including the full suite of Driver License Functions including issuing Graduated Licenses, Standard Operating License, CDL, and non-Driver Identification Cards in the Province of Manitoba, Canada. The system includes restrictions and enhancements, integrating with a separate Card Production vendor that produces physical card credentials. Manitoba also chose to include i3 Verticals' Driver Fitness (Driver Control) module, which consists of Convictions, Sanctions, Reinstatements, Medical Review, Driver Safety assessments and Administrative Hearings. Canada also participates in the Interprovincial Record Exchange (IRE) which includes integrations like AAMVA in the US.

The Title and Registration system includes all Title and Registration functionality including establishing ownership, registration and issuing credentials, calculating, and collecting sales tax, managing plate inventory, including specialty and personalized license plates. Because MPI is an insurance company, the application is integrated with an insurance application as well. The implementation uses a Customer Centric Model which includes integration with a separate customer database and other third-party systems, creating a common customer view which includes Titles and Registration, Insurance, and Driver License.

The project began in January 2020 and has included multiple enhancements. Driver License is the final planned release targeted for 2026.

4.3.2.16 *A description of the vendor's approach to training a large number of users at multiple locations across the state.*

i3 Verticals Response:

i3 Verticals has traditionally used a blended training approach for training a large number of users. Online forms of training delivery are used for low complexity, low risk items when many trainees are geographically dispersed over a large area.

Classroom training is used for high complexity/high risk tasks with a concentrated group of users. This training may require i3 Verticals training users to travel to a location where the training is being conducted, based on the needs of WVDMV personnel.

Virtual Instructor Led Training is an alternative to Face-to-Face classroom training in which the instructor is physically in the room with participants. These sessions can also be conducted in a virtual environment which includes screensharing and whiteboarding capabilities such as Microsoft Teams, Zoom, GoToMeeting, etc. with the instructor in a different location and leading session virtually. One benefit to Virtual Instructor Led Training is that the training can be recorded and saved for use later, such as to onboard new WVDMV users.

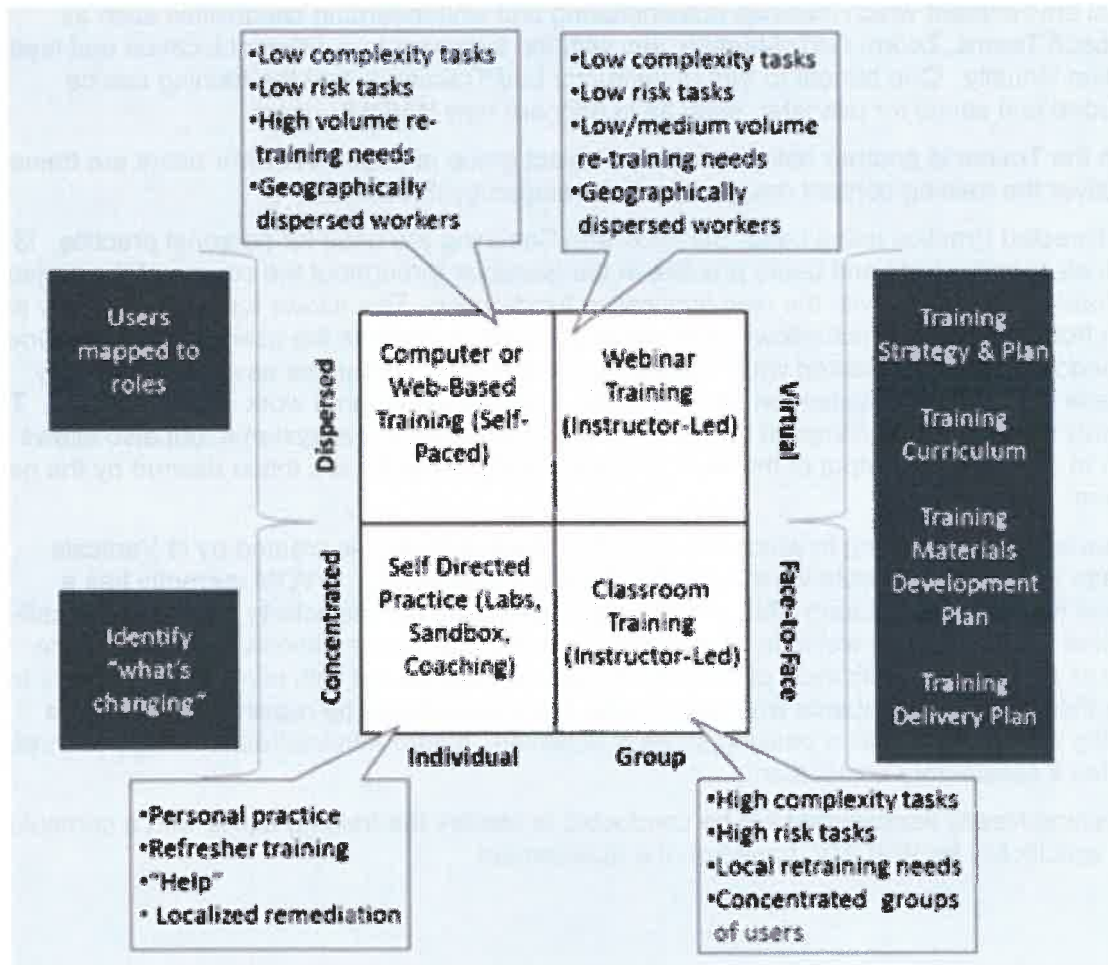
Train the Trainer is another option in which a select group of expert WVDMV users are trained to deliver the training content designed and developed by i3 Verticals.

Self-Directed Practice using Labs, Sandbox and Coaching are used for personal practice. i3 Verticals recommends end users practice in the Sandbox throughout the course of the project to familiarize themselves with the new application functionality. This allows for feedback early and often from end users which allows changes to be made to improve the user experience. One methodology that has worked well in previous projects is to have users save work that they process in the Legacy system on one day, then reprocess that same work in the Sandbox. This not only allows them to compare the difference in processing in the systems, but also allows them to compare the output of the work to ensure that the results are those desired by the new system.

Computer Based Training in which pre-recorded training content is created by i3 Verticals experts and made available via a Learning Management system. WVDM currently has a license for i3 Verticals iLearn KMS which can be leveraged for this activity as well as for self-directed Labs. Training would include written content, videos, simulations, and can include quizzes and a final certification of completion. Quizzes can be set with minimum standards to pass the course. Participants who do not pass the course would be required to repeat the training until such time as a passing score is achieved. iLearn administrators assign courses and track satisfactory completion.

A Training Needs Assessment will be conducted to identify the training topics with a curriculum built specifically for WVDMV, based on the assessment.

The diagram below outlines this approach.



Training for constituents can include written materials such as FAQ’s and Instructions, as well as recorded videos made available through the WDMV website. Subsets of the employee training can be repurposed for constituent training as well.

A detailed training plan which includes curriculum, courses, and delivery methodology for each training group shall be provided when requirements and application changes are finalized and confirmed following requirement sessions as a deliverable for this project.

4.3.2.17 A description of the vendor’s planned approach to iteration testing or the equivalent.

i3 Verticals Response:

As stated above, in the response for [4.2.2.20](#), our response covers our Quality Assurance Plan. Iteration testing is continuous and sequential, with a new iteration starting immediately following the last. i3 Verticals’ standard testing includes both the i3 Verticals Project Team and the client’s Project Team, with fixed duration testing during which we test multiple environments. The testing happens in planned intervals. The iterations continuously explore, build, test, and deliver

solutions for any issues found within the test environment. Typically, the i3 Verticals team and the WVDMMV Project Team synchronize the same cadence for all testing.

4.3.2.18 *A description of the vendor's planned approach to conducting structured testing with AAMVA.*

i3 Verticals Response:

i3 Verticals will follow standard AAMVA requirements for structured testing as described below:

The first step will be to determine when structured testing will need to be completed per the project plan. i3 Verticals will work with WVDMMV to connect with AAMVA and determine the amount of lead time AAMVA will require for testing and when the WVDMMV can be added to the AAMVA testing schedule.

When structured testing is ready to begin, a project kickoff meeting with AAMVA will be scheduled to discuss how testing will be completed. This phase will be focused on creating a Structured Testing Plan, setting up necessary environments and testing connectivity to AAMVA test sites. AAMVA will provide the required forms for set up to be completed along with questionnaires. Connectivity forms for web service requests and SFTP access will be completed, and connectivity to the Cert system will be tested. Mapping documentation is also created to convert jurisdiction codes to AAMVA codes.

Development and internal testing will begin after completing the questionnaire and connectivity testing. The AAMVA Structured Testing plan is executed in two parts: the initial load of data and online testing.

Initial load process:

Once mapping has been completed, an export is created and validated against AAMVA's formatting rules for the initial load file. Detailed test cases are created after completing the format testing, followed by regression test cases. These test cases are set up in an environment that only contains records from the test case plan. Exports are generated and validated by AAMVA.

Initial load files are generated from production data when all test cases have passed. These files are then sent to AAMVA for processing. AAMVA creates multiple files for each record that needs to be added, edited, or deleted from their system. Those files are analyzed for any corrections that need to be made and then returned to AAMVA for processing to sync records between the state and AAMVA. The initial load process is completed before going live, and catch-up files are used at go-live to sync the systems again. The catch-up files are the same process as the initial load but are limited to records that have changed between the initial load and go-live.

Online structured testing:

Online testing is done in 3 parts: Readiness testing, Scenario testing, and Regression testing.

Readiness testing is used to confirm that the state can send and receive requests for each endpoint. Test scenarios are defined for each request and update that will be sent to or received from AAMVA.

During Scenario Testing, driver details for each test are entered in the structured scenario test case plan. After each scenario has been tested and approved, a new test case plan is created for regression testing. Once each regression test case has been approved by AAMVA, a go-live date can be scheduled.

Any application changes or modifications that must be made to successfully pass all AAMVA testing will be identified during the testing process and developed accordingly. The scenario will be retested until it passes.

Historically, AAMVA testing for Driver License requires a minimum of six months to complete due to the number of scenarios to be tested. AAMVA testing schedules generally fill up quickly, so it is critical to have the testing window agreed upon and scheduled well in advance. Additionally, AAMVA generally restricts the number of tries to pass Structured Testing and if unsuccessful during the first go around, a new test window must be scheduled which can cause delays in project go-live. It's critical to have sufficient resources available to complete this testing and ensure the testing is successful the first time.

4.3.2.19 *A description of the vendor's planned approach to Integration, System, Performance, and User Acceptance Testing.*

i3 Verticals Response:

Integration Testing includes complete evaluation of all integrations from third-party and internal customer software units and databases that comprise the entire system.

System Testing begins as soon as the i3 Verticals Project Test Manager determines third-party connections are ready. The testing then demonstrates to the team correct integration facets for each connection to the system gateway. Formal error recording and tracking starts at the System Test phase and is distributed throughout the entire Project Team. Any errors are then corrected to the application, where required, in accordance with AAMVA.

Performance Testing and Stress Testing is engaged to ensure that the solution meets the requirements identified by WVDMV and AAMVA. Any errors are reported, then corrected by the team.

The user acceptance test scripts are cross referenced to the RTM to ensure all requirements are tested and validated by the system test team. i3 Verticals and WVDMV generated test scripts will be used as a part of acceptance testing. WVDMV may write a set of their own test scripts for system and acceptance testing.

i3 Verticals believes customer testing is the best way to ensure all systems meet the needs of WVDMV processes. Our Implementation Plan for this project provides early testing to users, as we have found this to benefit our clients. We create a sandbox environment where WVDMV can validate the module and provide early feedback, which provides users experience utilizing the system, provides input and enhancements during the project, rather than after, and ensures we have participation of WVDMV, creating a solution meeting all needs of the entire DMV Department. Our Project Team will request different users who have various roles and responsibilities for testing, to accommodate this. i3 Verticals likes to provide these customer testing environments early and then throughout the project, ensuring complete WVDMV input.

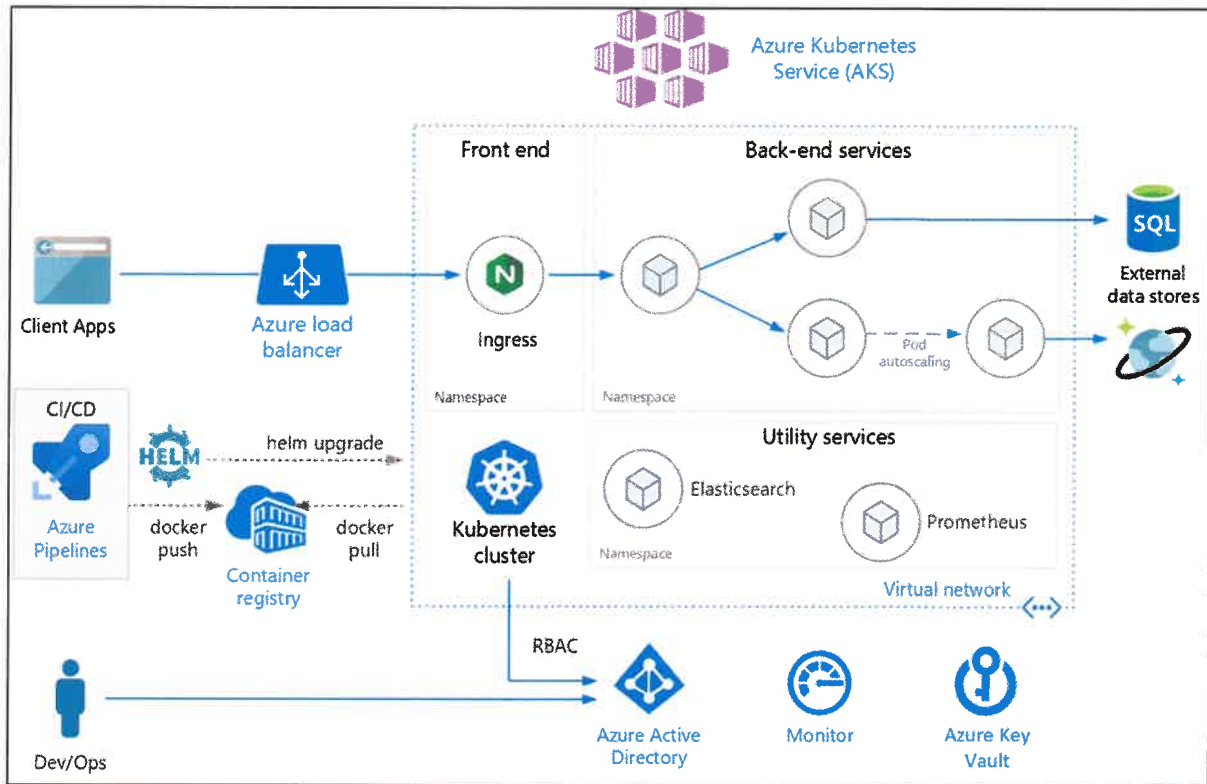
In addition to an internal sandbox, i3 Verticals can provide a sandbox for select constituent user groups (outside of WVDMV). These would be your customers including those who may frequently utilize the system, to provide improve the solution from their perspective, ensuring that WVDMV has solid constituent input for previously trouble areas (if any). Again, catching slight enhancements, getting customers buy in, and ensuring a complete solution prior to go-live.

4.3.2.20 A network diagram and network description.

i3 Verticals Response:

The i3 Verticals solution Architect and Infrastructure Lead will work with the WVDMV team relating to the required infrastructure sizing and design, setting up the environments that include network topology, subnets, and network inventory, machine interconnects, compute and storage resource, backup and disaster recovery environment specification, physical and logical diagrams.

The following is a sample of Azure Cloud architecture which represents multiple, extensible pods for customer communication, continuous delivery, security, and data tiers.



4.3.2.21 A description of activities performed, resources involved, and artifacts used for data conversion, migration, and synchronization requirements for this project.

i3 Verticals Response:

i3 Verticals has included, with this proposal, a conversion plan for the WVDMV, as [Appendix 3](#). This plan includes the activities performed, the resources involved for both i3 Verticals and WVDMV and the artifacts proposed to be used for the data conversion. This document will be presented and modified to the needs of WVDMV following contract with respect to the project timeline and milestones.

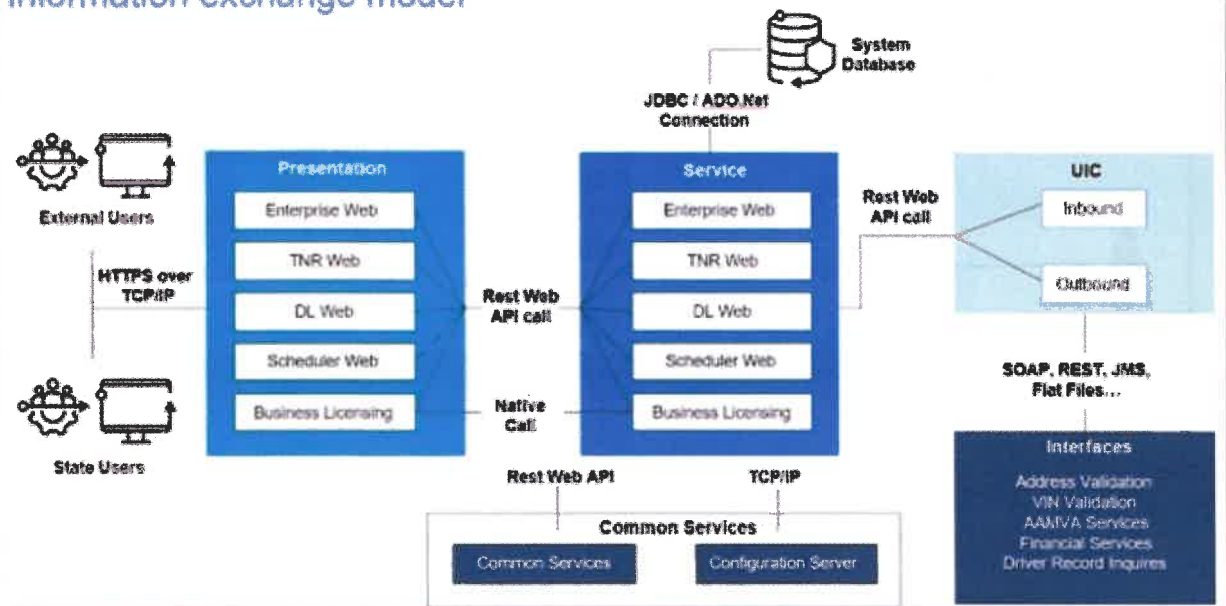
4.3.2.22 A description of how data will be synced with AAMVA.

i3 Verticals Response:

i3 Verticals uses a Universal Interface Controller (UIC) to communicate with any external system, including AAMVA. The UIC can make both synchronous and asynchronous RestAPI calls.

Some of the AAMVA API calls are made synchronously during a transaction/ workflow (e.g., SSOLV) where the system calls the AAMVA API and waits for the result. In some cases, based on business rules, the system allows the user to continue with the transaction up to a certain stage before stopping him/ her from continuing any further without the result of the API call made.

Information exchange model



In the DMV Architecture, the i3 Verticals Universal Interface Controller (UIC) is a layer that is scalable and can be clustered and easily managed from outside the core solution. It is easily deployed in the DMZ or outside the firewall to provide secure communication with external data sources. It supports data in the form of SOAP, RESTful service calls. The i3 Verticals UIC

makes exchanging authentication and authorization data easy with security assertions with support for advanced SAML, OAuth, and XACML.

4.3.2.23 *A detailed description of its proposed backup and disaster recovery strategy for the West Virginia Drivers System in detail.*

i3 Verticals Response:

The i3 Verticals Solution Architect and Infrastructure Lead will work with the WVDMV team to complete infrastructure sizing and design, setting up the environments that include network topology, subnets, network inventory, machine interconnects, compute and storage resources, backup and disaster recovery environment specification, physical and logical diagrams.

i3 Verticals provides an Active - Passive Disaster Recovery (DR) solution, including an active primary site and a passive standby site. The DR includes the following features:

1. The solution will leverage the Primary region (US Central) and Disaster Recovery region (US East) which are paired with Azure regions. While the primary production site is running and active, the second region will serve as a standby site, in passive mode.
2. Storage is configured for Read-Access Geo-Zone redundant storage (RA-GZRS) which are asynchronous.
3. The proposed system will leverage auto-failover groups with automatic failover policy to handle disaster recovery and regional outages. In addition, auto-failover groups provide read-write and read-only listener endpoints that remain unchanged during geo-failovers. Whether you use manual or automatic failover activation, a geo-failover switches all secondary databases in the group to the primary role. After the geo-failover is completed, the DNS record is automatically updated to redirect the endpoints to the new region.
4. Storage replication technology is used to copy the middle tier file systems and other data from the production site's storage account to the DR region's storage account.
5. After storage replication is enabled, application deployment, configuration, metadata, data, and product binary information are replicated from the production site to the standby site.
6. Incremental replications if needed will be scheduled at a specified interval of one hour.
7. User requests are initially routed to the production site.
8. In the event of a failure or planned outage of the production site, the following steps will be performed to enable the standby site to assume the production role in the topology:
 - Stop the replication from the production site to the standby site (when a failure occurs, replication may have already been stopped due to the failure).
 - SQL Managed instances read/write listener automatically failovers to the secondary region's instance
 - Failover the storage account to the secondary region, DNS update if needed has to be done to point to the secondary region.
 - Azure Front door will automatically route the traffic to the secondary region when the primary region fails. At this point, the standby site has assumed the production role. This will be invoked only when there is a disaster of more than 48 Hours.

Additional DR details are available and can be shared with WVDMV following contract.

4.4 Mandatory Qualification/Experience Requirements – *The following mandatory qualification/experience requirements must be met by the Vendor as a part of its submitted proposal. Vendor should describe how it meets the mandatory requirements and include any areas where it exceeds the mandatory requirements. Failure to comply with mandatory requirements will lead to disqualification, but areas where the mandatory requirements are exceeded will be included in technical scores where appropriate. The mandatory qualifications/experience requirements are listed below.*

4.4.1 *The vendor shall be an authorized reseller, owner, or explicitly authorized to transfer intellectual property, with documented experience supporting the ability to sell, service and/or support the hardware and/or software proposed in this RFP.*

i3 Verticals Response:

Celtic Cross Holdings, Inc. a wholly-owned subsidiary of i3 Verticals, LLC is the explicit owner of the i3 Verticals Driver License Software. All i3 Verticals software is programmed in-house and we explicitly own the software. We are authorized to sell and maintain our Driver License solution Drives to the State of West Virginia.

4.4.2 *The vendor shall identify any third-party relationships that will be formed to provide equipment, software and services outlined in the RFP.*

i3 Verticals Response:

i3 Verticals is the prime source provider for the proposed solution, any service, and support. We will also be utilizing Microsoft as a third-party contractor for cloud hosting to complete this project, utilizing Azure. Should any additional third-party contractors be identified as needed for this project, i3 Verticals will provide WVDMMV details in writing for approval.

4.4.3 *The vendor shall identify the team members that will be assigned to complete this project. The vendor shall notify the WVDMMV of any substitutions to the personnel that will be providing services under this RFP. WVDMMV reserves the right to approve all personnel that will be working on this project.*

i3 Verticals Response:

Should there be any substitutions to personnel or changes to the team specified above, i3 Verticals will submit the proposed employees and all related information to WVDMMV for approval.

Resumes and personnel information are included with this proposal as [Appendix 6](#).

4.4.4 *The vendor must provide documentation of at least five years' experience across multiple government agencies associated with motor vehicle, driver licensing, and identity administration. At least one project must have been completed within the last five years.*

i3 Verticals Response:

For over twenty (20) years, i3 Verticals has been optimizing our client's experience with motor carrier and motor vehicle solutions for more than twenty (20) state jurisdictions across the United States and Canada. i3 Verticals solutions provide unequalled customer centric experiences for both agency users and their DMV licensees.



i3 Verticals experience comes from this solution being provided, specifically configured for Tennessee DMV. Our experience with Tennessee provided the i3 Verticals project team with knowledge of TN DOR Vehicle Title and Registration System (VTRS) processes. In 2022 we signed a new contract with the State of TN with the agreement to install our latest Inventory 2.0, Electronic Insurance Verification 2.0, and latest State Title and Registration System (STAR) in 2023.

Through this project, the team was able to assist the TN DOR with business process improvements, increasing efficiency and redundancies, along with the rollout of a modern, new, faster, more effective solution. More from how the State of Tennessee and this replacement is above in the article we've included with this proposal.

i3 Verticals modernized the State of Tennessee Vehicle & Title Registration System from a mainframe system to an API driven system in 23 months. This project went live in 2017, one month ahead of our proposed Go Live Date. The solution, hosted on the State's datacenter, could be hosted on a state's public or private cloud or via our Azure cloud hosting.

i3 Verticals introduced and went live with our Motor Vehicle Data Services (MVDS) system in 2019 and the Electronic Insurance Verification System in 2016.

Manitoba Public Insurance (MPI) – i3 Verticals is currently implementing a full Title, Registration and Driver License Solution including the full suite of Driver License Functions including issuing Graduated Licenses, Standard Operating License, CDL, and non-Driver Identification Cards. The system includes restrictions and enhancements, integrating with a separate Card Production vendor that produces physical card credentials. Manitoba also chose to include i3 Verticals' Driver Fitness (Driver Control) module, which consists of Convictions, Sanctions, Reinstatements, Medical Review, Driver Safety assessments and Administrative Hearings. Canada also participates in the Interprovincial Record Exchange (IRE) which includes integrations similar to AAMVA in the US.

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The project began in January 2020 and has included multiple enhancements. Driver License is the final planned release targeted for 2026.

Indiana – in 2021 we were awarded the iPRIME, Integrated Plate Registration Inventory Management E-suite. We went live with this system in January 2022. The system is hosted on our Amazon (AWS) cloud. This solution interfaces with the Secretary of State (SOS), Bureau of Motor Vehicles (BMV), and the Department of Revenue (DOR) to produce over 7 million vehicle registrations and 3 million license plates which directly ship to customers.

i3 Verticals will assist in identifying antiquated processes and workarounds to accommodate the legacy systems, defining the root cause, and finding resolutions in line with the new i3VDLS system. WVDVMV will enjoy less risk and less waste, utilizing the time found to concentrate on furthering future business or other improvements. Like TN and their new solution, i3 Verticals will partner with the WVDVMV, walking with the WV team throughout the full scope of the implementation, identifying ways to ensure the solution rollout is effective specifically for all WVDVMV internal and external customers.

Appendices

- Appendix 1 – RFP Addenda
- Appendix 2 – RFP Signed Forms
- Appendix 3 – i3 Verticals Certificate of Insurance
- Appendix 4 – WMDMV i3VDLS Data Conversion Plan
- Appendix 5 – WVDMV Quality Assurance Plan
- Appendix 6 – TN i3 Verticals (Legacy BIS) article
- Appendix 7 – WVDMV Staffing Plan
- Appendix 8 – WVDMV Project Plan
- Appendix 9 – Change Management Control
- Appendix 10 – WVDMV Risk Management Plan
- Appendix 11 – i3 Verticals Sample Service Level Agreement
- Appendix 12 – Reference Letters & Brochures

Appendix 1 – WV RFP Addenda



Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Request for Proposals

Proc Folder: 1222710			Reason for Modification: Addendum No. 10
Doc Description: RFP to Modernize the DMV Driver System			
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2024-02-21	2024-03-01 13:30	CRFP 0802 DMV2400000002	11

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Customer Code: VS0000005239

Vendor Name : Celtic Cross Holdings, Inc., an i3 Verticals Company

Address : 40 Burton Hills Blvd., Suite 415

Street :

City : Nashville

State : Tennessee **Country :** USA **Zip :** 37215

Principal Contact : Stoney Hale

Vendor Contact Phone: (423) 773-2566 **Extension:**

FOR INFORMATION CONTACT THE BUYER
 David H Pauline
 304-558-0067
 david.h.pauline@wv.gov

Crystal Bell is the legal authorized signatory for Celtic Cross Holdings, Inc. at i3 Verticals, LLC

Vendor Signature X *CBell* **FEIN#** 710927550 **DATE** March 1, 2024

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

Addendum No. 10

To respond to questions regarding Addendum 9, see attached

Bid opening remains March 1, 2024, at 1:30 pm., est.

No other changes.

***** ONLINE BID/RESPONSES ARE PROHIBITED *****

INVOICE TO	SHIP TO
DIVISION OF MOTOR VEHICLES 5707 MACCORKLE AVE. S.E., SUITE 200 CHARLESTON WV 25304 US	DIVISION OF MOTOR VEHICLES 5707 MACCORKLE AVE S.E. SUITE 50 CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	DMV Driver System Development	0.00000	EA		

Item Code	Manufacturer	Specification	Model #
43230000			

Extended Description:

Vendors MUST fill out Cost Sheet included as Exhibit A.

****ONLINE SUBMISSIONS OF REQUESTS FOR PROPOSAL ARE PROHIBITED****

See attached instructions for requirements for responding.

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Vendor Technical Questions Due By 11:00 am., est.	2023-12-06
2	Second Round of Vendor Technical Questions Due By 2:00 pm.	2024-01-22

SOLICITATION NUMBER: CRFP DMV2400000002
Addendum Number: 10

The purpose of this addendum is to modify the solicitation identified as (“DMV240000002”) to reflect the change(s) identified and described below.

Applicable Addendum Category:

- Modify bid opening date and time.
- Modify specifications of product or service being sought.
- Attachment of vendor questions and responses
- Attachment of pre-bid sign-in sheet
- Correction of error
- Other

Description of Modification to Solicitation:

To respond to questions regarding Addendum 9, see attached.

Bid opening remains March 3, 2024, at 1:30 pm., est.

No other changes.

******* ONLINE BID/RESPONSES ARE PROHIBITED *******

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

CRFP DMT24*02 Modernize the DMV Driver System

Q1. Section 4.1, Driver Services, there is mention of processing 1.2 million in transactions per year. Is WV interested in payment processing? If so, can Drivers Services provide the current fee structure by cash, ACH, and credit card, and whether it is passed on to the customer or paid by the State?

A1. WVDMMV is not seeking a payment processing solution as part of the Driver System Modernization.

Q2. Is data allowed to leave the WV state environment for the purposes of data-migration? Must all data-migration activities be done within the state network?

A2. There is no prohibition to WVDMMV data leaving the State's network for migration purposes.

Q3. Will the WVDMMVDS team be profiling and correcting any data before it is provided as the migration source for the new solution?

A3. WVDMMV is aware of naming convention issues within the current database. The vendor should propose a solution as part of their technical response to the RFP, Sections 4.2.2.4 and 4.2.2.5.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DMV2400000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

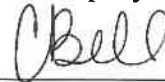
(Check the box next to each addendum received)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input checked="" type="checkbox"/> Addendum No. 6 |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input checked="" type="checkbox"/> Addendum No. 7 |
| <input checked="" type="checkbox"/> Addendum No. 3 | <input checked="" type="checkbox"/> Addendum No. 8 |
| <input checked="" type="checkbox"/> Addendum No. 4 | <input checked="" type="checkbox"/> Addendum No. 9 |
| <input checked="" type="checkbox"/> Addendum No. 5 | <input checked="" type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

i3 Verticals, LLC.

Company



Authorized Signature

March 1, 2024

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

Appendix 2 – RFP Signed Forms

REQUEST FOR PROPOSAL

West Virginia Division of Motor Vehicles Driver System Modernization

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Celtic Cross Holdings, Inc. an i3 Verticals Company

(Company)

Crystal Bell, President of Enterprise Solutions

CBell

(Representative Name, Title)

(262) 498-6513 / (877) 684-8985

(Contact Phone/Fax Number)

March 1, 2024

(Date)

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Stoney Hale, Executive VP of Transportation

(Address) 40 Burton Hills Blvd., Suite 415 Nashville, TN 37215

(Phone Number) / (Fax Number) (423) 773-2566 / No Fax Number Available

(email address) shale@i3verticals.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Celtic Cross Holdings, Inc. a subsidiary of i3 Verticals, LLC.

(Company) _____

CBell

(Signature of Authorized Representative) _____

Crystal Bell, President Enterprise Solutions 12/13/2023

(Printed Name and Title of Authorized Representative) (Date) _____

(262) 498-6513 Fax Number not available

(Phone Number) (Fax Number) _____

crystal.bell@i3verticals.com

(Email Address) _____



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Motor Vehicles

P.O. Box 17200
Charleston, West Virginia 25317 • 304.926.0708
TDD 1-800-742-6991 • 1-800-642-9066

CONFIDENTIALITY AGREEMENT

I have read and understood the West Virginia Division of Motor Vehicles (WVDMV) Privacy Program and Confidentiality Policies. I understand that my duties require me to access Personally Identifiable Information or PII and information provided by the Social Security Administration. Personally Identifiable Information includes any information that can identify a person including, but not limited to the name, address, social security number, driver's license number, date of birth, photograph, computerized image, telephone number, medical information or disability information of any person or organization found in WVDMV records. I hereby agree that I will access PII and information provided by the Social Security Administration only as required to perform my employment duties. I further agree to abide by the Privacy Laws and Policies found in the WVDMV Privacy Program. For example, I understand that it is my responsibility to secure the PII and information provided by the Social Security Administration that I have access to and to ensure that it is not accessed by unauthorized individuals.

If I become aware of any accidental or intentional breaches of the Privacy laws, Privacy policies, Privacy procedures, or release of information provided by the Social Security Administration, I will immediately notify my employer and the WVDMV's Privacy Officer at 304.926.0708, as well as the West Virginia Office of Technology at 1-877-558-9966 and the Social Security Administration within 24 hours at 1-877-697-4889. I understand that failure to comply with the Privacy Policies and procedures may subject me to criminal prosecution, termination of my access to WVDMV records and civil liabilities.

I have viewed the PowerPoint presentation of the WVDMV Privacy Program and Confidentiality Policies and understand its requirements. I have attached a copy of one of the following: State issued driver's license or non-driver identification.

Employee's Agency/Company Name

XXX-XX-
Social Security Number (last 4 digits)

Employee's Full Printed Name

Employee's Mainframe # Number

Employee's Signature

Date

*Each i3 Verticals Employee on the Project Team shall provide WVDMV a signed Confidentiality Agreement following contract.

Appendix 3 – i3 Verticals Certificate of Insurance



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 12/05/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement.

PRODUCER: Willis Towers Watson Southeast, Inc. CONTACT NAME: Willis Towers Watson Certificate Center. INSURED: Celtic Cross Holdings, Inc. INSURER(S) AFFORDING COVERAGE: National Fire Insurance Company of Hartford, Continental Insurance Company.

COVERAGES CERTIFICATE NUMBER: W31301850 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES.

Table with columns: INSR LTR, TYPE OF INSURANCE, ADDL INSD, SUBR WVD, POLICY NUMBER, POLICY EFF (MM/DD/YYYY), POLICY EXP (MM/DD/YYYY), LIMITS. Includes Commercial General Liability, Automobile Liability, Umbrella Liab, and Workers Compensation.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER CANCELLATION

State of West Virginia Purchasing Division 2019 Washington St E Charleston, WV 25305. SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

Appendix 4 – WVDMV i3VDLS Data Conversion Plan



WVDMV DRIVER LICENSE Proposed Data Conversion Plan for RFP 0802 DMV2400000002

Author: i3 Verticals, LLC.

Creation Date: November 22, 2023

Last Updated: February 27, 2024

Document Ref: WVDMV Proposed Driver License Data Conversion Plan

WV Solicitation Number: RFP 0802 DMV2400000002

Version: 0.1

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1. Glossary of Terms/Abbreviations

The following are terms or abbreviations that are used within this document.

Acronym	Definition
WVDMV	West Virginia Department of Motor Vehicles
DL	Driver Licensing
DI	Driver Improvement
CMVS	i3 Verticals Motor Vehicle Solution
COTS	Commercial-off-the-shelf
PMP	Project Management Plan
RTM	Requirements Traceability Matrix
SLA	Service Level Agreement
ETL	Extract Transform and Load
TBD	To Be Determined

Table 1 Acronyms and Definitions

2. Introduction

West Virginia DMV is modernizing the existing Driver License Solution in order to eliminate dependence on antiquated technologies and limited technical resources to support them. The modernization project will move the WVDMV to a more practical platform which will reduce ongoing costs and provide lower risk core architecture to support future department needs.

The purpose of this document is to provide the proposed data plan for migrating existing Legacy data to the new Driver License solution. i3 Verticals will work with the WVDMV team to complete a final data conversion plan during the project.

The objectives are:

- To understand the data requirements for converting legacy data formats.
- To identify and document the requirements for all data conversion steps.
- To identify and document the format of the extract files or databases to be used during the data extract and load.
- To identify anomalies in the data that require data cleansing of the Legacy data and document the data cleansing rules.

3. Project Overview and Related Documentation

3.1. Executive Summary

i3 Verticals recognizes data migration as the most important part of any legacy modernization. Our experience of implementing our COTS solutions in more than 20 jurisdictions in North America has taught us the importance of starting off on the data migration track from the very beginning of every program.

The accurate conversion of the Legacy data will ensure minimal disruption to WVDMV daily business users and customers as well ensure that current and historical Driver Records are retained. Additionally, it will ensure accurate computation of existing fees and invoices.

The Driver License Solution is a business function driven system, and the design focuses on accommodating all services that are currently being provided by the WVDMV offices daily. The system navigates the user through each logical unit of work to finish a specific business supplement transaction.

3.2. Related Documentation

The following supporting documents will be used for business requirements for the conversion process.

These documents are:

- Source Data dictionaries
- WVDMV RFP Response -Statement of Work
- WVDMV Requirement Elicitation Documents
- WVDMV Interface Documentation

4. Data Conversion Resources

4.1. Resources

This section identifies the resources and data sources required for the conversion process.

4.2. WVDMV Team

WVDMV personnel will be responsible for the following items:

- Review proposed data mapping and work with i3Verticals to resolve differences in Data Base fields.
- Identify data that must be migrated from the Legacy to the new system.
- Ensure accurate migrated data by using reports and inquiries on the current legacy system to compare with data converted to the new system.
- Create and transfer of the Legacy extracts (files/databases) to i3 Verticals for use in the conversion process.
- Coordinate with the i3 Verticals team to ensure timely conversion and data cleanup.

4.3. Team i3 Verticals

i3 Verticals will validate the converted data by:

- Using converted data during the Sandbox and UAT testing.
- Producing conversion clean up reports identifying potential data anomalies.
- Providing conversion counts and reconciliation for records in and records out.
- Performing reasonableness checking on data fields – checking fields for valid values and ranges.
- Performing data comparisons to ensure data is the same between the old and new systems (with assistance from WVDMV staff).
- i3 Verticals will provide guidance to WVDMV in performing data cleansing activities.

Tools proposed for conversion may include:

- Actian Data Integrator
- Microsoft SSIS Tools
- Custom SQL

4.4. Conversion Source

The Legacy Data source is DB2 Mainframe Database. Normally for this type of source data, data would be exported to a staging database for profiling and migration to the new database. If available, ODBC connectors will be used by the conversion tools to extract and load the data to the new target databases. Alternatively, data may need to be exported from the mainframe as flat files and then loaded into a None-Mainframe (DB2/LUW) staging database for ETL (extract transform and load) processing.

Reconciliation reports will be provided comparing source data counts and target counts.

4.5. Conversion Location

i3 Verticals will run multiple conversion routines on i3 Verticals' data conversion servers to ensure project quality and timeliness.

5. Conversion Processes

The following further describes the i3 Verticals data migration process. The process is iterative to ensure accuracy and will be executed multiple times throughout the life of the project to ensure data is migrated accurately and consistently.

- Data Sources – Database snapshots (extracts of production data) will be required at defined intervals. The data file layouts and existing valid values must be identified to perform data mapping to the new system.
- Data Cleaning –The existing data may contain anomalies or errors that are identified during the conversion process. Reports will be produced to help identify errors in the existing data and WVDMV can use these reports to clean as much data as possible before the final conversion.
- Data Mapping – i3 Verticals performs two levels of data mapping: Table and Column level. Table mapping is performed first followed by more detailed column mapping. Column mapping also includes valid value mapping (i.e., status code conversion). Mapping is performed two ways: from Legacy to the new i3 Verticals System and from the new i3 Verticals System to Legacy. This confirms that relevant data is not overlooked in the process. Data Mapping is updated through the migration cycles.
- Conversion Execution – Data Migration is an iterative process and i3 Verticals runs multiple trial conversions before the final conversion. Each migration provides insight into additional changes and updates that may be required. In addition to refining the migration process, the trial conversions will give the timings on how long the final conversion will require start to end, providing important information for implementation scheduling and planning.
- i3 Verticals and WVDMV will be in close communication with respect to the results for each iteration of the conversion, the gaps addressed, and the remaining gaps that need closure.

Conversion Process Flow Diagram:

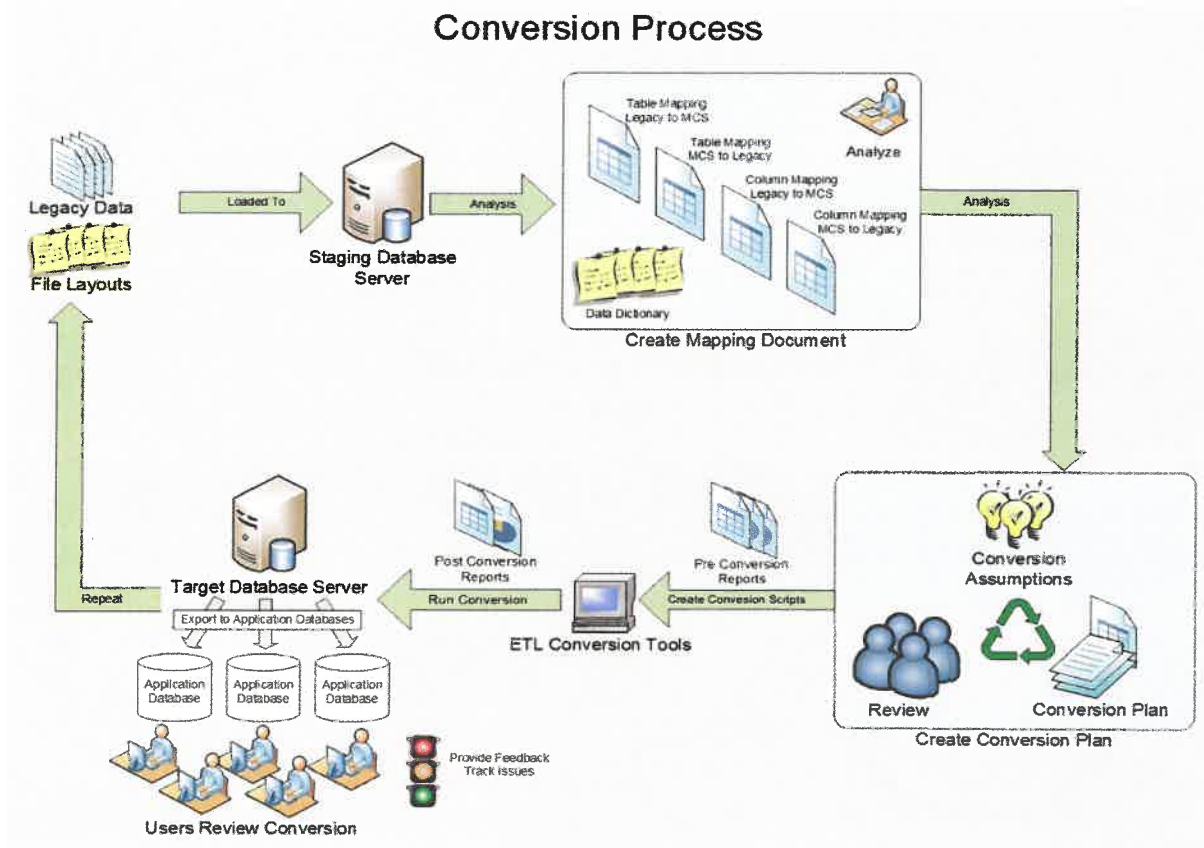


Figure 1 Conversion Process Flow Diagram

6. Driver License Data Conversion Assumptions

6.1. Databases

Legacy data will be converted from legacy mainframe WVDMV driver system data (DB2) to a SQL Server 2019 database.

6.2. Enterprise Client – Common Customer Conversion Assumptions

i3 Verticals will convert Driver License customers and their associated accounts. Titles and Registration customers and corresponding vehicles will not be converted but rather will be connected to the common customer via an API call to the Titles and Registration database. This retains the WVDMV Titles and Registration system as the official system of record for vehicles, eliminates the need to duplicate data alleviating the risk of having data out of sync between databases. (see RFP response section 4.2.1.2 for additional information regarding the new Common Customer Module being proposed).

WVDMV Team will provide:

1. The Names and Addresses of the customers provided in the DB2 Legacy Database tables.
2. The Names and Addresses of parent, legal guardians, power of attorneys and others associated with the account will be converted as required.

The following assumptions will be made when converting the Enterprise Client:

- Test Accounts will not be converted.
- Access to PII will be limited to only those individuals who have the authority and need to know. Data conversion reports will be made available only to those identified individuals as designated by the WVDMV.
- Physical addresses not in West Virginia will be reported and should be corrected.

6.3. Conversion Assumptions

6.3.1. Client Assumptions

- All Source Data will be migrated to the new i3 Verticals Database.
- WV has a single customer identifier (such as a file number) that can be used to associate customer records which will be retained in a separate column in the data table.
- Existing customers will be assigned a new customer number at conversion.
- Comment Records will be migrated to Comment tables.
- Duplicate customers should be identified during the conversion source data analysis with the help of the users. This would need to be done before the actual conversion as part of data cleanup.
- Access to PII will be limited to only those individuals who have the authority and need to know. Data conversion reports will be made available only to those identified individuals as designated by the WVDMV.

6.3.2. Driver License Information Assumptions

- WVDMV will identify the number of years of customer data to be converted based on WV Data Retention Plan where appropriate.
- Active and Expired License records will be converted.
- At minimum, current Driver License issuance information, including class of license, license type (Standard, Real ID) any restrictions and endorsements, issuance and expiration dates and DL license status will be converted.
- All Data required for Certified Driver License Abstract will be converted.
- Medical Certification information for CDL Drivers will be converted.
- All documents provided to establish identity and eligibility for both standard and Real ID will be converted unless they are residing in a separate data repository and remain accessible to the user.
- All current photos on file will be converted.
- Current signature will be converted.
- All Exam results will be converted, including failed attempts. This includes vision, knowledge and road test results.
- Driver License number and Driver License Document number will be converted and will not change.
- Any customer characteristics displayed on the Driver License, such as Veteran, Organ Donor, etc. will be converted.
- Graduated Licenses will be converted at the current stage. Licenses that are changing stages during the go-live month will be converted in current stage and a batch job will be run following conversion to move those changing stages to the new stage. This assumes that stage changes are done automatically. An example would be a driver turning age 21 at the time of conversion.

6.3.3. ID Card Information Assumptions

- Current ID Card Information for Active ID's only will be converted.
- Photos and Signatures will be converted if applicable.
- WV will define data elements to convert for specialized ID's such as Employee or Bar Association ID's.

6.3.4. Driver Improvement Assumptions

- All violation, conviction, sanction and reinstatement information must be converted.
- All points within the last 2 years will be converted. Points which are outside the 2 year window will not be converted.
- All Impaired Driving violations, convictions and sanctions will be converted.
- All Ignition Interlock Device Program information will be converted.
- All Safety and Treatment Program information will be converted.

6.3.5. Medical Review Assumptions

- All Medical Review information, including periodic follow up dates, will be converted and will follow PII rules and regulations regarding access to the converted information before, during, and after the conversion process.
- Access to PII will be limited to only those individuals who have the authority and need to know. Data conversion reports will be made available only to those identified individuals as designated by the WVDMV.

6.3.6. Handicapped Placard Assumptions

- Only currently Active Placards will be converted.
- Both temporary and permanent placards will be converted.
- Issuance and expiration date for each placard will be converted.
- Placards will be converted with existing placard numbers.
- Customers who have been issued handicapped placards have been identified as either temporarily or permanently disabled in the Legacy data and that characteristic will be converted.

6.3.7. Fee and Invoice Assumptions

- Legacy transactions in Open or Deleted Status will not be migrated.
- Only Invoiced, Paid, and Closed transactions will be converted. Invoiced transactions should be minimized so that only those that cannot be closed should remain to avoid go-live issues.
- Converted transactions in invoiced status cannot be cancelled on the new system.
- Invoiced transactions will be Reported. Old, invoiced transactions should be closed as they will never be completely processed.

7. Data Conversion Steps

The following steps make up the conversion process. Some of these steps can take place concurrently.

- Receipt of data files/extracts from source database
- Data mapping – Two-Way mapping for table and field level.
- Initial Clean up - recommendations with reports.
- Conversion tool configuration.
- Conversion step and sequence development.
 - Actian Data Integrator
 - Microsoft SSIS Tools
 - Custom SQL
- Trial conversion/load (iterative).
- Identify additional cleanup recommendations.
- Check run totals and create run total reports.
- Validate converted data during testing phases.
 - Validation Reports and Queries
 - Comparative review of records between Legacy and CMVS applications
- Define timing for conversion process.
- Prepare for production conversion.

- Create User Ids and Access levels.
- Go-Live Production Run.

8. Sample Validation Reports

Samples of the types of reports and validations done during the WVDMV data migration process are as follows. Data Profiling is used to determine which reports are applicable and if additional reports are required:

- Common Customer/Client:
 - Common Customer Report (including new and old account numbers, names, address).
 - All Customers have a valid status.
 - All Customers have a physical address in West Virginia.
 - Driver License and Vehicle Customers match
- Driver License Information:
 - Count of Driver Licenses issued by Type and Class
 - All Driver Licenses have a valid status.
 - All CDL Drivers have Medical Certificate information with a valid status.
 - All Driver Licenses have Driver License number and DL Document Number
 - All Driver license holders have a physical address in West Virginia.
 - Driver Licenses have a photo and signature on file.
- ID Card Information:
 - All State Non-Driver ID card holders have a physical address in West Virginia.
 - All State ID cards have a valid status.
 - All ID cards have an expiration date where applicable.
- Driver Improvement Information:
 - All Driver Licenses with a status of “suspended” or “revoked” have a corresponding conviction and sanction.
 - All conviction and sanction records have a valid status.
 - All points recorded on the record are within the previous 2 years.
 - DUI Convictions and Sanctions have corresponding Ignition Interlock Device record.
- Medical Review:
 - Total number of Medical Review files
 - All medical review files have a valid status.
 - Medical Review records with a Periodic Review date listed.
- Handicapped Placard:
 - Total number of handicapped placards categorized by Permanent and Temporary
 - Number of customers identified as temporarily or permanently disabled.
 - All handicapped placards issued with status of Active.
- Fees and Invoice assumptions:
 - All Invoiced transactions should have Driver License fees.

8.1. Data Sampling and Validation

- Data sampling will be used to help ensure the correctness and completeness of the migrated data. Records will be identified as simple, medium, or complex for sampling purposes with the help of the business and QA teams. This will help ensure an even distribution of sampling. For the purposes of this migration a simple record type will be considered a client with very few historical records and a simple driver history. A medium record type will be a client with various history records and a straightforward driver's license history. A complex record type will be a client with various history records and a complicated driver history including multiple accidents, sanctions, convictions, medical certifications for example. From these categories random records will be chosen to compare elements between the source and target of the migration.

Data sampling activities include the following:

- Sampling of Client records and verifying the attributes match the source system like eye color, height, name, address, DOB, SSN, and immigration status.
- Sampling of Client Driver's Licenses information like License Class, type, name, exams taken, exam results, License status, endorsement codes, medical restriction, and status.
- Sampling of Client Driver's License Record Accident information like Severity, location, Case Number, Hazmat indicators.
- Sampling of Client Driver's License Record Conviction and Sanction information like Violation Codes, Case Number, Conviction Date, BAC, Court type, Fines Paid.
- Sampling of Client Financial information like Fees Paid, invoice amounts, penalty amounts.

8.2. Data Integrity

i3 Verticals will develop SQL statements to check the data integrity of the system ensuring the system will operate correctly going forward with converted data.

At a minimum, these checks will insure that:

- Every customer has an address.
- That address information is entered correctly (i.e., Check for missing street, city, and state entries).
- All Driver Licenses have type, class, issuance and expiration dates.
- All Driver Licenses have a status.
- All ID cards have a Name and type.
- All State issued non-Driver ID cards have a name and address.

- All Driver Licenses with a status of Suspended or Revoked have a sanction and a corresponding conviction.
- All points on the existing record correspond to violations within the past 2 years.
- All Driver Licenses have a Driver License Number and a corresponding DL Document Number.
- Invoice amounts exist.

Issues will be addressed by i3 Verticals, and reports created as part of the conversion. It is important that as many unpaid invoices as possible be paid to avoid issues in the production environment.

Open transactions will not be converted. Any open transactions will need to be re-entered into the new application as required. WVDMV staff should continually monitor unpaid transactions during the migration process to ensure a minimal number of unpaid invoices requiring conversion. Reports will be generated after each conversion listing the number of invoiced transactions.

8.3. Data Security

This section describes the methods identified for handling and ensuring data security and integrity during the data migration process.

For data migration to commence, the data conversion environment and all its components need to pass the security review.

8.3.1. Users, Roles, and Privileges

All users will be authenticated with Active Directory services. No Local users will be used. This includes database and remote access users (RDP).

Service accounts will be used for system-to-system communication and application to database access.

8.3.2. Data encryption

Data encryption is the process of encoding a message or information in such a way that only authorized parties can access it and those who are not authorized cannot access. The Encryption method used for data in transmission is TLS (Transport Layer Security) 1.2 and TDE (Transparent Data Encryption) while at rest.

The i3 Verticals COTS solution encryption methodology includes the following two approaches.

- Salted Hash with AES 256
- Passphrase encryption using AES 256

One-way encryption requirement using Salted Hash.

- Examples: credential information, any system override passcode, etc.

Two-way encryption requirement using the passphrase encryption.

- For Example: SSN and other confidential fields stored in the system.

Data elements identified by the WVDMVDS team as sensitive information need to be encrypted per the encryption standards before being placed in published data layer. Transparent data encryption (TDE) options will be enabled on SQL Server databases used for data migration. When the database is enabled for transparent data encryption, the database backup files are also encrypted. If a backup of the database gets lost or stolen, the database is not restorable without the appropriate certificate, keys, and passwords.

Data Security and integrity during the backup and restore process is as follows:

- Any movement of data through backup and Restore process will include a checksum to ensure the file integrity is maintained. CHECKSUM/VERIFY option turned on.
- Machines needed for the backup and restore process will have ports open to allow file transfer of the backup granted by WVDMVDS. Data can only be transferred between specific machines in the network.
- The access to the backup file server location will be accessible only by privileges users granted by WVDMVDS.

The encryption methods will be agreed up on by both i3 Verticals and WVDMVDS teams.

9. Data Mapping

Data mapping is a key component of data conversion efforts. It serves several purposes by providing the basis for the conversion methods and programs; however, it also can define potential areas of requirement deficiency in the WVDMV system if key data does not have a “home” in the new database structure.

Table mapping provides a high-level view by taking the Legacy tables and mapping them to the new database structure. Table mapping serves as the basis for the more detailed level mapping. It also defines the tables necessary for the implementation in the database and which tables will have pre-populated data at implementation.

Mapping the WVDMV Legacy data to the new CMVS tables ensures that all key values in the existing system have a matching database field in the new system. This process can assist in defining some business requirements that may be missing in the new system.

Mapping the new CMVS tables to the Legacy tables provides the basis for the input into the conversion tools. It defines how the data will be transformed to the new database and points out the need for default values for fields that do not have a counterpart in the Legacy data.

10. Conversion Schedule

The following Work Breakdown Structure (WBS) will be followed in performing the WVDMV conversion multiple times in an iterative manner. This process, with scheduled times for data cleanup activities, will ensure data quality and lead up to a comprehensive final conversion process.

The data conversion schedule is a sub-set of the overall WVDMV project WBS. The conversion plan will be updated from time to time to include additional conversion iterations, if needed; refer to the complete WBS for updates and percentages of completion. In addition to the Conversion cycle listed in WBS, there will be additional iterations required for making the data clean and correct for WVDMV Go-live.

A Conversion Plan will be created as a deliverable for the project specific to WVDMMV needs, below is an example of an overall plan.

WBS ID	Task	Start Date	End Date
7.2	Data Conversion/Migration/Cleansing Cycles	Wed 2/22/23	Tue 11/21/23
7.2.1	IRP/IFTA/Intrastate Conversion/Cleansing	Wed 2/22/23	Tue 11/21/23
7.2.1.1	Conduct Conversion/Cleansing Cycle 1	Wed 2/22/23	Tue 5/30/23
7.2.1.1.1	Obtain IRP/IFTA/Intrastate conversion files (1)	Wed 2/22/23	Fri 2/24/23
7.2.1.1.2	Create Data Mapping Spreadsheet	Mon 2/27/23	Fri 4/7/23
7.2.1.1.3	Create conversion scripts (on first data dump)	Mon 4/10/23	Fri 5/5/23
7.2.1.1.4	Prepare data clean-up reports	Mon 5/8/23	Mon 5/22/23
7.2.1.1.5	Conduct Data Cleansing activities	Tue 5/23/23	Tue 5/30/23
7.2.1.2	Conversion/Cleansing Cycle 2	Wed 5/31/23	Tue 8/1/23
7.2.1.2.1	Obtain IRP/IFTA/Intrastate conversion files (2)	Wed 5/31/23	Fri 6/2/23
7.2.1.2.2	Conduct first conversion (on second data dump)	Mon 6/5/23	Tue 7/11/23
7.2.1.2.3	Prepare data clean-up reports	Wed 7/12/23	Tue 7/25/23
7.2.1.2.4	Perform data cleansing activities	Wed 7/26/23	Tue 8/1/23
7.2.1.3	Conversion/Cleansing Cycle 3	Thu 9/21/23	Tue 11/21/23
7.2.1.3.1	Obtain IRP/IFTA/Intrastate conversion files (3)	Thu 9/21/23	Mon 9/25/23
7.2.1.3.2	Conduct second conversion (on third data dump)	Tue 9/26/23	Mon 10/30/23
7.2.1.3.3	Prepare data clean-up reports	Tue 10/31/23	Tue 11/14/23
7.2.1.3.4	Perform data cleansing activities	Wed 11/15/23	Tue 11/21/23
7.2.1.4	Milestone: Data conversion and cleansing complete	Tue 11/21/23	Tue 11/21/23
7.2	Data Conversion/Migration/Cleansing Cycles	Wed 2/22/23	Tue 11/21/23
7.2.1	IRP/IFTA/Intrastate Conversion/Cleansing	Wed 2/22/23	Tue 11/21/23

Table 2 Conversion Schedule from WBS

Appendix 5 – Quality Assurance Plan



Appendix 4 WMVDMV Quality Assurance Plan

Quality Assurance Plan

i3Verticals approach to testing is in accordance with stringent methods designed to isolate and eliminate system bugs early in the process, lessening the impact to the development effort, and saving time and money. Our testing methodology has proven successful over twenty (20) projects, resulting in a controlled but productive testing program. During the project, a detailed comprehensive Test Plan will be provided to WVDMMV for approval.

Features of the i3Verticals Testing Approach

Feature	Benefit
i3Verticals prepares test plans for each of its three levels of testing: unit, system, and acceptance.	Comprehensive test plans increase the probability of rigorous, repeatable testing by forcing the QA team to think through error possibilities, and by providing a disciplined way for management to ensure testing is complete and thorough.
Required i3Verticals personnel have access to the company's databases containing complete and successful test plans, as well as lessons learned during system lifecycle phases.	The time spent preparing test plans is greatly reduced, as existing, successful plans can be accessed and tailored to meet WVDMMV's requirements and previous lessons learned are incorporated in an effort to continuously improve and strengthen the testing process.
A thorough and complete Acceptance Plan and clearly documented acceptance criteria are required.	All parties agree to the acceptance criteria prior to testing, verifying the critical requirements of the system, and setting the acceptance standard for the development team to meet.

Testing Methodology

i3Verticals methodology consists of multiple levels of testing including:

- Functional Testing,
- System Integration Testing,
- Database Integrity Testing,
- Batch Testing,
- End to End Process Testing,
- Performance Testing,
- Regression Testing,
- User Acceptance Testing,
- Product Installation Testing,

This process ensures thorough and graduated testing of the software application and system interfaces as well as reducing the risk of problems during the User Acceptance



Appendix 4 WMVDMV Quality Assurance Plan

testing phase and the training phase that require remedy and could result in schedule delays. Each level includes:

- Strategic Approach
- Milestones and timing
- Roles and responsibilities
- How the test scenarios and scripts are to be prepared
- Criteria for entry and exit of each testing level.

Level 1 - Unit Testing

Strategy

Unit testing verifies that individual requirements are coded properly. i3Verticals is responsible for planning and executing the unit test. Each developer will be responsible for developing a unit test plan for each software unit they are responsible for coding. The following documents define the functional requirements and changes to the Driver License Solution required by WVDMV:

- Requirements Traceability Matrix (RTM)
- Product verification Document (PVD)
- Technical Design Document (TDD)
- West Virginia RFP, unless specifically excluded.

Once a developer has successfully completed the unit test of a requirement or group of requirements based upon the nature of the change(s), the change(s) are placed under formal configuration control for the first time. The Driver License application architect begins to integrate the change with other units that have finished unit testing. This integration prepares code for system test. Test results are documented for each unit.

Roles and Responsibilities

Role	Responsibility
i3Verticals Project Manager	<ul style="list-style-type: none"> • Overall Project Management and coordination with WVDMV project manager
i3Verticals Test Manager	<ul style="list-style-type: none"> • Review and approval of developer test scenarios and scripts.
i3Verticals Architects	<ul style="list-style-type: none"> • Review and advise on development direction and/or issues. • Integration of system changes
i3Verticals Development Manager	<ul style="list-style-type: none"> • Development task assignments • Management of day to day development

Appendix 4 WMVDMV Quality Assurance Plan

i3Verticals Developers	<ul style="list-style-type: none"> • Creation of Unit Test scenarios and scripts • Execution of Unit Test scripts
i3Verticals Analysts	<ul style="list-style-type: none"> • Advise and/or assist developers with test scenarios and scripts

Test Scenarios and Scripts

i3Verticals will develop Unit Test scenarios and scripts based upon the following approved project documentation:

- Requirements Traceability Matrix (RTM)
- Product verification Document (PVD)
- Technical Design Document (TDD)
- West Virginia RFP unless specifically, excluded.

Positive and negative testing scripts are required (i.e., error-free transactions as well as all error and exception conditions) by the i3Verticals Team. The test scripts are cross referenced to the RTM to ensure all requirements are tested and validated by the developers.

Entry and Exit Criteria

Entry Criteria

- Initial Unit Test responsibilities have been assigned.
- Unit Test scenarios and scripts have been developed.
- Development environment has been established.

Exit Criteria

- Individual software units may be moved to the system test environment based upon successful completion of the associated test scenarios and scripts.
- Successful completion of all unit test scenarios and scripts.
- Test scripts are recorded and validated as complete and referenced within the RTM.

Level 2 - System Testing

Strategy

System Testing is a test of the integration of all software units and databases that comprise the entire system. System Testing begins as soon as the i3Verticals Test Manager determines there are enough software units completed in unit testing to demonstrate some integration aspects of the system. Formal error recording and tracking starts with the System Test phase.

Prior to conversion, we will test the system using the New Driver License and ID card issuance transactions. The initial Conversion will create additional test data from the legacy system for testing renewals and other transaction processing.

In addition to the traditional functional testing, i3Verticals will perform the following types of testing during System Testing:

Appendix 4 WMVDMV Quality Assurance Plan

- Batch testing of each batch program and process.
- End-to-End testing to ensure testing of the complete application environment in a situation that mimics real-world use, such as database interactions, interfaces, network communications, or interacting with other hardware, applications, or systems.
- Performance testing and Stress Testing to ensure that the solution meets the requirements identified by WVDMV.
- Regression testing to ensure the solution meets the specifications and defects have not been introduced or uncovered as a result of any software modifications or environment changes.

Roles and Responsibilities

Role	Responsibility
i3 Verticals Project Manager	<ul style="list-style-type: none"> • Overall Project Management and coordination with WVDMV project manager • Provide WVDMV management with a weekly status report of the progress of system testing. • Coordinate meetings with WVDMV to discuss issues and/or next steps that need to be addressed
i3 Verticals Test Manager	<ul style="list-style-type: none"> • Creates the system test plan. • Coordinates testing effort. • Issue (defect) tracking and management.
i3 Verticals Architects	<ul style="list-style-type: none"> • Assist with system test plan. • Advise on direction and/or issues.
i3 Verticals Development Manager	<ul style="list-style-type: none"> • Responsible for the software build process until such time as the Test Manager determines a total system test (all scenarios in the test plan) can be executed. • Assignment of issues for investigation and fixing, and/or approved change controls.
i3 Verticals Configuration Management	<ul style="list-style-type: none"> • Responsible for all software builds, once the system has been released from the i3Verticals Development Manager
i3 Verticals Developers	<ul style="list-style-type: none"> • Resolve coding issues. • Developing change controls
i3 Verticals Analysts	<ul style="list-style-type: none"> • Assist in developing test scenarios and scripts. • Assist with issue analysis and resolutions
WVDMV SME's	<ul style="list-style-type: none"> • Provide advice for test scenarios and scripts. • Develop test scripts
WVDMV Management	<ul style="list-style-type: none"> • Approve the System Test Plan
WVDMV Technical	<ul style="list-style-type: none"> • Provide advice for test scenarios and scripts in relationship to integration points and tables and/or programs.

Appendix 4 WMVDMV Quality Assurance Plan

Leads and Management	<ul style="list-style-type: none"> • Perform WVDMV Internal Testing
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Test Scenarios and Scripts

System Test scenarios ensure the total software and system design is exercised and verified. WVDMV SME's (Subject Matter Experts) and technical leads will advise in building System Test scenarios and scripts. The SME's will ensure WVDMV day-to-day scenarios are included. WVDMV technical leads will ensure all integration points are included.

The System test scripts are cross referenced to the RTM to ensure all requirements are tested and validated by the system test team.

i3Verticals and WVDMV generated test scripts will be used as a part of acceptance testing. WVDMV may write a set of their own test scripts for system and acceptance testing.

Entry and Exit Criteria

Entry Criteria

- The test environment has been set up as planned and validated.
- WVDMV has approved the System Test Plan.
- The test database is initialized and ready.
- Enough software units have completed unit testing to demonstrate some integration aspects of the system.

Exit Criteria

- All scenarios in the System Test Plan have been successfully completed or results agreed upon by the i3Verticals Team and WVDMV
- System test scripts are recorded and validated as complete and referenced within the RTM.

All test result report document shall be provided to WVDMV prior to implementation.

Level 3 - Acceptance Testing

Strategy

The objective of Acceptance Testing is to verify that the system meets all functional requirements identified in the Requirements Traceability Matrix (RTM), the Product verification Document (PVD) and the West Virginia RFP unless specifically excluded. i3Verticals will work with West Virginia in the development of the test cases for Acceptance Testing. West Virginia will approve the test plan and procedures prior to starting acceptance testing. This approval is an agreement that the scripted test scenarios, successfully executed as expected, will validate that the system has met all requirements and is ready for deployment. Additionally, parallel testing will be performed during acceptance testing to ensure all possible test scenarios are included. WVDMV

Appendix 4 WMVDMV Quality Assurance Plan

SME's will actually execute the tests, acting as system users under the guidance of the i3Verticals Test Manager.

Issues identified during Acceptance testing will be assigned a severity level and will be fixed.

Severity Levels are designations assigned by WVDMV to errors to indicate the seriousness of the error based on the impact that the error has on daily operations:

- **Severity 1** is a critical issue. WVDMV cannot use the Product or there is a critical impact to daily operations which requires a resolution prior to releasing to Production.
- **Severity 2** is a major issue. WVDMV can use the Product, but an important function is not available or daily operations will be severely impacted and requires a resolution prior to releasing to Production.
- **Severity 3** is a minor issue. WVDMV can use the Product with some functional restrictions, but it does not have a severe or critical impact on daily operations
- **Severity 4** is a minor issue that is not significant to the WVDMV operations. WVDMV may be able to circumvent the problem for an interim period of time.

i3Verticals will make every effort to resolve ALL issues prior to releasing to production. At a minimum, all issues with Severity Level 1 and 2 MUST be rectified prior to production release. Issues with a severity level of 3 and 4 can be deferred until we are in production but must be addressed as soon as possible after going to production. i3Verticals will assign additional resources to the support team to resolve severity level 3 and 4 issues so that the fixes will be completed in parallel with the standard maintenance and support required to ensure the system runs efficiently.

Roles and Responsibilities

Role	Responsibility
i3Verticals Project Manager	<ul style="list-style-type: none"> • Overall Project Management and coordination with WVDMV project manager • Provide WVDMV management with a weekly status report of the progress of acceptance testing. • Coordinate meetings with WVDMV to discuss issues and/or next steps that need to be addressed.
i3Verticals Test Manager	<ul style="list-style-type: none"> • Creates the acceptance test plan. • Conducts a formal test readiness review briefing prior to start of the test to ensure acceptance test is ready to begin. • Coordinates testing effort • Issue tracking and management



Appendix 4 WMVDMV Quality Assurance Plan

Role	Responsibility
i3Verticals Configuration Management	<ul style="list-style-type: none">• Responsible for software builds• Assigns issues and/or approved change controls
Team i3Verticals Analysts	<ul style="list-style-type: none">• Develops the User's Guide• Assists with issue analysis and resolutions
Team i3Verticals Developers	<ul style="list-style-type: none">• Resolves coding issues.• Develops and unit tests change controls
WVDMV SMEs	<ul style="list-style-type: none">• Executes functional test scenarios and scripts.• Identifies issues.
WVDMV Technical Leads and Management	<ul style="list-style-type: none">• Provides assistance with technical testing scenarios and issue resolution.

Test Scenarios and Scripts

Acceptance Testing will begin using the System Test scenarios and scripts as well as any additional scenarios identified by i3Verticals or WVDMV. Parallel testing will also be performed.

The user acceptance test scripts will be cross referenced to the RTM, PVD and the West Virginia RFP unless specifically excluded to ensure all requirements are tested and validated.

Entry and Exit Criteria

Entry Criteria


- Acceptance testing begins when system testing has reached successful conclusion with no outstanding priority major software problems.
- The test environment has been set up as planned and validated.
- WVDMV has approved the Acceptance Test Plan.
- WVDMV management has reviewed and understands the Acceptance Test Process.
- The test database is initialized and ready.
- The full user's guide is completed and provided.
- The i3Verticals Test Manager verifies the System Test is satisfactorily completed.
- WVDMV and i3Verticals Configuration Manager verifies the software build is a complete final version.

Exit Criteria

- WVDMV management approves the Acceptance Test results.
- Test scripts are recorded and validated as complete and referenced within the RTM.

Appendix 6 – Copy of Article

INDUSTRY INSIGHT



flexible by
design

*BUSINESS INFORMATION
SYSTEMS DEVELOPS A
UNIQUE DIGITAL ECOSYSTEM
FOR TENNESSEE*

In 2015, the State of Tennessee Department of Revenue and Business Information Systems (BIS) signed a contract to create a new, fully integrated real-time Vehicle Title and Registration System (VTRS) to modernize a 40-year-old mainframe database.

"We saw immediate results, a 5-to-1 increase in efficiency, pretty much overnight," says Katie Bryan Julian, communications manager of the vehicle services division of the Tennessee Department of Revenue.

In the initial stages of development, BIS analysts reviewed workflow processes to identify inefficiencies and redundancies. "Working together with the State of Tennessee, we were able to provide process improvements through the software," says Stoney Hale, BIS solutions consultant.

Moving to a real-time system enables error corrections instantly, unlike the old batch system. Miskeying VINs is one of the most common errors made in processing motor vehicles, Hale says. In addition to VIN decoding, VTRS is able to verify addresses, reference NADA fair market value for vehicles, and calculate all fees to be collected.

As a result of the successful partnership between the State of Tennessee and BIS, another system was also developed during this time by statute from the state legislature in response to an uninsured motorist killing James Lee Atwood. The Electronic Insurance Verification System (EIVS) was designed to reduce the number of uninsured motorists in the state of Tennessee. As of June 30, 2018, 18 months after the system launched, the number of insured motorists had increased nearly 7 percent.

EIVS uses web services as well as full book-of-business data from insurance companies to verify that registered vehicles are insured. If they are not, the system generates a notification letter that is sent to the vehicle owner. And EIVS works together with VTRS. If a vehicle owner tries to renew registration but does not have a verified insurance policy on file for the vehicle, he or she is unable to renew that vehicle registration unless an insurance policy number is provided.

“We saw immediate results, a 5-to-1 increase in efficiency, pretty much overnight.”

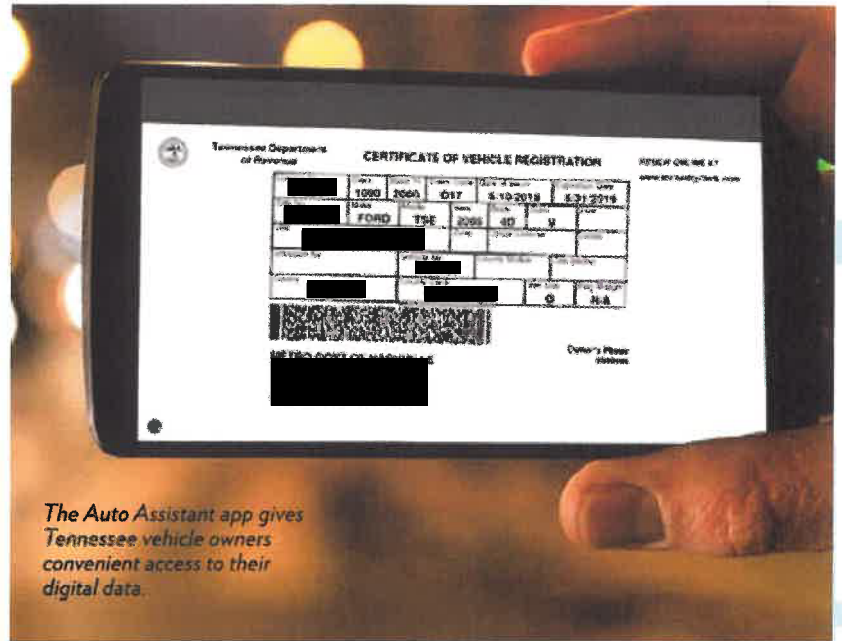
KATIE BRYAN JULIAN

Communications Manager of the Vehicle Services Division of the Tennessee Department of Revenue

The unique ecosystem of digital solutions BIS has developed for the State of Tennessee not only provides workflow efficiencies for Department of Revenue employees, it also brings convenience to customers.

As of July 1, 2018, Tennessee began offering electronic vehicle registration. BIS created a mobile app called Auto Assistant as a useful tool for customers to access their digital vehicle owner data. The app sends users notifications for things like license renewals, but also allows access to insurance information that can be provided to law enforcement as proof of insurance.

“It’s really a neat app,” says Hale. “It’s another enhancement that provides efficiency and convenience.”



The Auto Assistant app gives Tennessee vehicle owners convenient access to their digital data.

“Technology is going to continue to advance and you need a modern system that can keep up with it,” Julian says. “Having this flexible system allowed us to create an app that ties into it so customers can actually have a true digital record from us and keep all their vehicle information in one place.”

Both Hale and Julian recognize that each jurisdiction is unique and requires

a custom-tailored system to meet the needs specific to that jurisdiction.

“You can’t just pull one [jurisdiction’s system] and throw it into another,” Hale says. “You have to understand the processes first in order to improve them and provide maximum benefit.”

“It’s just a fact that there’s no one-size-fits-all solution for building one of these systems,” Julian says. **m**



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Appendix 7 – Staffing Plan

WV DMV Driver System Project
STAFFING PLAN





i3 VERTICALS
40 BURTON HILLS BLVD, STE. 415
NASHVILLE, TN 37215

12/4/2023
v1.0



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REVISIONS

Revision	Description of Change	Author	Effective Date
v1.0	Initial document creation	i3 VERTICALS	12/4/2023

OVERVIEW

The WV DMV Driver System Project will have a strong matrix structure with support from various internal organizations. All work will be performed internally.

i3 VERTICALS is committed to providing highly qualified professionals throughout the duration of WV DMV Driver System Project contract to assume key roles and positions.

We have carefully selected qualified professionals for each of the required roles and team members who possess the necessary expertise, experience, and skills to fulfill their responsibilities effectively. We have provided names and resumes of key roles below.

Team Member Name	Key Role
Stoney Hale	Project Sponsor
Manish Gohil	Senior Project Manager
Nirav Shah	Solution Architect
Iain Anderson	Technical Lead
Deb Wiley	Product Director
Tom Stack	Senior Data Architect
Rajib Chatterjee	Senior Quality Specialist

KEY ROLES

Project Sponsor – Responsible for providing funding and resources, support, and leadership to the project team. The Project Sponsor also serves as a link between the project manager, product manager and other decision-making groups. The project sponsor resolves conflicts that require senior management involvement: funding, priorities, external commitments, cross-organizational boundaries, and clients.

Senior Project Manager – Responsible for all project management for the WV DMV Driver System Project. The Project Manager is responsible for planning, creating, and/or managing all work activities, variances, tracking, reporting, communication, staffing, and internal coordination with functional managers. Oversee project planning, resource allocation, risk management, and communication among team members, stakeholders, and WV DMV Driver System Project Leadership.

Solution Architect - The Solution Architect will design the overall system architecture and ensure the technical solutions meet WV DMV Driver System Project requirements. Collaborate with stakeholders, analyze business needs, and provide guidance on technology selection, integration, and scalability.

Technical Lead – Responsible for managing the conceptual and detailed design and implementation of all technical architecture. In close cooperation with the Project Manager and Product Manager, the Technical Lead will orchestrate and control the technical aspects of the implementation effort. Responsibilities also include technical leadership for design, development, and testing of the implementation.

Product Director – Responsible for overseeing the whole product lifecycle, from new product ideas to the product launch, and beyond. In close cooperation with the Project Manager and

Product Owner, the Product Director will be involved in decision-making about the product, prioritizing features, and designing product roadmaps. The Product Director will collaborate with the cross-functional teams, including engineering teams, design teams, sales teams, and product team to define and plan product features.

Senior Data Architect – Responsible for analyzing, designing, and maintaining the data and database(s) for the WV DMV Driver System Project. Manage conversions and migration of data from existing systems to the new solution. Develop strategies, oversee data mapping and transformation, and ensure data integrity and accuracy throughout the migration. Responsibilities also include assisting with risk identification, determining impacts of change requests, and status reporting.

Senior Quality Specialist – Responsible for assisting the Project Manager in creating quality control and assurance standards. The Senior Quality Specialist is also responsible for maintaining quality control and assurance logs throughout the project. The Senior Quality Specialist will be managed by the appropriate agency team member who will also provide feedback to the functional manager for performance evaluations.

TEAM MEMBER ROLES

Systems Engineer – Responsible for analyzing, designing, and maintaining the network and hardware for the WV DMV Driver System Project. All network tasks will be reviewed by the Solution Architect prior to implementation. Responsibilities also include assisting with risk identification, determining impacts of change requests, and status reporting. Also responsible for working with the Project Manager and Technical Lead to create work packages, manage risks, manage schedules, and identify requirements.

Product Owner – Responsible for gathering, analyzing, documenting, and validating the needs of the project stakeholders. Also responsible for change management, planning and conducting initial training, and quality testing of applications. Responsibilities also include being a liaison among stakeholders to elicit, analyze, communicate, and validate requirements for changes to business processes, policies, and information systems. They are also responsible for project planning and estimating, status reporting, development process and contribution to strategic direction.

Senior Software Engineer – Responsible for oversight of all coding and programming tasks for the WV DMV Driver System Project and ensuring functionality is compliant with quality standards. Responsible for working with the Product Manager and Product Owner to create work packages, manage risks, manage schedules, identify requirements, and create reports.

Software Engineer – Responsible for coding and programming for the WV DMV Driver System Project. All coding and programming tasks will be reviewed by the Senior Software Engineer prior to implementation. Responsibilities also include assisting with risk identification, determining impacts of change requests, and status reporting. The Software Engineers will be managed by their respective Team Lead.

Functional SME (Subject Matter Experts) / Application Analyst – Responsible for gathering, analyzing, documenting, and validating the needs of the project stakeholders. Also responsible for change management, planning and conducting initial training and quality testing of applications. Responsibilities also include being a liaison among stakeholders to elicit, analyze, communicate, and validate requirements for changes to business processes, policies, and information systems.

Database Engineer / Data Architect – Responsible for analyzing, designing, and maintaining the data and database(s) for the WV DMV Driver System Project. Manage conversions and migration of data from existing systems to the new solution. Develop strategies, oversee data mapping and transformation, and ensure data integrity and accuracy throughout the migration. All database tasks will be reviewed by the Senior Data Architect prior to implementation. Responsibilities also include assisting with risk identification, determining impacts of change requests, and status reporting.

Quality Specialist – Responsible for assisting the Project Manager and Senior Quality Specialist in creating and tracking quality control and assurance standards. The Quality Specialist will have primary responsibility for compiling quality reporting and metrics for the Project Manager to communicate. The Quality Specialist will be managed by the appropriate agency team member who will provide feedback, along with the Senior Quality Specialist to the functional manager for performance evaluations.

Test Manager - The Test Manager will be responsible for planning, coordinating, and executing the testing activities for the WV DMV Driver System Project. Develop test strategies, define test cases, manage testing resources, and ensure the quality and reliability of the delivered solution.

Testing Specialist – Responsible for helping establish testing specifications for the WV DMV Driver System Project with the assistance of the Project Manager and Programmers. The Testing Specialists are responsible for ensuring all testing is complete and documented in accordance with standards, and for ensuring all testing resources are coordinated. The Testing Specialists will be managed by the appropriate agency team member who will also provide feedback to the functional manager for performance evaluations.

Training Manager - The Training Manager will develop and implement a comprehensive training program for WV DMV Driver System staff and end-users. Identify training needs, create training materials, conduct training sessions, and provide ongoing support to ensure a smooth transition and adoption of the new system.

Training/Implementation Specialist – Responsible for helping establish training specifications for the WV DMV Driver System Project with the assistance of the Project Manager and Analysts. The Training/Implementation Specialists are responsible for ensuring all training is complete and all documentation is in accordance with i3 VERTICALS standards, and for ensuring all training resources are coordinated. The Training Specialists will be managed by the Training Manager and the appropriate agency team member who will also provide feedback to the functional manager for performance evaluations.

i3 TEAM RESUMES

Stoney Markel Hale II

i3 Verticals Solution Sponsor (Executive Vice President)

ROLE DESCRIPTION

Responsible for providing funding and resources, support, and leadership to the project team. The Project Sponsor also serves as a link between the project manager, product manager and other decision-making groups. The project sponsor resolves conflicts that require senior management involvement: funding, priorities, external commitments, cross-organizational boundaries, and clients.

PROJECT RESPONSIBILITIES

The Project Sponsor works with the customer’s project team and acts as the primary interface between the business leadership and the project.

- Develop and implement the strategic plans for i3 Verticals Transportation Division that align with our company mission, vision, and strategic objectives.
- Managing and overseeing budgeting, forecasting, reporting, and working day to day with Project Manager, and stakeholders to ensure the Client vision is aligned and being implemented throughout the project.
- Leverage corporate and division resources for support throughout the project with client and vendors.
- Work closely with project stakeholders to ensure that the project is aligned with the overall vision of the organization.
- Provide guidance and support to other members of the project team.

EDUCATION & EXPERIENCE

i3 Verticals, Management Services, Inc. Executive Vice President over Transportation Division, April 2023 to Present

i3 Verticals, Management Services, Inc., Dec 2011 – April 2023

Treasurer, Board of Directors, and Solutions Consultant i3-BIS

Consultant for all 95 counties in Tennessee including the State’s Vantage Way office in Nashville, TN, Indiana, and Wyoming.

- Carry out the responsibilities of a Board of Directors making decisions to guide our company.
- Assists in preparation of budget and monitors the budget.
- Ensures the Boards financial policies are being followed.
- Maintains bank accounts and oversees all financial transactions.
- Continue to drive sales growth for BIS’ software development and computer hardware sales and hold full responsibility for planning and executing marketing and sales strategy in a competitive market.
- Utilize product and software knowledge to provide consulting services to drive new products for BIS.
- Generate sales growth throughout Tennessee by starting with 62 County Clerk customers in 2005 to 95 County Clerk customers in 2015.

- Generate new revenue within our County Clerk department by selling an online and credit/debit card solution starting with 1 County Clerk customer in 2005 and growing now to service 95 County Clerk customers in 2018.
- Key member in selling and installing State of Tennessee contract for a Vehicle Title and Registration System.
- Key member in selling and installing State of Tennessee contract for an Electronic Insurance Verification System.
- Manage all phases of the sales cycle that involves establishing initial client contact, identifying needs, setting-up presentations, closing the sale, training clients on product applications, meeting with clients to customize new solutions to fulfill their needs, and when needed meet with clients to resolve issues.
- Consulted over 65 clients during a statewide upgrade from Databus software and OkiData printers to modern web-based software with laser printers.
- Consulted every county and the State of Tennessee in a statewide upgrade from rolls of validation decals to a print-on-demand solution.
- Key member in the implementation of over 60 KIOSK implementations in Tennessee.
- Meet regularly with County Clerks and their staff to develop software solutions to help make their office more efficient.
- Key personnel in over 100 upgrades and new software installations.

East Tennessee State University, Johnson City, TN

Bachelor of Science in Computer Science and Information Technology,
(December 2004)

Southwest Virginia Community College, Richlands, VA

Associate in Applied Science in Computer and Electronic Technology,
(May 2002)

Southwest Virginia Community College, Richlands, VA

Associate in Business Administration, (May 2000)

CERTIFICATIONS

- CompTIA A+
- CompTIA Network +



Manish Gohil

i3 Verticals Senior Project Manager

ROLE DESCRIPTION	Senior Project Manager
PROJECT RESPONSIBILITIES	Responsible for all management for the WV DMV Driver System Project. The Project Manager is responsible for planning, creating, and/or managing all work activities, variances, tracking, reporting, communication, performance evaluations, staffing, and internal coordination with functional managers. Oversee project planning, resource allocation, risk management, and communication among team members, stakeholders, and subject Project Leadership.
EDUCATION & EXPERIENCE	<p>i3 Verticals, Management Services, Inc.</p> <p>Mr. Gohil has over 15 years of extensive knowledge in the areas of Motor Vehicle and Motor Carrier Solutions with end-to-end project management, system development, and system integration experience. Mr. Gohil has been a key player across multiple complex state modernization projects.</p> <p>Excellent skills and experience including:</p> <ul style="list-style-type: none"> • Leading cross-functional teams for significant business transformation initiatives while implementing i3 Verticals' COTS product suites for multiple Motor Vehicle Administrations • Achieving project goals by managing scope, risks, issues, dependency, decisions, and action items • Resource forecasting and billing to ensure the project adheres to budget and schedule • Ensured that business intentions were aligned to the BI strategy and future state architecture • Communicating project status with the team, stakeholders, and leadership; supported multiple roles to meet deadlines • Organized technical sessions with the client's technical team to discuss and document interfaces with the Jurisdiction's enterprise systems and services • Facilitate conversion of data and documents from legacy systems <p>Mr. Gohil has successfully implemented Motor Vehicle and Motor Carrier Solutions in the following jurisdictions: Arizona, South Carolina, Iowa, Ontario, Kansas, Georgia, Montana, Wyoming, Idaho, Ohio, Alberta, and British Columbia.</p>
CERTIFICATIONS	<p>Bachelor of Engineering (B.E.) in Computer Science M.S. University of Baroda, India, 2001</p> <p>Certified Scrum Master, Scrum Alliance, 2019</p> <p>Certification, Platforms/Environment, Linux, Windows, MS-DOS, ADAM/AD, AZMAN, Azure, Cloud computing</p> <p>Certification, MS Project, MS SharePoint, MS Visio, MS Office, Jira, and Azure DevOps</p>



Nirav Shah

i3 Verticals Solution Architect

ROLE DESCRIPTION

Solution Architect

PROJECT RESPONSIBILITIES

Responsible for all management for the WV DMV Driver System Project. The Project Manager is responsible for planning, creating, and/or managing all work activities, variances, tracking, reporting, communication, performance evaluations, staffing, and internal coordination with functional managers. Oversee project planning, resource allocation, risk management, and communication among team members, stakeholders, and subject Project Leadership.

EDUCATION & EXPERIENCE

i3 Verticals, Management Services, Inc.

Solution Architect

Eleven years designing, developing, and implementing motor carrier systems including IRP, IFTA, Permits, CVIEW, DMS, and financial applications. Interaction with the client, client site visits, and coordination with the development team. oversees the technical enhancement and maintenance of the IRP, IFTA, Permits, CVIEW, DMS, and financial applications for 18 jurisdictions.

Master's Degree, Computer Application, DOEACC Society, 2004

Advanced Diploma in Computer Applications, 2001

Bachelor of Science, Mechanical Engineering, M.S., U of Baroda, India

CERTIFICATIONS

Linux, z-Linux, Solaris, Amazon Cloud, Windows
 9x/NT/2k/2003/2008/2012 , MS DOS , Azure, Cloud computing, IBM 370/168, IBM 3083, VAX 11/780, EC 2706 Array Processor, JAVA, J2EE, C, C++, C#, SQL, JSP, Servlets, Applet, Axis services, SOAP services, JSF, Spring, Struts, ASP.NET with C# , AJAX, C# Web services, Java Script, HTML, CSS, Bootstrap, JQuery, XML, XSL ,XSLT, Eclipse 3.1, MyEclipse 4.1, Websphere studio 5.1, Rational 6.1 / 7.5/8.5, SQL Developer, Visual Studio 2008/2012, EJB 2.1/3.0/3.1, Hibernate, Spring, IMS connect, IIS, Apache, IBM HTTP server, MS SQL, DB2, Oracle, MS Access, My SQL, PostgreSQL, and ER-Win, Crystal Reports, Tableau.



Iain Anderson

i3 Verticals Technical Lead

ROLE DESCRIPTION

Technical Lead

PROJECT RESPONSIBILITIES

Responsible for managing the conceptual and detailed design and implementation of all technical architecture. In close cooperation with the Project Manager and Program Manager, the Technical Lead will orchestrate and control the technical aspects of the implementation effort. Responsibilities also include technical leadership for design, development, and testing of the implementation.

EDUCATION & EXPERIENCE

i3 Verticals, Management Services, Inc. 2012 - Present
Director of Software Engineering for all Title & Registration Products, Server-Side Development Manager,
Previously Software Developer 1, API Developer, Server Development Team Lead, Software Development Manager
Bachelor of Science, 2004
St. Andrews University

CERTIFICATIONS

7 Microsoft Certified Professional (MCP) Exams



Deb Wiley

i3 Verticals Product Manager

ROLE DESCRIPTION

Product Manager

PROJECT RESPONSIBILITIES

Responsible for overseeing the whole product lifecycle, from new product ideas to the product launch, and beyond. In close cooperation with the Project Manager, the Product Manager will be involved in decision-making about the product, prioritizing features, and designing product roadmaps. The Product Manager will collaborate with the cross-functional teams, including engineering teams, design teams, sales teams, and product team to define and plan product features.

EDUCATION & EXPERIENCE

i3 Verticals, Management Services, Inc, Business Controller, 2018 to Present,

Bureau Chief Central Office Operations; Manager Vehicle Administrative Support Team; Assistant to the Director of Vehicles, State of KS Division of Vehicles, 2012 - 2018

Special Assistant to HR Director, KS Dept. of Transportation, 2008 – 2011

QA Manager, Alorica, Inc. 2007 – 2008

Income Maintenance Worker, Supervisor, Trainer, Medicaid Program Manager, Compliance, State of KS Dept. of Social Services, 1984 – 2006

Ms. Wiley has 24 years of experience in all aspects of Contract Management including RFP development, vendor selection, negotiation, and contract compliance from the customer and vendor perspective.

Ms. Weaver has 25 experience in budget development including revenue and expenditure projections and developing budget requests from the legislature. Tracking revenue and expenditure to ensure compliance with allocated budget. Complete analysis of overall corporate level financial health and monitors.

Ms. Wiley has managed projects ranging from design and development of major training curriculums to IT projects in a variety of subject areas including Motor Vehicle and License Plate Manufacturing.

Subject Matter Expert: IRP, Driver Licensing, Driver Control, and Titles and Registration.

Strategic Planning: experience with leading teams in strategic planning development and monitoring. In 2014, as a consultant she led the IRP, Inc. Board in updating their strategic plan.

Team Management: training in team building and team management and has successfully led teams with diverse roles and diverse members in completing projects. In 2018, she directed a team in the redesign of the manufacturing and issuance of license plates in Kansas. The team consisted of business and IT staff, multiple vendors and involved multiple software systems.

CERTIFICATIONS

Alternative Dispute Resolution: trained in Alternative Dispute Resolution (mediation) process, having completed her training in 2010. Following completion of her training, she negotiated with the training team to bring the training to the HR Department at KDOT and assisted in the training delivery.

BS Vocational Education, Pittsburg State University, 1980

39 hrs. Graduate Level Credit in Counseling, Pittsburg State University, 1984

Certified Meeting Facilitator, 2000

Certified Public Manager, 2001



Tom Stack

i3 Verticals Senior Data Architect

ROLE DESCRIPTION	Senior Data Architect
PROJECT RESPONSIBILITIES	Responsible for analyzing, designing, and maintaining the data and database(s) for the WV DMV Driver System Project. Manage conversions and migration of data from existing systems to the new solution. Develop strategies, oversee data mapping and transformation, and ensure data integrity and accuracy throughout the migration. Responsibilities also include assisting with risk identification, determining impacts of change requests, and status reporting.
EDUCATION & EXPERIENCE	<p>i3 Verticals, Management Services, Inc. 2008 - Present</p> <p>Data Conversion Lead, Architect</p> <p>Mr. Stack has over 15 years of experience in systems development. Involving all aspects of the system development life cycle on large complex information systems. Creating application databases, updating data models, creating, and testing conversion processes using Pervasive Tools. Assisted with hosting facility setup, infrastructure, and networking. He also provides application support for the IRP Clearinghouse application.</p> <p>Specific areas of expertise include CICS/TXSERIES, DB2/UDB, ORACLE, COBOL, SQL, and PERVASIVE DATA INTEGRATOR</p> <p>Additional skill sets include PL/SQL, JCL, VSAM, QMF, FILE-AID, EXPIDITOR, ENDEVOR, Platinum Tools, SQL SERVER, VMware.</p> <p>Bachelor of Science, CIS, Phoenix, AZ</p>
CERTIFICATIONS	<p>Oracle Database Administrator, June 2010</p> <p>Linux Operating System Administrator, August 2010</p> <p>Linux Internet / Intranet Server Administration, May 2011</p>



Rajib Chatterjee

i3 Verticals Senior Quality Specialist

ROLE DESCRIPTION	Senior Quality Specialist
PROJECT RESPONSIBILITIES	Responsible for assisting the Project Manager/Program Manager in creating quality control and assurance standards. The Senior Quality Specialist is also responsible for maintaining quality control and assurance logs throughout the project. The Senior Quality Specialist will be managed by the Program Manager and the appropriate agency team member who will also provide feedback to the functional manager for performance evaluations.
EDUCATION & EXPERIENCE	<p>i3 Verticals, Management Services, Inc. 2020 - Present</p> <p>Quality Assurance Manager</p> <p>Directs a team of 20 test engineers on complex information systems, using diverse technologies & frameworks. Prepare Test Estimations; create Test Plans; conduct analysis of the FRD/Use cases; perform Test Scenario Creation and review for different use cases, based on requirement specifications provided in the FRD/Use cases. Create Traceability matrix, OMM, WSR and test execution reports. Perform Test Case Creation and review the test cases created for different uses. Conduct Execution of test cases and report bugs detected with the help of tracking tools (Mantis, eBiz). Identify Regression and Smoke test cases. Retrieved and analyzed QA information to identify root causes of performance gaps and other QA problems. Designed quality regulations and evaluations based on monitoring of data flow. Set and verified standards of quality and testing procedures – Reviewed and modified quality assurance programs and tested performance according to user’s specific requests and data inputs.</p> <p>Administers the company privacy policy regarding data.</p> <p>Master of Business Administration, SMU- Pursuing</p> <p>Bachelor of Science, Burdwan University, West Bengal, India</p>
CERTIFICATIONS	Software Quality Engineer - ICTP Certified

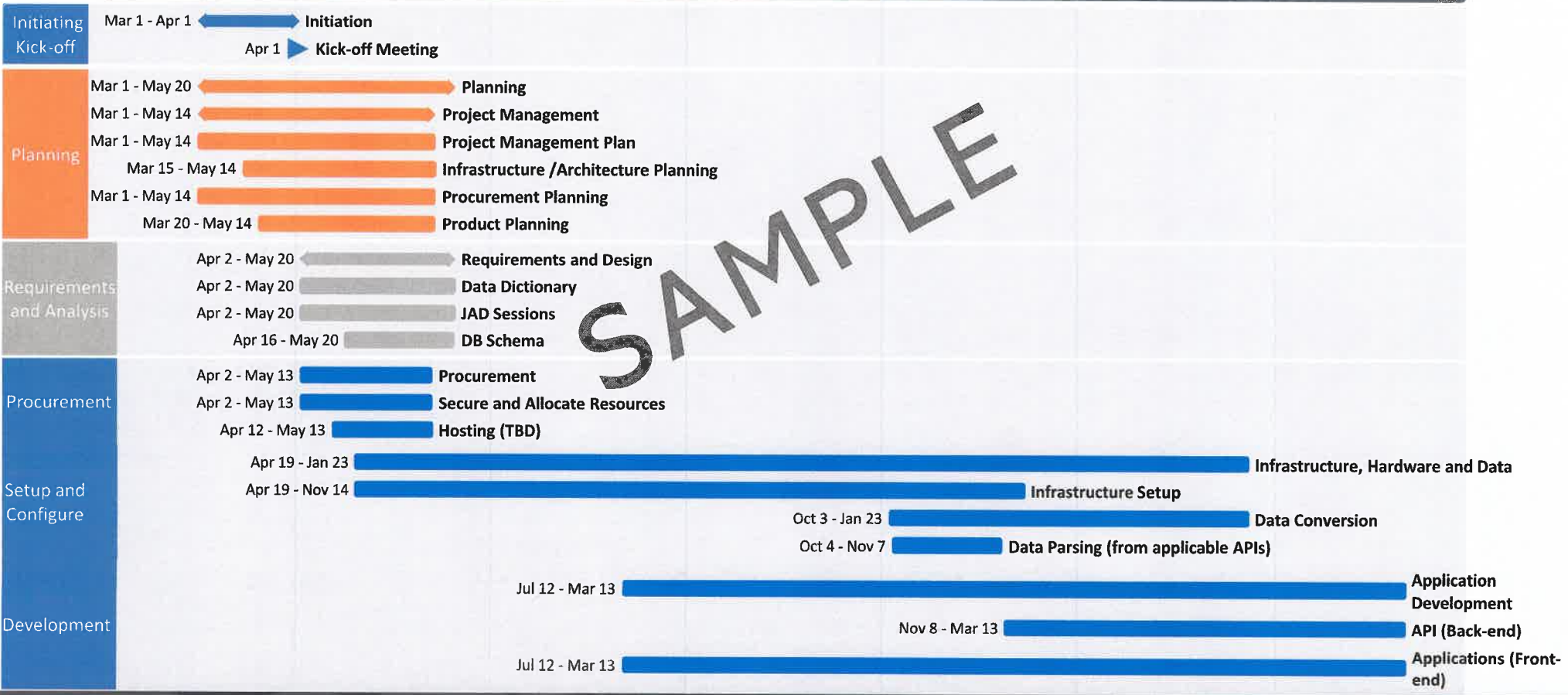
Appendix 8 – Project Plan

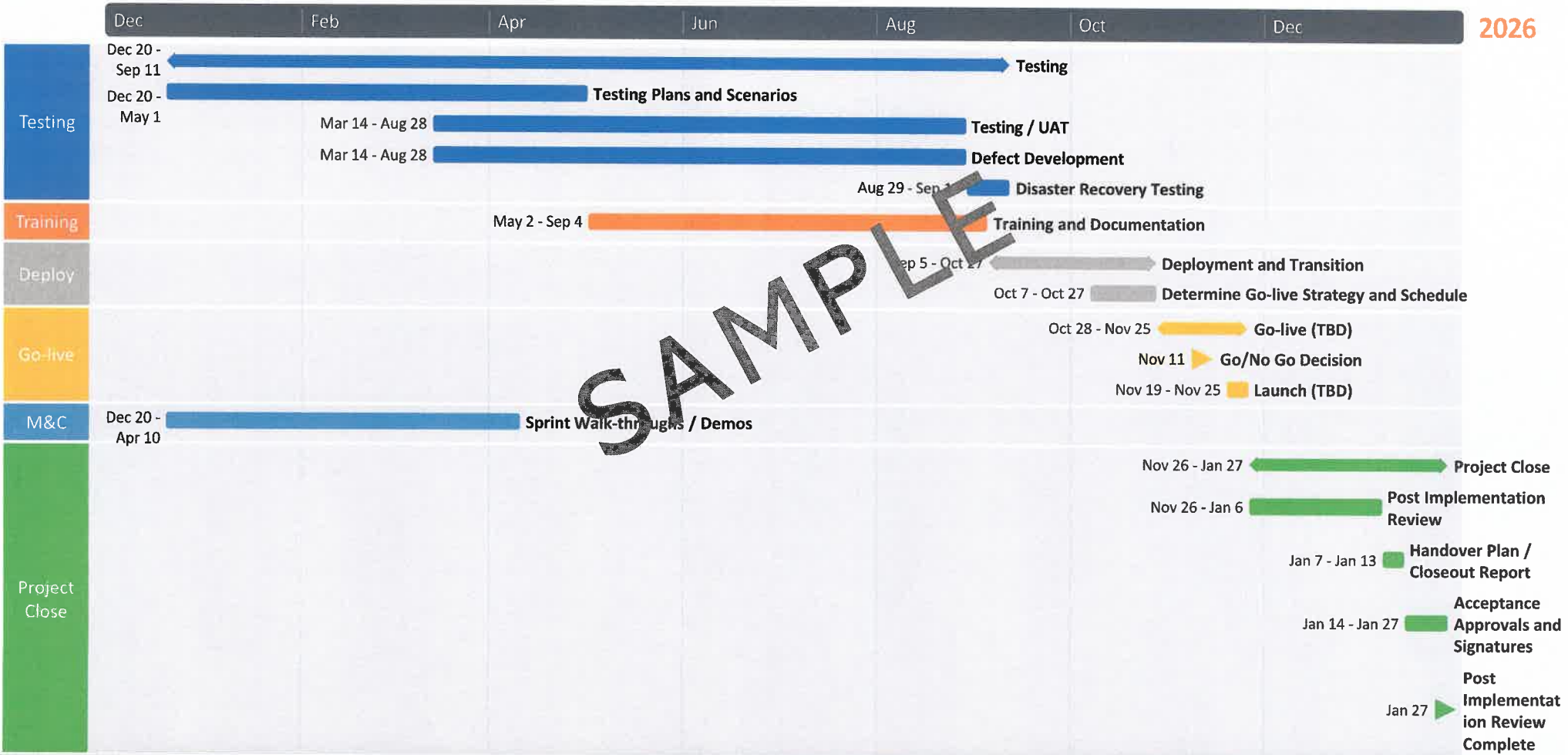


WV DMV Driver System

i3 Verticals

RFP Response - Project Schedule





SAMPLE

Appendix 9 – Change Management Control

POLICY AND PROCEDURE DOCUMENT

CHANGE MANAGEMENT CONTROL



**I3 VERTICALS
333 INDUSTRIAL PARK ROAD
PINEY FLATS, TN 37686**



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CHANGE MANAGEMENT CONTROL PROCESS - MAINTENANCE
BACK-OUT PROCEDURE

I3 VERTICALS CHANGE MANAGEMENT CONTROL PROCESS

The following steps comprise I3 VERTICALS's organization change management control process for all software development projects:

IDENTIFY AND SUBMIT CHANGE REQUEST

This process provides the ability for any member of the project team to submit a request for a change to the project.

The Change Requester:

- Identifies a requirement for change to any aspect of the project (e.g. scope, deliverables, timescales, and organization)
- Completes a Change Request form (CR) and distributes the form to the Project Manager. The CR summarizes the change:
 - Description
 - Reasons/Goals for changes
 - Recommendations
 - Impacts (Cost, Scope, Schedule, and/or Quality)
 - Solution
 - Disposition (Approve, Reject, Defer)
- See below for example Change Request Form

REVIEW CHANGE REQUEST

The Project Manager reviews the CR and determines whether or not additional information is required for the Stakeholders to assess the full impact of the change to the project time, scope and cost. The decision will be based on factors, such as:

- Number of change options presented
- Feasibility and benefits of the change
- Complexity and/or difficulty of the change options requested
- Scale of the change solutions proposed

The Project Manager will record the CR details in the Change Log to track the status of the change request.

MANAGING CHANGE REQUEST

The Project Manager will forward the Change Request Form and any supporting documentation to the Stakeholders for review and final approval. The Stakeholders will determine the feasibility of this change by examining factors, such as:

- Risk to the project in implementing/not implementing the change
- Impact on the project in implementing the change (time, resources, finance, quality).

After a formal review, the Stakeholders may:

- Approve the change as requested
- Reject the change
- Defer the change:
 - Request more information related to the change
 - Postpone to a later phase

Any team member or Stakeholder may submit a Change Request for the Project. All change requests will be logged in the Change Log by the Project Manager and tracked through to completion whether approved or not.

EXAMPLE CHANGE REQUEST FORM

Project:	Date:
Change Requestor:	Change No:
Change Category (Check all that apply): <input type="checkbox"/> Schedule <input type="checkbox"/> Cost <input type="checkbox"/> Scope <input type="checkbox"/> Requirements/Deliverables <input type="checkbox"/> Testing/Quality <input type="checkbox"/> Resources	
Does this Change Affect (Check all that apply): <input type="checkbox"/> Corrective Action <input type="checkbox"/> Preventative Action <input type="checkbox"/> Defect Repair <input type="checkbox"/> Updates <input type="checkbox"/> Other	
Describe the Change Being Requested:	
Describe the Reason for the Change:	
Describe all Alternatives Considered:	
Describe any Technical Changes Required to Implement this Change:	
Describe Risks to be Considered for this Change:	
Estimate Resources, Time and Costs Needed to Implement this Change:	

Describe the Implications to Quality:
Disposition: <input type="checkbox"/> Approve <input type="checkbox"/> Reject <input type="checkbox"/> Defer
Justification of Approval, Rejection, or Deferral:

Change Approval Signatures

Name

Date

Title

Signature

Name

Date

Title

Signature

Name

Date

Title

Signature

EXAMPLE CHANGE LOG

All change requests will be recorded in the Change Log.

Standard Change Log Template:

Change Log							
Project:						Date:	
Change No.	Change Type	Description of Change	Requestor	Date Submitted	Date Approved	Status	Comments
Each change request is assigned a reference number.	This may be a design, scope, schedule or other type of change.	The change request should be described in detail.	Who initiated the change request?	When was the request submitted?	When was the request approved?	Is the change request open, closed or pending? Has it been approved, denied or deferred?	This section may describe why the change request was rejected, deferred or provide any other useful information.



Appendix 10 -- WVDMV Risk Management Plan

Risk Management Plan

The approach for managing risks for the [Project] includes a methodical process by which the project team identifies, scores, and ranks the various risks. Every effort will be made to proactively identify risks ahead of time in order to implement a mitigation strategy from the project's onset. The most likely and highest impact risks were added to the project schedule to ensure that the assigned risk managers take the necessary steps to implement the mitigation response at the appropriate time during the schedule. Risk managers will provide status updates on their assigned risks in the bi-weekly project team meetings, but only when the meetings include their risk's planned timeframe.

Upon the completion of the project, during the closing process, the Project Manager will analyze each risk as well as the risk management process. Based on this analysis, the Project Manager will identify any improvements that can be made to the risk management process for future projects. These improvements will be captured as part of the lessons learned knowledge base.

See
Appendix C: Risk Management Plan

See
Appendix D: Risk Register
Appendix C: Risk Management Plan
Introduction

A risk is an event or condition that, if it occurs, could have a positive or negative effect on a project's objectives. The purpose of the Risk Management Plan for [Project] is to establish the framework in which the project team will identify risks and develop strategies to mitigate or avoid those risks. This plan also defines how risks associated with the project will be recorded and monitored throughout the lifecycle of the project.

This Risk Management Plan includes the following sections:

- Risk Management Approach – Deciding how to approach and conduct the risk management activities for the project.
- Roles & Responsibilities – Defining how each team role contributes to managing the risk process.
- Risk Identification – An initial and continuous effort to identify, quantify and document risks as they are identified.
- Risk Prioritization & Categorization – Evaluate identified risks to determine probability of occurrence, impact, and timeframe.
- Risk Response Planning - Establish an action plan for risk and assign responsibility.
- Risk Monitoring, Controlling, & Reporting – Capture, compile, and report risk using the Risk Register.

Risk Management Approach

The basic Risk Management approach for [Project] is to identify critical risks and take necessary action before issues occur that impact project objectives. Many different tools will be used as part of this strategy.

The approach taken to manage risks for this project will include a methodical process by which the project team will identify, score, and rank various risks. Risk information identified by the project team will be entered into the Risk Register. The Project Manager will maintain the Risk Register, and Risk information will be a principal topic in all [Project] status meetings. New risks will be reviewed to determine if mitigation action is required. The most likely and highest impact risks will be added to the project plan to ensure that the assigned risk managers take the necessary steps to implement the mitigation response at the appropriate time during the project. Risk managers will provide status updates on their assigned risks in bi-weekly project team meetings, but only when the meetings include their risk’s planned timeframe. Upon completion of the project, during the closing process, the Project Manager will analyze each risk and review the risk management process. Based on this analysis, the Project Manager will identify any improvements that can be made to the risk management process for future projects. These improvements will be captured as part of the lessons learned knowledge base.

Roles and Responsibilities

The table below provides an overview of the Roles & Responsibilities for the [Project] Risk Management activities.

Role	Responsibilities
Analysts	Assists in identifying and determining the context, consequence, impact, timing, and priority of the risk
Project Manager	<ul style="list-style-type: none"> • Chairs the risk assessment meetings • Coordinates with Risk Managers to determine if the risk is unique • Identifies risk interdependencies across projects and verifies if risk is internal or external to project • Assigns risk classification and tracking number • Continually monitors the projects for potential risks throughout the project lifecycle • Analyzes any new risks that are identified and add these items to the Risk Register
Risk Manager	<ul style="list-style-type: none"> • Coordinates with the Project Manager to identify the risks, the dependencies of the risk within the project, and the context and consequence of the risk • Determines the impact, timing, and priority of the risk • Formulates the risk statements • Monitors and controls risks that have been identified • Reviews and updates the top ten risk list [timeframe, as needed, every two weeks, etc.] • Escalates issues & problems to management
Risk Owners	<ul style="list-style-type: none"> • Determines which risks require mitigation and contingency plans • Generates the risk mitigation and contingency strategies and performs a cost benefit analysis of the proposed strategies • Monitors, controls, and updates the status of the risk throughout the project lifecycle

	<ul style="list-style-type: none"> • Aids in the development of the risk response and risk trigger • Carries out the execution of the risk response, if a risk event occurs • Participates in the review, re-evaluation, and modification of the probability and impact for each risk item on a weekly basis • Identifies and participates in the analysis of any new risks that occur • Escalates issues/problems to PM that significantly impact the projects triple constraint or trigger another risk event to occur • Highlights risks that require action prior to the next weekly review • Identifies and escalates risks where strategy is not effective or productive (causing the need to execute the contingency plan)
Other Key Stakeholders	Assists in identifying and determining the context, consequence, impact, timing, and priority of the risk

Risk Identification

Risk identification will involve the project team, and appropriate stakeholders, and will include an evaluation of environmental factors, organizational culture and the project management plan including the project scope, schedule, cost, or quality. Careful attention will be given to the project deliverables, assumptions, constraints, Work Breakdown Schedule, cost/effort estimates, resource plan, and other key project documents.

The following methods will be used to assist in the identification of risks associated with [Project]:

- Expert Interviews
- Risk Assessment Meetings
- Historical Reviews of Similar Projects
- Brainstorming
- Interviewing
- SWOT (Strengths, Weaknesses, Opportunities and Threats)
- Diagramming

The Risk Register will be updated as needed and will be stored electronically in the local project library located at \\Opserver1e\PRIMEproject and on the project collaboration website.

Risk Prioritization & Categorization

In order to determine the severity of the risks identified by the team, a probability and impact factor will be assigned to each risk. This process will allow the Project Manager to prioritize risks based upon the potential impact to the project.

As risks are assigned a probability and impact, the Project Manager will move forward with risk mitigation/avoidance planning. The probability and impact of occurrence for each identified risk will be assessed by the Project Manager, with input from the project team using the following approach:

Probability

High – Between 80% and 100% probability of occurrence

Risk Management Plan WVDMV Project



Medium – Between 20% and 79% probability of occurrence
Low – Below 20% probability of occurrence

Impact		Probability		
Impact	H	Yellow	Red	Red
	M	Green	Yellow	Red
	L	Green	Green	Yellow
	L	M	H	

High – Risk that has the potential to greatly impact project cost, project schedule or performance
Medium – Risk that has the potential to slightly impact project cost, project schedule or performance
Low – Risk that has relatively little impact on cost, schedule, or performance

Risks that fall within the RED and YELLOW zones will have a risk response plan which may include both a risk response strategy and a risk contingency plan.

RISK RESPONSE PLANNING

Each major risk (those falling in the Red & Yellow zones) will be assigned to a risk owner for monitoring and controlling purposes to ensure that the risk will be addressed and managed appropriately.

For each major risk, one of the following approaches will be selected:

- Avoid – Eliminate the threat or condition or avoid impact to the project objectives by eliminating the cause. The project plan may need to be altered to account for the risk avoidance. Avoidance may be achieved by changing scope, adding time, or adding resources.
- Mitigate – Identify ways to reduce the probability or the impact of the risk. These steps may be costly and time-consuming but could be preferable to allowing the risk to go forward in an unmitigated state.
- Accept – The project team accepts that the risk exists and makes no change to the project plan to address the risk. No response strategy is identified.
- Contingency – Define actions to be taken in response to risks.
- Transfer – Shift the consequence and ownership of a risk by making another party responsible (buy insurance, outsourcing, etc.).

The Project Manager will lead the project team in developing responses to each identified risk. As more risks are identified, they will be qualified and the team will develop the response. These risks will also be added to the Risk Register to ensure they are monitored at the appropriate times and are responded to accordingly.

For each risk that will be mitigated, the project team will identify ways to prevent the risk from occurring or reduce its impact or probability of occurring. This may include prototyping, adding tasks to the project schedule, adding resources, etc. Any secondary risks that result from risk mitigation response will be documented and will follow the same risk management protocol as primary risks.

Risk Monitoring, Controlling, and Reporting

**Risk Management Plan
WVDMV Project**



The Risk Register for [Project] is an ongoing log of all identified risks, their probability and impact to the project, the category they belong to, mitigation strategy, and when the risk is estimated to occur. This register was created in the early planning phase of the project. Based on the identified risks and timeframes in the risk register, applicable risks will be added to the project plan. At the appropriate time in the plan—prior to when the risk is most likely to occur—the project manager will assign a risk manager to ensure adherence to the agreed upon mitigation strategy.

The level of risk on [Project] will be tracked, monitored, controlled and reported throughout the project lifecycle. The most likely and greatest impact risks will be added to the project schedule to ensure that proper monitoring occurs during the time of risk exposure. As risks are added to the project schedule, a Risk Manager will be assigned. During the bi-weekly project team meeting, the Risk Manager will discuss the status of their assigned risks. Only risks which fall in the current time period will be discussed. Risk monitoring will be a continuous process throughout the life of this project.

Critical risks will also be assigned a risk owner(s) who will track, monitor, and control their assigned risks. The risk owner will also provide a weekly status report to the Project Manager and Risk Management Team. This report should contain an assessment of the effectiveness of each risk response action.

As Risk Events occur, the list will be re-prioritized during weekly reviews and the risk management plan will reflect any and all changes to the risk lists including secondary and residual risks. The Project Manager will notify the Project Sponsor of important changes to risk status as in the weekly Project Status Report.

Appendix D Risk Register

Vulnerability Statement

Vulnerability	Description
Cross-site scripting	The web application can be used as a mechanism to transport an attack to an end user's browser. A successful attack can disclose the end user's session token, attack the local machine, or spoof content to fool the user.
SQL Injection	Information from web requests is not validated before being used by a web application. Attackers can use these flaws to attack backend components through a web application.
Password Strength	Passwords used by the web application are inappropriately formulated. Attackers could guess the password of a user to gain access to the system.
Unnecessary Services	The web server and application server have unnecessary services running such as telnet, snmp and anonymous ftp
Disaster Recovery	There are no procedures to ensure the ongoing operation of the system in event of a significant business interruption or disaster
Lack of Documentation	System specifications, design and operating processes are not documented.
Integrity Checks	The system does not perform sufficient integrity checks on data input into the system.

Threat Statement

Threat-Source	Threat Actions
Hacker	<ul style="list-style-type: none"> • Web defacement • Social engineering • System intrusion, break-ins • Unauthorized system access
Computer Criminal	<ul style="list-style-type: none"> • Identity theft • Spoofing • System intrusion
Insiders	<ul style="list-style-type: none"> • Browsing of personally identifiable information • Malicious code (e.g., virus) • System bugs • Unauthorized system access
Environment	<ul style="list-style-type: none"> • Natural disaster

Risk ID: Identification number given to the risk register item

Risk Category: Categorization of risks by area of project affected, source of risk or other useful category.

Risk Identification: The risk stated in a complete sentence which states the cause of the risk, the risk, and the effect that the risk causes to the project.

Date Raised: Date when the risk was identified and added to the register.

Probability: The likelihood that a risk or opportunity will occur (on a scale of Low (1), Medium(5), and High(10) with 10 being the highest).

Impact: The impact of the risk on the project if the risk occurs (on a scale of Low (1), Medium(5), and High(10) with 10 being the highest).

Risk Score: Determined by multiplying probability and impact (scale from 0 to 100).

Risk Ranking: A priority list which is determined by the relative ranking of the risks. Risk Scale: High (>50 to 100); Medium (>10 to 50); Low (1 to 10)

Risk Management Approach/Mitigation Actions: The action which is to be taken if this risk occurs.

Risk Owner: The person who the project manager assigns to watch for triggers and manage the risk response if the risk occurs.

Example Risk Register:

**Risk Management Plan
WVDMV Project**



RISK REGISTER									
Risk Identification				Qualitative Rating				Risk Response	
Risk ID	Risk Category	Risk Identification	Date Raised	Probability (1, 5, 10)	Impact (1, 5, 10)	Risk Score (P * I)	Risk Ranking (Low, Medium, High)	Approach/ Mitigation Actions	Risk Owner
1.0	Software	Malicious Application Code	6/17/2019	1	10	10	LOW	Virus protection, Code reviews	Wendell
2.0	Schedule	Missing deadlines for critical updates	6/18/2019	1	5	5	LOW	Monitor for updates and ensure they are applied within 30 days of release	Wendell
3.0	Scope	Missing assets within scope	6/19/2019	1	10	10	LOW	Risk assessment team will review	Wendell
4.1	Hackers	Someone accessing the system and stealing/compromising data	6/20/2019	5	10	50	MEDIUM		Scott Bigliardi
4.2	Employees, Human Error	Someone accessing the system and stealing/compromising data	6/21/2019	5	10	50	MEDIUM		Scott Bigliardi
4.3	Thief/Intruder	Someone intending to cause physical damage or steal assets	6/24/2019	1	10	10	LOW		Wendell
5.1	Hardware (Infrastructure)	Hardware Failure: Server, Router, Switch	6/25/2019	1	10	10	LOW		Scott Bigliardi
5.2	Hardware	MSR/POS Terminal Failure	6/26/2019	1	10	10	LOW		Wendell
6.0	Regulatory	Failing to meet PCI requirements	6/27/2019	1	10	10	LOW		Wendell
7.0	SQL Injection	Data inappropriately extracted/modified from database by entering SQL commands into input fields	6/28/2019	10	10	100	HIGH	Ensure that all parameters are validated before they are used. Sanitize user input and strip characters. Each parameter should be checked against a strict format that specifies exactly what input will be allowed.	Scott Bigliardi



Appendix 11 – i3 Verticals Sample Service Level Agreement



Sample SLA for Hosted System

i3 Verticals Service Level Agreement

This agreement is made and entered into by and between the <<Customer>> (hereinafter “Customer”), and i3 Verticals, LLC., having a place of business at 40Burton Hills Blvd., Suite 415, Nashville Tennessee 37215 (hereinafter “Provider”).

1. **Standards.** Provider shall exert commercially reasonable efforts to make <<System Name>>, hereinafter “Service”, available to the Customer authorized users, hereinafter “Subscriber” twenty-four hours per day, seven days per week, 365 days per year, excluding Planned Maintenance Outages.

2. **“Planned Maintenance Outages”** shall mean such time up to a total of 10 hours per month when, upon 3 business days’ notice, the Service may be temporarily interrupted or curtailed due to scheduled maintenance such as equipment modifications, upgrades, relocation, repairs and other similar activities necessary during the operation and upgrade of the Service, which action shall not constitute System Downtime. Provider shall provide Subscriber reasonable notice of any Planned Maintenance Outages that are scheduled to occur. Provider will use commercially reasonable efforts to perform scheduled interruptions on weekends and outside of the hours between 7:00 a.m. and 8:00 p.m. eastern time.

3. **“System Downtime”** shall mean any period that the Service is unavailable to Subscriber for use reasonably as contemplated in this Agreement. The following shall not be deemed to be periods of “System Downtime”:

- a. Failure of an Internet infrastructure provider other than those retained by Provider or its vendors/providers;
- b. Reported outages where no outage can be verified by Provider (giving due consideration to evidence supplied by Subscriber);
- c. Outages caused by a breach by the Subscriber of its obligations under this Agreement;
- d. Outages related to hardware, software or network failure at Subscriber’s facilities;
- e. Outages caused by the negligence or intentional acts or omissions of Subscriber or its employees or agents;
- f. Subscriber’s delay or not permitting Provider maintenance changes for the Service for any reason;
- g. A discrete failure of system unavailability for 10 (ten) minutes or less

4. **Service Level Commitment.** Excluding Planned Maintenance Outages, Provider shall ensure the Service is available 99% of the time.

5. **Service Level Penalties.** The table below describes the Service Level Penalties applicable to this Agreement:

Description	Penalties
0%-5% downtime above the Service Level Commitment	No penalty
5%-10% downtime above the Service Level Commitment	5% credit of the quarterly hosting fees for the applicable quarter
10% or greater downtime above the Service Level Commitment	10% credit of the quarterly hosting fees for the applicable quarter

Appendix 12 – Reference Letters & Brochures



zero deaths | zero serious injuries
on Montana roadways

Montana Department of Transportation

2701 Prospect
PO Box 201001
Helena MT 59620-1001

Michael T. Tooley, Director
Steve Bullock, Governor

September 15, 2016

Celtic
8961 E. Bell Road, Suite 101
Scottsdale, AZ 85260
Phone 480-682-3791 Fax 480.991-4200

Subject: Montana Department of Transportation Reference Letter for Celtic

To Whom It May Concern:

The Montana Department of Transportation (MDT) entered into a contract with Celtic Systems in 2014 to develop and implement a web-based system for administration of Motor Carrier registration, permitting, auditing, and fuel taxation under the International Registration Plan (IRP) and the International Fuel Tax Agreement (IFTA). The Celtic system replaced a 20+ year old legacy system.

The system functionality required included multiple business units within MDT and Celtic did an outstanding job communicating with each of them and coordinating the project. Celtic provided a solid work plan for requirement validation and finalization, implementation, and cutover. The Celtic staff assigned to the project were extremely knowledgeable about their solution and the business. They were able to provide expertise on business processes, data conversion, and interface connectivity. MDT replaced an older legacy system and Celtic was particularly thorough and flexible in ensuring our needs were met and our business was not disrupted in the transition. The system is intuitive and user friendly and we have received very favorable feedback from our staff and MDT customers.

The project, which was successfully delivered in May, 2016, was ahead of schedule and within our budgetary requirements. Based on MDT's experience with this project, we are very satisfied with Celtic's product and services. Their knowledge of the Motor Carrier industry, their skill applying solid project management, their technical approach, and their ability to work with MDT ensured the project was a success.

A handwritten signature in blue ink, appearing to read "Mike Bousliman".

Mike Bousliman
Administrator
Information Services Division
Montana Department of Transportation
406-444-6159 – mbousliman@mt.gov



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- ▶ Streamlined appointment scheduling and updates
- ▶ Online document upload and verification
- ▶ Timely communications via 24/7 virtual assistant