RFI 52016

Name: Teresa Fleming/Robert Thompson
Agency: State Purchasing Bureau
Address: 1526 K Street, Suite 130
Lincoln, NE 68508
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E-Mail: as.materielpurchasing@nebraska.gov

Bidder:
INFOSYS PUBLIC SERVICES, INC.
800 King Farm Blvd, Suite 505
Rockville, MD, 20850

State of Nebraska (State Purchasing Bureau)

REQUEST FOR INFORMATION

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

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

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

PLEASE READ CAREFULLY!

SCOPE OF SERVICE

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

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

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

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

BIDDER MUST COMPLETE THE FOLLOWING

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

FIRM: INFOSYS PUBLIC SERVICES, INC.

COMPLETE ADDRESS: 800 King Farm Blvd., Suite 505, Rockville, MD, 20850

TELEPHONE NUMBER: 301 354 8600 FAX NUMBER: 301 354 8601

SIGNATURE: [signature] DATE: 06-28-2016

TYPED NAME AND TITLE OF SIGNER: Bhaskar Chakravarty - Chief Operating Officer

Infosys®
Public Services

RFI 52016 - Response to Nebraska DMV VTR System Modernization

INFOSYS PUBLIC SERVICES

6/30/2016

RFI Response	
Version No.	1.0
Authorized by	Andre Lotfi Maximiano

Response to Request for Information

Contact Information

For further information and discussions, please contact	
Name	Andre Lofti Maximiano
Designation	Sr. National Sales Director
FIRM	INFOSYS PUBLIC SERVICES, INC.
ADDRESS	800 King Farm Blvd., Suite 505, Rockville, MD
Phone	+1 (510) 717-7651
Fax	+1 (301) 354-8601
Email	andre.maximiano@infosys.com

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Cover Letter

1. Cover Letter

INFOSYS PUBLIC SERVICES, INC.
800 King Farm Blvd., Suite 505
Rockville, MD, 20850
T 301 354 8600
F 301 354 8601
www.infosyspublicservices.com

June 30th, 2016
Ms. Teresa Fleming
BUYER III | State of Nebraska | Department of Administrative Services
State Purchasing Bureau
1526 K Street, Suite 130 | Lincoln, NE 68508
P: 402.471.0973
Email: teresa.fleming@Nebraska.gov

Subject: Nebraska RFI - 52016

Dear Ms. Fleming:

Infosys Public Services, Inc. (IPS), an experienced provider of system modernization services, appreciates the opportunity to submit our response to your RFI. In accordance with your RFI instructions, Infosys' submission is composed of two volumes:

1. **Nebraska RFI – IPS Response:** 1 pdf file (IPS-RFI-Nebraska_Response Final)
2. **Nebraska RFI-Budget (Confidential) :** 1 pdf file **(**IPS-RFI-Budget-Nebraska_Response Final)

In addition, we provide the following requested information:

1. Federal Employer Identification Number (FEIN): 271122707
2. IPS is a large business and the MBE Certification number is not applicable.

We acknowledge the receipt of the RFI document and addenda, issued before the RFI response due date. This RFI response is for information purposes only and it is not a proposal, nor does it constitute a binding offer.

I am authorized by Infosys Public Services, Inc. to provide this non-binding RFI response as stated in the above referenced RFI. Please do not hesitate to contact me at (510) 717-7651 or via email at andre.maximiano@infosys.com regarding any aspect of our proposal.

Respectfully,

Andre Lotfi Maximiano
Sr. National Sales Director
Infosys Public Services, Inc.
(510) 717-7651
Andre.Maximiano@infosys.com

2. Executive Summary

2.1 Purpose and Background

The State of Nebraska Department of Motor Vehicles released a RFI to gather information as a planning tool for the modernization of the Nebraska Department of Motor Vehicles (State DMV) Vehicle and Title Registration (VTR) system. In 2013, the State DMV commissioned a business case for the replacement or modernization of the VTR system.

Infosys is very pleased to submit a response to the RFI and present our solution approach, vision, capabilities, our proven systems integration track record and our past performance history for the Vehicle and Title Registration (VTR) system modernization program as required by Nebraska DMV division. We understand that the objective of the DMV's VTR system modernization program is focused on providing better customer service, reducing transaction processing time, increasing speed-to-market of new products and services, enhancing security, and reducing system backlogs.

In order to achieve this, our approach is to provide an end-to-end solution with a focus on creating a customer centric business process. We realize that in order to manage your environment effectively, we must monitor each gate within the project phases. Our solution and approach to implement the new core system are designed to support Nebraska DMV's business needs.

2.2 Our Understanding of the Nebraska DMV VTR System Modernization Program Needs

Software Is Making Inroads into Transportation

Technology is fundamentally changing the nature of transportation today. With the massive availability of data around drivers, vehicles, and systems, as well as the pervasive power of automation and cloud computing, information technology is transforming the way people and organizations access, manage, and improve transportation, from making our vehicles safer, to finding the fastest route home, to turning every car into a potential taxi. As a result, the layers of friction that have existed between drivers, vehicles, and systems are disintegrating, making it easier, safer, and more efficient for us to get from Point A to Point B.

Accordingly, users and customers have come to expect their state and local transportation agencies to not only operate with the same level of efficiency, speed, and security that they see in industry, but also with the same level of real-time responsiveness in customer service and user-friendliness in interacting with their systems.

The Renewal of the Nebraska DMV VTR System

To this end, the Nebraska DMV is grappling with the need to modernize its legacy systems. These mission-critical systems have served countless customers for decades, and the knowledge pertaining to their operation as well as the data that lives within them are fundamental to providing

the most reliable transportation services; the most secure and up-to-date records; and ultimately, the safest roads for the citizens of Nebraska.

At the same time, recent developments in technology have brought in new opportunities to renew and improve these core systems and transition them to a new, more modern state—moving them onto a more agile, responsive and scalable platform that can enable entirely new services and experiences to be created and delivered to the more than 1.4 million licensed drivers and 2.3 million registered vehicles of Nebraska, as well as Nebraska DMV employees.

The Nebraska DMV's Vehicle and Title Registration (VTR) system modernization program is one of the State of Nebraska' most mission-critical systems, and it aims to renew business and IT critical processes and technologies, facilitating both technological and cultural change across the organization while delivering quality and efficient customer service. The Nebraska DMV is looking to bring in new customer-centric platforms and offerings in order to:

- Reduce transaction processing times and system backlogs
- Increase speed-to-market of new products and services
- Enhance security
- Provide better customer service by leveraging new technologies

The Nebraska DMV envisions a unified technical solution that uses a combination of commercially available software products and custom software development to bring consistency to appearance and use; architecture; and implementation procedures.

2.3 Infosys Solution and Vision Overview

Our solution delivers on this vision by focusing internally on rejuvenating Nebraska DMV's legacy systems and all that they contain through automation and AI technologies, while also bringing in a new user-friendly, intuitive, and integrated platform with a "One Client – One record" model that is future-ready and fully compliant with regulatory and security requirements.

This system will be scalable to service a growing population; flexible to anticipate new laws, requirements, and programs, such as Cloud Services; secure to protect sensitive data for both Nebraska DMV and its clients; and cost-effective to create, expand, operate, and maintain.

Our integrated technical approach provides the Nebraska DMV with a customer-centric, scalable, flexible, and secure solution at a lower total cost of ownership:

- The simplicity and ease of integration with multiple applications and data sources, along with easy configuration and business user-enabled changes will reduce transaction and maintenance costs through tighter integration between systems, and will further lead to smaller learning curves and application backlogs.
- Through integrated analytics, increased flexibility, and customization, the Nebraska DMV will be able to quickly deploy new features to internal users and clients alike, speeding up time-to-market of products and services.

- By building an enhanced security environment and allowing continuous access to applications and data, with increased security at each stage of the services transaction, the Nebraska DMV will run a strong platform with minimized risk.
- Stronger multichannel support and customer services multipoint management will enable higher engagement with your clients and a better understanding of client touch-points and preferences.

Service-Oriented Architecture

At the core of our solution for the Nebraska DMV would be a Service Oriented Architecture (SOA), composed of loosely coupled modules that provide the Nebraska DMV with the flexibility to add new services and capabilities. In this way, the SOA is:

- **Scalable** – capable of expanding in response to a growing customer base and greater data handling and service requirements.
- **Secure** – incorporating state-of-the-art security measures that are upgradable to meet future threats, while also being cost effective in its design, expansion, operation, and maintenance.
- **It is composed of several layers** – the Vehicle and Title Registration (VTR) system of Business Services and Base Systems, which is supported by the Foundation subsystems.

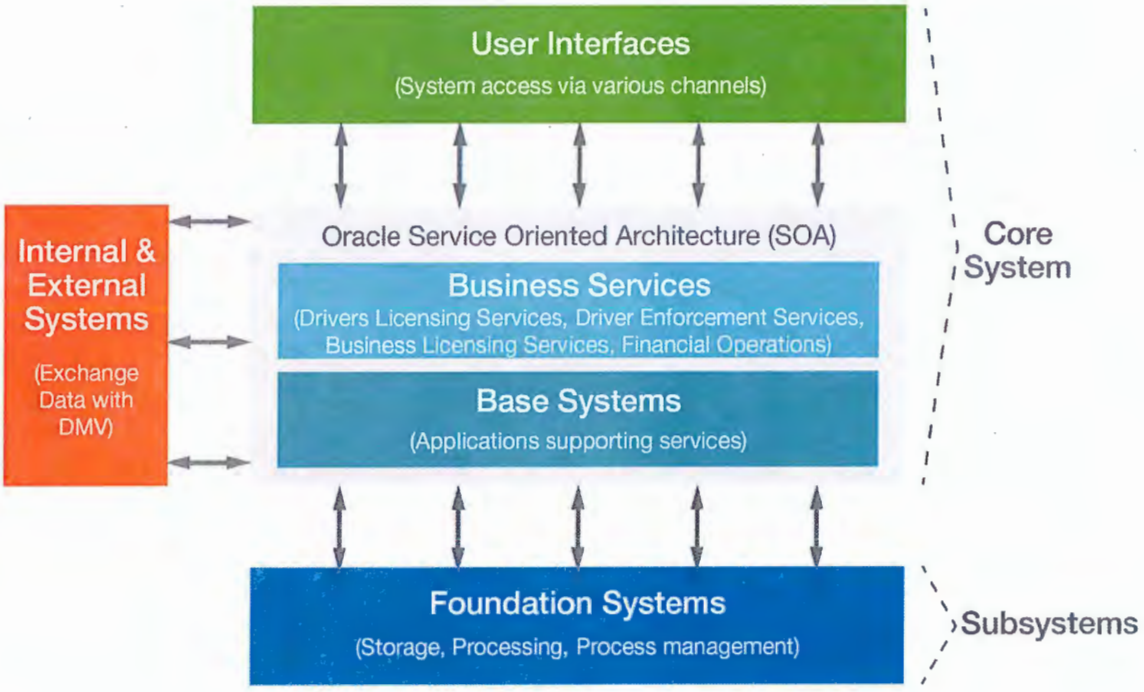

Figure 1. Suggested Service Oriented New VTR System Architecture

The base systems support the Nebraska DMV's business services, which include the applications that comprise the Nebraska DMV's interactions with their customers and manage information. The

base systems are in turn supported by interactions with a variety of Internal and External systems that will exchange data with the Nebraska DMV, such as District and Circuit Courts, the Vehicle Inspection and Emissions Program (VEIP) and the National Motor Vehicle Title System (NMVTIS), as well as the Nebraska State Highway Administration. And finally, supporting these Internal and External systems and processes are foundation systems that handle data storage, data processing, and process management, managing services such as electronic correspondence, electronic forms, workflows, and management of business rules.

An Integrated Oracle / Microsoft Solution

Infosys would deliver this solution by combining Oracle architecture and software functionality with support for Microsoft software and services, creating a modern, client-focused system to deliver the various Licensing, Vehicle Services, Driver Enforcement, and Financial Operations that Nebraska DMV requires.

Key Solution Features

This system will meet the Nebraska DMV's present needs and anticipate future requirements by addressing 4 key areas:

- Focus on Customer Experience:
  - Balance between customization and complexity by creating wizards to simplify tasks and guarantee accuracy;
  - Provide exceptional user experiences by aligning technologies and processes to customer needs;
  - Reduce transaction times for all users by optimizing workflow and eliminating redundancies;
  - Become location independent by maximizing the self-service capabilities of the system.
  - Customer centricity in design – one client, one record;
  - Focus on self-service – DMV anytime/ anywhere;
  - Support for multi-channel interaction with citizens – Gen-X, Gen-Y, Millennial friendly;

- Lower Total Cost of Ownership
  - Scalable Architecture – Homogeneous technology architecture will reduce disruptions to service;
  - Reduced Schedule – Service-Oriented Architecture (SOA) and Nebraska DMV knowledge base; reduced implementation effort through Infosys tools and accelerators – list the tools that we will use for knowledge extraction and data migration from our leg modernization COE;
  - Minimum COTS Bill of Materials (BOM) – The COTS BOM has been carefully chosen to minimize the number of components and cost to the Nebraska DMV;

- License Rationalization – Our products will help rationalize, or standardize, the product licenses across the Nebraska DMV and other agencies;
- Lowest Cost of Post Production Roll Out Support – Infosys has set benchmarks in executing support services in the most optimum cost through lean processes based on ITIL, automated monitoring and ticket resolution and Six Sigma / Lean-based value engineering frameworks;

- Minimizing Risk; Maximizing Value:
  - Secure User Acceptance through collaborative, iterative approach including all stakeholders through all phases;
  - Fail-Fast Design, a phased approach for implementation to catch potential problems early;
  - Faster time-to-value, with our proven distributed global agile model tailored for package implementation Nebraska DMV will start seeing working modules for key services on the new platform as early as 12 months from the contract commencement;
  - Infosys Mana – A purposeful AI platform that will help you manage organizational knowledge, apply it to automate enterprise processes, and utilize the massive intelligence hidden away in systems, machines, and people.

- Ability to Execute The Project Plan
  - To Infosys, execution, from start to finish, is the most valuable element of our value proposition and it matters. We will focus on executing the project plans that will be designed for this implementation. All project activities will be supported by strong project management methodology, proprietary tools and most of all skilled resources that have been through many systems implementation projects. Please see below a sample project plan for the VTR modernization for illustrative purposes.

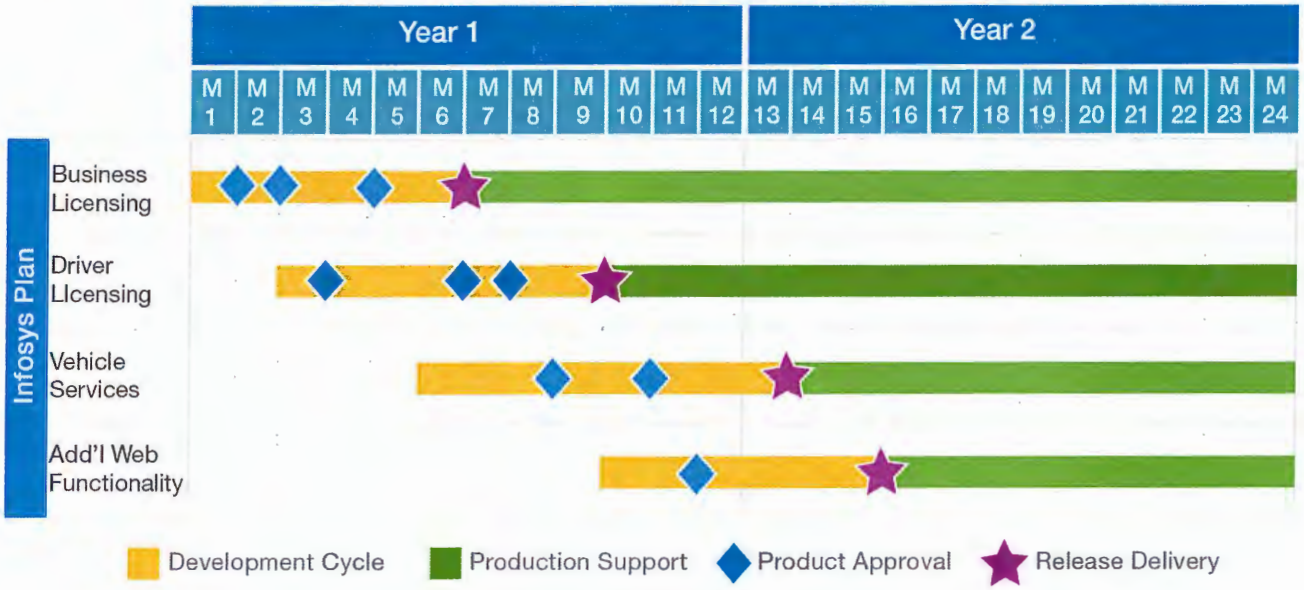

Figure 2. Sample Illustrative High Level Project Plan

Strong Partnerships

We understand this is an RFI, but in case we are selected during the RFP process, we will bring this fully integrated technical solution to Nebraska DMV through the strength of our ability to integrate with and work well with our partners to ensure that the whole system works seamlessly to provide additional capacity and functionality, in a product-neutral way, for at least the next two decades. In addition to Oracle, Microsoft, IBM, SAP, and Salesforce, among many other ISVs, we can partner with local MBEs and partners that have been working with the Nebraska DMV for quite some time and create an integrated team to support this modernization effort.

Local & Public Sector Expertise

Infosys has been very successful in bringing renewal and new technologies to our customers for over thirty years. Infosys has been a pioneer in successfully designing and implementing large-scale modernization projects around the world – especially in the public sector, with the creation of Infosys Public Services (IPS) in 2010, allowing us to bring our experience and resources to the state and local public sector environments in North America.

The current Nebraska DMV VTR modernization initiative calls for an experienced team that has deep expertise in public services and can provide the State of Nebraska with a robust and secure system that will easily accommodate the next generation of regulatory changes and technological innovations.

As such, our proposed project team provides local domain expertise in motor vehicle and licensing systems, law enforcement, state government, information technology, and traffic safety. And we will combine our best talent, expertise, and innovative approach in partnership with the Nebraska DMV to successfully implement this mission-critical modernization project.

2.4 The Infosys Advantage

Investments and Assets

While our competitors share a number of our strengths, it is the combination of these strengths which sets Infosys apart and provides The Nebraska DMV with the greatest mitigation of risk on the path to success. In the case of the demands of the VTR System Modernization Program, for example:

- **Strong Global and Local Presence** – Infosys Public Services is a subsidiary incorporated in Delaware and has its Headquarters in Rockville, Maryland. We have delivery centers throughout the continental United States and in multiple locations around the world;
- **COTS Applications Strong Partnerships** – Implementation, Services domain knowledge and maturity in multiple platforms (Oracle, Microsoft, SAP, etc.). Infosys is a global platinum partner with multiple COTS ISVs.
- **Off-shore activity** – the movement of work to Infosys is a single transition – we do not have to undertake a 'second' transition to a third-party service provider
- **Scale** – world-wide, Infosys maintains a base of more than 60,000 COTS Application Implementation (Oracle / Microsoft / SAP, etc.) employees; in India alone, this figure exceeds 40,000
- **Global processes** – all staff follow similar processes, wherever they are located
- **Dual-hub** –using staff in both in the USA and India mitigates the risk of political, cultural and inflationary interference and allows for a faster build-up of resources
- **Time-zone coverage** – using resources in both India and USA provides the ability to complete tasks around the clock
- **Use of existing alliances** – Infosys is open to work with other vendors of your choice
- **CMM/CMMI** – rated level 5, we will bring recognized processes to your business units, creating a globally consistent structure;
- **Financial stability** – Infosys is a financially stable and robust company
- **Market position** – Infosys enjoys top position in the provision of services, according to market-research firms

All of these facts combined to bring assurance that the risks to Nebraska DMV are being addressed and managed.

Past performances and Client referrals

Infosys Public Services has delivered a number of projects which can be compared to Nebraska DMV's system modernization in terms of size, complexity and flexibility. The mission statement of IPS as a firm, comprises of delivering world class solutions to public sector organizations exclusively.

The projects mentioned below are both large scale government projects with similar technical or functional requirements as Nebraska DMV's system modernization. Due to the individual nature of project requirements and domains, different solutions were implemented to uphold the effectiveness of the solution.

Both projects are currently in a successful completion phase.

Project Title Ministry of Transportation, Ontario Road User Safety Modernization RUSMOD Program – Ontario State, Canada

Status Release 1 Successfully Completed

Ministry of Transportation, Ontario

Description:

RUSMOD is a large scale SI (Systems Integration), Platform setup and AD (Application development) program, to replace Carrier Registration system residing on legacy Mainframes systems to a much advanced and flexible Siebel, an Oracle based platform. The most complex phase 1 with approximately 3100 requirements has been successfully implemented by an IPS team of over 250 resources.

Project Title Department of Human Services, District of Columbia District of Columbia Access System - Washington D.C., USA

Status Release 1 Successfully Completed | Release 2 in Completion Phase

Department of Human Services, District of Columbia (DCAS)

Description:

Infosys Public Services got engaged as the prime contractor to implement a health insurance and social program eligibility and enrollment system for District of Columbia residents with DCAS (District of Columbia Access System). Infosys was awarded the first two phases of a three-phase program. The total contract value for the Base and Option Year contracts was USD 73.8M.

In order to make the DCAS system stable and facilitate "The District" residents' seamless access to health and human service benefits (including Medicaid), Tier3 Maintenance Support track was formed and the Department of Human Services (DHS) awarded the contract to Infosys.

Infosys has full accountability for the DCAS application development and Tier3 Maintenance support. Requests raised by DC PMO/Business teams are broadly classified as enhancements, code fixes, data fixes, and report generation, ad-hoc requests for data analysis, job aid preparation, and batch job execution. These requests are further classified according to their complexity (simple, medium and complex). Based on the categorization, the Infosys Tier3 Maintenance and Support team fix the issues and provide required solutions. On an average, the Tier3 Maintenance and Support team handles 110 requests of varied complexity per month.

2.5 Conclusion – A Trusted Partnership

We believe the key aspects which differentiate us and make us a partner of choice for the Nebraska DMV are:

- We will bring 30yrs+ of experience in partnering with clients similar to Nebraska DMV on similar platform implementation and maintenance journeys, including the MTO Ontario, DCAS, among others;
- We have been recognized as a leader in the AD/AM space by many leading Analysts:
  - Rated as 'Market Maker' in CapioIT's Asia Pacific SAP Service providers, 2012; leader in Gartner Magic Quadrant for SAP Application Management Service Providers, Oct'13 ; Leader in Gartner Magic Quadrant for Oracle Application Management Service Providers, Worldwide, Oct'14 and Oct'15;
  - Nelson Hall has acknowledged that the IPs of Infosys – such as Virtual Ops, CXO Dashboard – are a major driver of differentiation for Infosys;
- We propose an effective and efficient operating model for a package implementation committed to being on time, on budget and on value throughout the deal.
- As part of the future engagement, we would commit to an 'A-class', top-performing delivery team comprising of senior consultants with extensive experience in similar engagements. We will also provide a contractual commitment to ensure the continuity of key resources throughout the contract;
- Our domain experience and partnering with local / MBE teams who already have valuable experience of State of Nebraska / Nebraska DMV business domain and systems;
- Infosys will invest in setting up the Nebraska DMV Academy for building and maintaining a powerful knowledge repository and also with a clearly defined roadmap from basic to expert level certifications – this academy will be leveraged by both Infosys and State of Nebraska / Nebraska DMV employees.
- For us, the Nebraska DMV will be a very strategic relationship. As a result of this, we will have 2 Board-level Infosys Executives as sponsors of the relationship:
  - Manish Tandon, EVP, Head of Healthcare, Insurance & Life Sciences Business Unit and Member of Infosys Public Services Board
  - Eric Paternoster, CEO of Infosys Public Services and Member of Infosys Public Services Board;
- Infosys has consistently been India's best company for corporate governance. With over $4 billion in cash reserves and zero debt, Infosys is one of the most financially stable Global IT Services companies today.

Finally, we reiterate the commitment of the entire Infosys team to Nebraska DMV to become a relevant, trusted and preferred partner. We sincerely thank you for inviting us to participate.

Vendor
Contact Sheet

3. Vendor Contact Sheet- Form A

FORM A
VENDOR CONTACT SHEET
Request for Information Number 52016

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

Preparation Of Response Contact Information	
Vendor Name	Infosys Public Services Inc.
Vendor Address:	Infosys Public Services Inc., 800 King Farm Boulevard, Suite 505, Rockville, MD, 20850
Contact Person and Title:	Andre Lofti Maximiano, Sr. National Sales Director
E-mail Address:	Andre.Maximiano@infosys.com
Telephone Number (Office):	+1 (301) 354-8600
Telephone Number (Cellular):	+1 (510) 717-7651
Fax Number:	+1 (301) 354-8601

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

Communication with the State Contact Information	
Vendor Name	Infosys Public Services Inc.
Vendor Address:	Infosys Public Services Inc., 800 King Farm Boulevard, Suite 505, Rockville, MD, 20850
Contact Person and Title:	Andre Lofti Maximiano, Sr. National Sales Director
E-mail Address:	Andre.Maximiano@infosys.com
Telephone Number (Office):	+1 (301) 354-8600
Telephone Number (Cellular):	+1 (510) 717-7651
Fax Number:	+1 (301) 354-8601

4. Approach and Possible Solutions

4.1 Over all Solution -COTS or MOTS or other Software design and approach

4.1.1 Introduction

To support the Nebraska Department of Motor Vehicles (State DMV)) request to gather information as a planning tool for the modernization of the DMV Vehicle and Title (VTR) system, Infosys proposes a Commercial Off the Shelf (COTS) Service Orientated Architecture (SOA) solution to replace the existing VTR system. This approach will align the Nebraska DMV's goals and objectives with the expected solution benefits.

Nebraska DMV Goals

Nebraska DMV's goals for the new VTR solution are:

- A single view of the customer
- A single statewide view of title and registration data
- Improved business processes
- Standardized business rules
- Standardized data validation
- Improved data quality through accuracy & reliability
- Audit capabilities
- Scalability / Flexibility –
    - Support for additional service channels
    - Third-party processors,
    - Electronic payment options
    - Mobile solutions
- Security – Regulatory & Compliance Safeguards
- State DMV hosted inside the State's environment

We understand that the existing Nebraska DMV VTR system pain points require Nebraska DMV to explore moving from a Vehicle-centric structure to a Customer-centric model.

These pain points include:

- Limited customer-centric service offerings
- Not capitalizing on new technology efficiencies
- Lost revenue
- Operating without full informational resources

- Operating within an inflexible VTR system, preventing Nebraska DMV from responding to change opportunities
- Old technology
- Unrealized revenues
- Incomplete analytics
- Inefficient operations
- Changes are difficult and time intensive, and others

These pain points can be overcome by designing, developing, and implementing a new VTR system with Infosys.

From an architectural perspective, we recommend standardizing the enterprise with a formal enterprise architectural methodology; e.g. The Open Group Architecture Framework (TOGAF). Within this enterprise architecture methodology, the Nebraska DMV can define various design principles that will enable the identification of the performance goals with the pain points and their respective critical success factors both strategically and tactically. Deriving the Key Performance Indicators (KPI's) and the capabilities required to support them, essentially defines the scope and building blocks of the new DMV VTR solution.

Our proposed solution is outlined below by the technologies used and its integration architecture. When combined, these will meet the Nebraska DMV's requirements and future needs. The architecture solution and the recommended approach are described below.

Solution Architecture - Scope

To identify and validate the Nebraska DMV VTR solution scope, we recommend the creation of a System Context Diagram. The SCD is a graphic representation of the project scope and the To-Be design for the new Nebraska DMV VTR solution. This diagram will represent the entire Nebraska DMV solution as a single object, including its process set, and can clearly identify the interfaces between the Nebraska DMV VTR Solution and its internal and external entities. Their purpose is to clarify and confirm the scope of the environment in which the Nebraska DMV VTR Solution has to operate.

We recommend enhancing and confirming the existing list of systems (entity) and the list of interfaces as referenced in DMVvtrCER.pdf, section 2.1.3 Internal and External Interfaces and subsequent tables. With these lists confirmed as "In-Scope", a high-level Nebraska DMV VTR System Context Diagram (SCD) can then be created. An example of a System Context Diagram (SCD) is shown below:

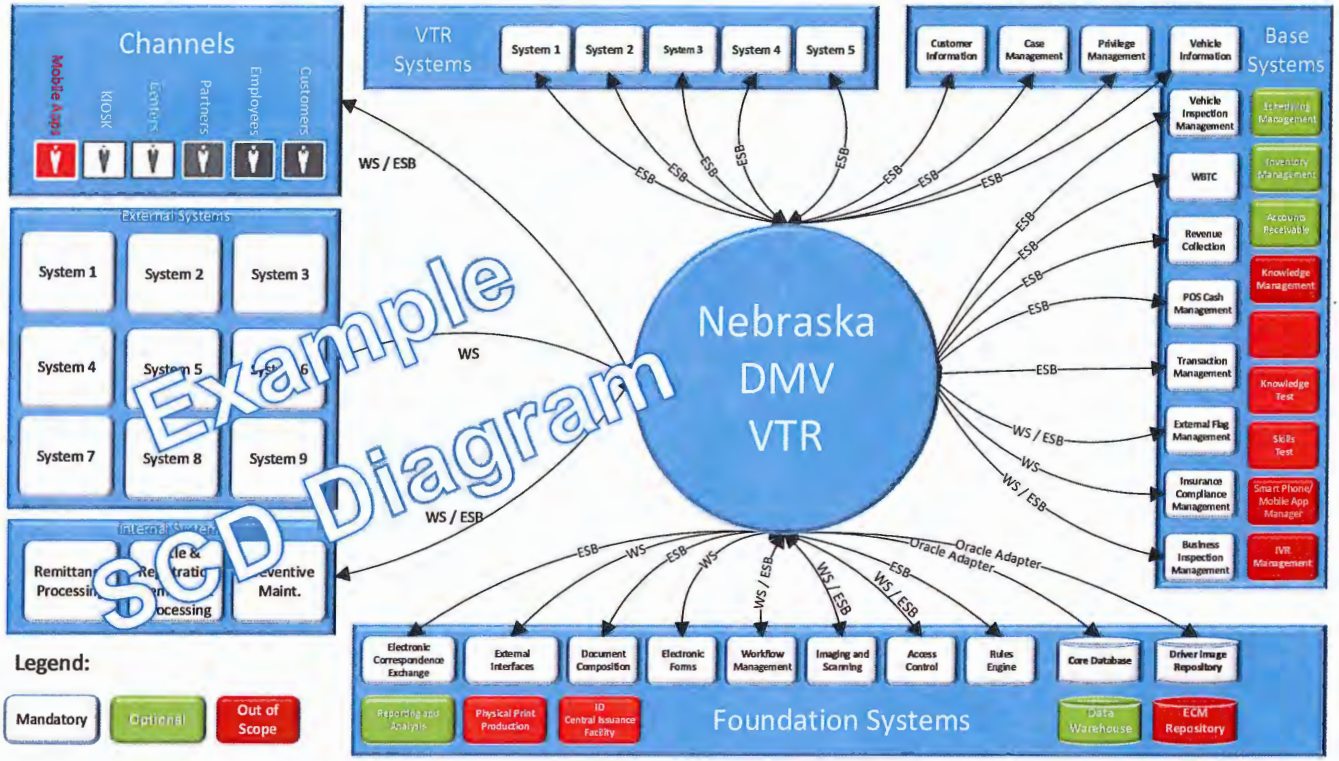

Figure 3. Example System Context Diagram

4.1.2 Technology Architecture

Solution Components

The component model diagram below depicts the static relationships and dependencies among the components that describe the solution. It provides a view comprised of small, manageable functional units to enable a better understanding of the complex VTR solution.

The logical components that form the Nebraska DMV VTR Solution are shown below.

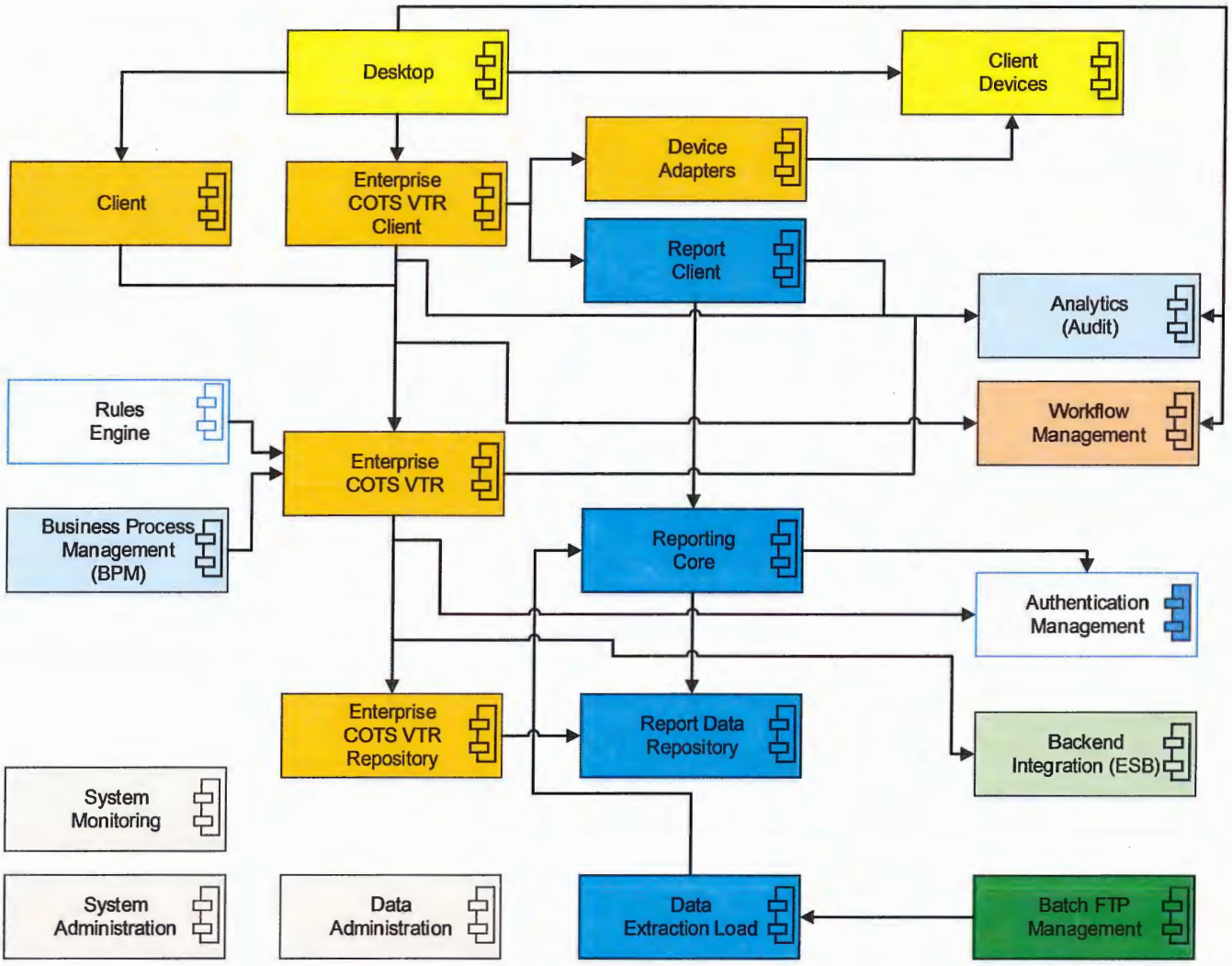

Figure 4. Nebraska DMV VTR Logical Component Model Diagram

Component	Description
Desktop	These are the main user interfaces to the system, comprising the main workstation with screen, keyboard and mouse. This desktop will house all the application software to enable its usage as the primary interface point.
Client	This component forms the main interface to the end users. It consists of the user interaction controls and the presentation layer, enabling the user to utilize all the necessary functions offered by the Nebraska DMV VTR system. It is the component that makes use of all the user devices via the integration adapter.
Device Adapters	This component manages and operates as the interface to all the devices used by the Client. Adapter perform the abstraction of remote interface, the Connection protocol, are the messaging interface, perform data marshalling of the interface parameters or message, and perform the mapping to standard message formats
Client Devices	These are the devices used by the end users in the execution of their day-to-day work. These devices shall be accessed from their workstations.
Enterprise COTS VTR	The Enterprise COTS VTR forms the core logic that drives the Client, and provides the interface points from the Nebraska DMV VTR system to all the other systems.
Enterprise COTS VTR Repository	This is the main storage that will be holding all the relevant data to enable the Nebraska DMV VTR System to support the user operations. It contains the business data and the Nebraska DMV VTR system configuration data.
Web Client	This component will be the user interface for the customers, partners, and employees. This will be via a web browser.
Report Core	This component generates the required reports as and when required /arranged. It will be drawing in the data for the reports from the Reporting Repository.
Report Repository	This component is the primary repository of data used / to be used for the operational reports generation described above. The originating data source may be from other systems, but and these data will be copied to the reporting repository for historical reports generation the reports to make use of the data.
ESB Management	This component provides the mechanism that manages access to applications and services, especially legacy versions, to present a single, simple, and consistent interface to other application. In essence, this component is to hide complexity, simplify access, and allow interfacing applications to use generic, canonical forms of query, access and interaction, handling the complex details in the background.
Batch FTP Management	This component enables the Nebraska DMV VTR system to send and/or receive batch file transfers. These transfers are usually scheduled to be executed at specific time so as to not interrupt or impair the Nebraska DMV VTR performance
Authentication Management	This component serves 2 distinct functions. It is to confirm that the users individually is or is not who they claim to be, and upon establishing that the user is authentic, sets a user's rights and permissions on the system.

Component	Description
System Management	This component serves as the central management collecting all the events and configuration of the Nebraska DMV VTR components
System Monitoring	This component is meant to keep watch on the system activities and performance, with alerts going when any part of the system deviates from the expected behavior and / or state.
Backup and Restore	This component is a service to copy operational data to / from separate storage area. The data copy serves as a failsafe mechanism in case of business and/or system data corruption in the system for any reason.

Table 1. Logical Component Table

Solution Deployment Nodes

Deployment nodes show how the logical components are placed into the Nebraska DMV VTR Project Architecture across the various layers. The following diagram outlines the topology for the deployment nodes at a high level.

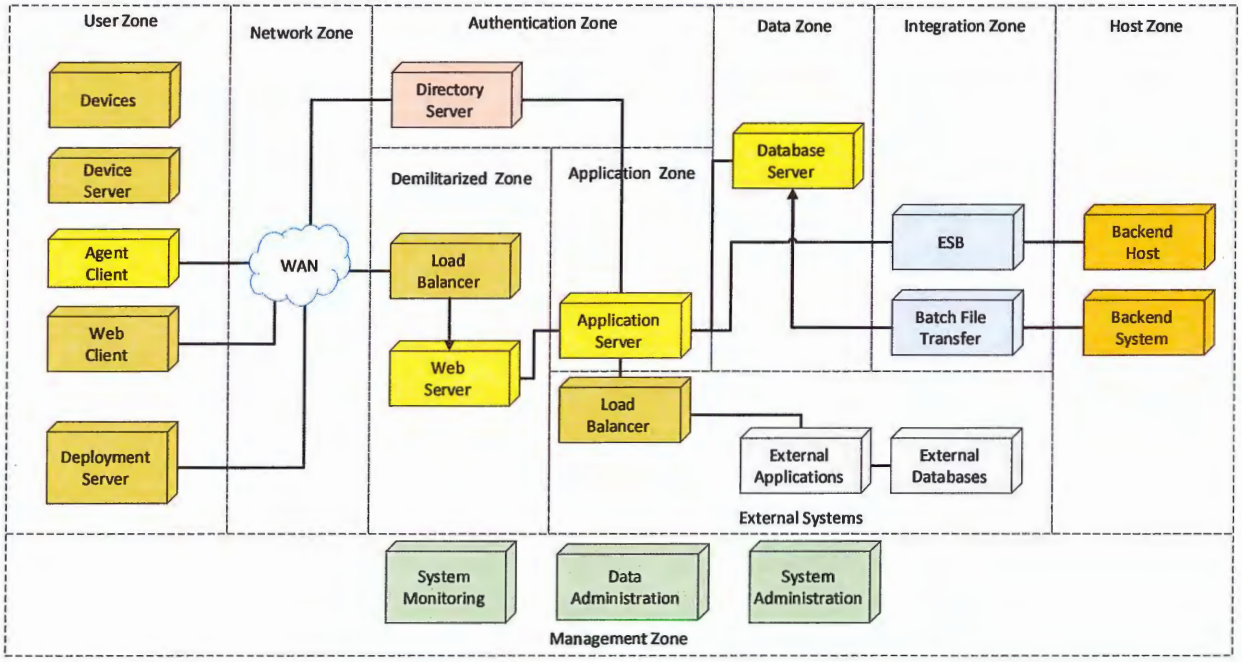

Figure 5. Nebraska DMV VTR Deployment Node

The Nebraska DMV VTR Solution is deployed across multiple layers as shown above.

User Zone: This depicts all the nodes that are deployed within a service location where users will interact with the system. The key nodes that are deployed at this zone are client applications that use a thin interface and/or a Web client.

Network Zone: This depicts the connectivity of the remote service locations to the central data center where all the key application and data nodes are found. The main component of this zone is the Wide Area Network (WAN) connection from the various users to the data center.

Authentication Zone: This is comprised of the Active Directory servers that authenticate the various components of the application and user access. Authentication is required for the nodes that are deployed in both the user zone and in application zone.

Demilitarized Zone: Is comprised of the load balancers and web servers for all the application components. Note that the above diagram does not cover the nodes required for external applications.

Application Zone: This zone is comprised of all the application nodes for the Nebraska DMV VTR system.

Data Zone: Includes all the data nodes required for the Nebraska DMV VTR system.

Integration Zone: Shows the nodes that are required for integration with other systems. These could be either message based or file based.

Host Zone: Depicts all the host applications that the Nebraska DMV VTR system connects to. The File integration could also connect to other non-host backend systems. The host node could in-turn connect to multiple applications, both internal and external to the Nebraska DMV.

Management Zone: Depicts the nodes that are deployed to manage and administer the Nebraska DMV VTR system level components.

External Systems Zone: Depicts the nodes that are to be integrated with the external systems for the Nebraska DMV VTR system level components.

Integration Architecture

The critical success factor for a Service Oriented Architecture based Integration is to ensure that the necessary framework of tools, technologies, and methods are put in place. For the Nebraska DMV VTR project, Infosys will work with the Nebraska DMV Architecture Governance leadership. We recommend the use of The Open Group SOA Reference Architecture Framework and Methodology. This will drive the design and implementation of the desired Integration Architecture to reduce risks and deliver on a timely manner.

We understand that the Nebraska DMV is open to the idea that the Integration Architecture for its Nebraska DMV VTR solution can be based on a SOA methodology following TOGAF standards. The drivers behind this design are to achieve the following:

- Enterprise SOA-compliant services following The Open Group SOA standards. The purpose of these integration services is to leverage reusability and become the starting point for

Nebraska DMV's initiatives in the future. This integration method will occur through the Enterprise Service Bus (ESB)

- A Hub and Spoke integration pattern can be used with the Nebraska DMV enterprise application integration, with one interface with the hub per direction of the flow for each application
- The Enterprise Service Bus can be used with application decoupling, using adapters with Message Queuing modeling, intelligent adapters, logging, and monitoring
- Loose coupling between interfacing applications, so that making changes in one interfacing system does not affect the functionality and performance of other interfacing systems
- Abstraction of the services that are exposed by the interfacing applications, so that the other interfacing application does not need to know the underlying details of these services, thereby supporting the principle of loose coupling
- Reusability of services rather than coding many similar services that increase development and maintenance effort
- Point to Point (P2P) connections may be used within the Nebraska DMV's applications for direct access to the various systems. This integration method will not occur through the Enterprise Service Bus.

Some of the benefits of using Service Oriented Architecture to help the Nebraska DMV resolve business problems such as single point of transformation for connecting agencies, supporting multiple data formats by different agencies, integrating heterogeneous systems, and leveraging existing IT investments are listed below. Benefits include:

- Increased Business Agility
- Allows Business, Not Technology, to Drive the Enterprise
- Facilitates Reuse of Common Services
- Reduces integration cost and complexity
- Efficiently manages business and technology change
- Ensures high availability and scalability for Nebraska DMV business infrastructure
- Reduces the need for multiple point-to-point connections between organizations.
- Provides greater visibility, controls and analytics to govern how services and processes are deployed, reused and changed across their entire lifecycle.
- Facilitates reduction of time to market for new project integration
- Facilitates the Service Management, Service Security and SOA Governance

Using the proven integration patterns that are available with the SOA reference architecture, we can drive the interface design and development that starts from the user requirements, through the business and application patterns, down to the run-time patterns. As these are proven patterns, implementation risks are then reduced and the desired interaction architecture can be implemented.

Service Components

The major elements in the proposed integration solution include the following:

Business Process component. Users will develop and deploy business processes with support for short- and long-running processes with the ability to use a compensation engine (rollback).

Human Task (Workflow) component. This component helps to describe and implement automated tasks and role-based human tasks. Support processes that involve human interaction that can be interruptible and persistent, and can also offer management of role-based task assignment and invocation

Business Rules component. This component provides support for rule sets (if-then rules) and decision tables.

Supporting Services

Mediation flows. Mediation flows (message flows) intercept and modify messages that are passed between existing services (providers) and clients (requesters) that want to use those services.

There are also a number of supporting components that deal with the differences that come with various applications and systems in a heterogeneous IT environment. These servicing components are:

- Interface maps—Interfaces of existing components match semantically but not syntactically (e.g., updateCustomer versus updateCustomerInSQL)
- Business object maps—Used to translate one type of business object into another type
- Relationships—Keeping business objects synchronized
- Selectors—Different services sharing the same interface can be selected and invoked by a selector dynamically

SOA Core

Service Component Architecture. Service Component Architecture (SCA) presents all elements of business transactions—access to Web services, service assets, business rules, workflows, databases and so on—in a service-oriented way.

Business Objects. A business object is a set of attributes that represent a business entity (such as Customer), an action on the data (such as a "create or update" operation), and instructions for processing the data. Components of the integration application use business objects to exchange information and trigger actions.

Common Event Infrastructure. Support for Common Event Infrastructure and Common Base Events enhances tracking, auditing, and monitoring of business processes.

The Solution Component Matrix table below shows the recommended technologies and components for both Java and Non Java solutions for Nebraska DMV to consider. Infosys recommends them for the Nebraska DMV VTR solution.

Solution Component Matrix			
Technology	**Description**	**Oracle (Java)**	**Microsoft (Non-Java)**
Presentation User Interface	This component will be the user interface for the customers, partners, and employees. This will be via a web browser	Siebel Open UI	MS Dynamics FE Interfaces
CRM	Customer Relationship Management software to support the customer experience	Siebel	MS Dynamics
Enterprise Service Bus (ESB)	This component provides the mechanism that manages access to applications and services	Oracle SOA Suite	MS Biztalk MS MQ

Solution Component Matrix			
Technology	**Description**	**Oracle (Java)**	**Microsoft (Non-Java)**
Broker	This component provides mediation flows (message flows) intercept and modify messages that are passed between existing services (providers) and clients (requesters)	Oracle SOA Suite	MS Biztalk
Rules Engine	This component provides support for rule sets (if-then rules) and decision tables	Oracle Policy Automation (OPA)	MS Dynamics Rules Engine
Web Services	XML, SOAP, WSDL software for tagging, transferring, and describing services over the web	Oracle SOA Suite Weblogic	MS Windows Communications Foundation (WCF)
Hosting	Server hosting services through public or semi-public domains	Amazon Web Services (AWS) Cloud	MS Azure
Interface	Software that enables two independent systems to meet and act on or communicate with each other; e.g. Web Services and or API	Oracle SOA Suite Oracle API Manager Oracle API Catalog	MS Windows Presentation Foundation (WPF) MS Windows API
Business Process	Enables users to develop and	Oracle Business Process	MS Biztalk

Solution Component Matrix			
Technology	**Description**	**Oracle (Java)**	**Microsoft (Non-Java)**
Management	deploy business processes with support for short- and long-running processes with the ability to use a compensation engine (rollback)	Management (BPM) Suite	
Workflow	This component helps to describe and implement automated tasks and role-based human tasks	Oracle Business Process Management (BPM) Suite	MS Windows Workflow Foundation
Single Sign On	Enables users to enter one name and password and have access to more than one application	Oracle Identity Access Manager	Microsoft Siteminder
Access and Authentication	This component serves 2 distinct functions. It is to confirm that the users individually is or is not who they claim to be, and upon establishing that the user is authentic, sets a user's rights and permissions on the system	Oracle Access Management Suite Plus	MS Dynamics Identity Management
Reporting	This component generates the required reports when required /arranged. It will be drawing in the	Oracle Business Intelligence (BI) Publisher Jasper	Reporting FE Interfaces SQL Reporting / Crystal Repots

Solution Component Matrix			
Technology	**Description**	**Oracle (Java)**	**Microsoft (Non-Java)**
	data for the reports from the Reporting Repository		
BI / Analytics	Enables users to analyze data	Oracle BI Suite EE	Reporting FE Interfaces
Database	A collection of information organized for quick selection	Oracle	MS SQL
Master Data Management	Method of referencing master data that is shared by systems or groups	Oracle MDM	MS CRM Bulk Loader
Scheduler	Enables groups to schedule meetings, appointments, and tasks	Oracle Real Time Scheduler	MS FieldOne Sky
Document Management	Enables the storage, manage, and track electronic documents and images	Oracle Web Center Enterprise Capture IBM Filenet	MS Dynamics with OneDrive MS Team Foundation MS SharePoint
Alerts	Signaling technique used by data transmission systems to indicate status	Oracle Policy Automation (OPA)	MS Notification Services
Data Quality	Level of quality that is fit for intended users	Oracle Enterprise Data Quality	MS Data Quality Server (DQS)
Performance Testing	Enables the process of determining the speed or	Apache Jmeter	Microsoft Studio

Solution Component Matrix			
Technology	**Description**	**Oracle (Java)**	**Microsoft (Non-Java)**
	effectiveness of various entities; e.g. solution, network, program		
Version Control	Enables the process of keeping software systems with many versions and configuration organized	Apache Subversion (SVN)	Windows Volume Shadow Services (VSS)

Table 2. Solution Component Matrix

4.2 Reference to the other Jurisdiction/Customers using the solution

Please see "Past performance and Client Referrals" in section 2.4, "The Infosys Advantage".

4.3 Product Roadmap or Future Enhancement plan

We firmly believe that we can bring value to Nebraska DMV that no others can match, and look forward to a favorable evaluation to begin deeper discussions relative to the proposal. We are well prepared to discuss the value Infosys can bring to Nebraska DMV while assisting in the execution of your strategic goals. We have assembled a best-in-class team for this project, and enabled them with industry-leading processes and tools. The team is ready to get started, and looks forward to celebrating a successful project execution with Nebraska DMV.

Some points highlighting Infosys' achievements in IT and related Services' industry are listed below:

- **620+** Clients in different Industry Verticals such as Services, Insurance, Financial Services, Retail, Manufacturing; **59 are Fortune 100 and 154 are Fortune 500 companies**
- SEI CMM Level 5, CMMI Level 5, PCMM Level 5, ISO 9001, ISO 14001 and BS7799 certified
- 97.4% of the revenue from repeat business demonstrating reliability and predictability
- 93%+ of our programs are delivered on time and within budget
- Forbes and HOLT, a division of Credit Suisse, ranked Infosys # 15 among the world's most innovative companies in July 2011. Infosys was the only IT services company in the top 50.
- In a 68-criteria evaluation of Oracle services providers, Forrester recognized Infosys as having "one of the world's leading Oracle services practices" in May 2011. Infosys received highest score of 5/5 on various parameters as part of Forrester Wave.

- Infosys ranked among Newsweek's top 10 green global companies.
- Infosys was ranked India's 'Most Admired Company' in The Wall Street Journal Asia 200, a listing of Asia's leading companies in Nov. 2010.
- Infosys has been ranked the best company to work for by Business Today's ninth survey of 'Best Companies to Work For' (2010)
- Ranked among the top 50 Most Respected companies in the world by Reputation Institute(2009)
- Infosys named "Best Outsourcing Partner" by Waters Publication (2008)

4.3.1 Industry Certifications

Certification	Description
CMM Level 5 / CMMI Level 5	Integrated CMM framework for systems engineering, software acquisition, software engineering, integrated product and process development by SEI, Carnegie Mellon University
ISO 9001-TickIT	BVQI certificate for software development and maintenance process quality
Ramakrishna Bajaj National-Quality Award	Equivalent to the Malcolm Baldridge National Quality Award, Infosys was the first company to win in the first attempt
ISO 20000 / BS15000	For infrastructure management services provided to external client organizations as a service provider
TL-9000	For telecommunications-specific set of requirements based on ISO 9001 created by QuEST leadership forum
ISO 27001 / BS 7799	For management of Information and Physical security, disaster recovery and business continuity
Most Admired Knowledge Enterprises	For organizations that use knowledge-driven strategies to out-perform their peers by above average growth in intellectual capital
ISO 14001	For minimizing harmful effects on environment and achieving continual improvement of its environmental performance
PCMM Level 5	Developed by SEI to guide systems and software organizations in attracting, developing, motivating, organizing, and retaining a talented software staff

Table 3. Industry Certifications

Leveraging the Oracle – Infosys partnership - Infosys is recognized and supported by Oracle Corporation as one of its highest valued services partners.

ORACLE **Diamond Partner**

Highest membership level within Oracle Partner Network (OPN) Specialized that recognizes that Infosys has invested and excelled across the Oracle solution stack and is delivering significant value to customers around the globe.

Infosys is one among the only 2 partners of Oracle to achieve the Diamond Partnership Status. Infosys and Oracle have worked closely in multiple client situations to provide the best in class Oracle Implementation and support services.

As a part of our partnership we plan to leverage or this project our direct link into Oracle's support and development organization to raise visibility for critical project issues

Being Oracle co-development partner for Fusion applications, Infosys can help Nebraska DMV to create a roadmap to migrate to Fusion applications once they are stabilized on R12.

We will be glad to demo some of our Accelerators for Upgrade (such as XPress tool) and Infosys tools that we propose to use during upgrade at our Oracle Innovation Lab at Redwood shores.

Oracle Leadership – We have executed 30+ successful R12 engagements worldwide and 10+ are upgrade engagements. Our Oracle practice is one of the largest practices with Over **25000 Oracle professionals** including **8300+ Oracle Applications professionals.** We have executed **1100+ Oracle engagements** in 50+ countries in last **7** years. Independent Industry analysts – Forrester rates Infosys among the top 3 Service Providers for Oracle Services in the Leader wave.

Infosys has been a leader in Oracle implementation and has been continually receiving 7/7 client satisfaction score from across the globe. One of our key testimonials comes from **Dennis Weisenborn, Ameren VP, and Supply Services**

> *"We are well on our way to achieving savings of over $25 million per year from these improvements, as well as addressing lead times, information access and many other items relating to sourcing and contract management. This is truly a case of using supply chain capabilities as an enabler for cost reduction and to allow the supply chain to better meet the needs of our internal partners."*

For additional details on the Ameren case study - please click /copy paste the link below in your browser:

http://www.smartbrief.com/news/aaaa/industryBW-detail.jsp?id=B36FC6DB-A1F0-4042-8D06-79699D47A57B

Below are few more representative client accolades-

"With the help of Oracle Partner Infosys we were able to upgrade to select modules of Oracle EBusiness Suite Release 12 in record time. With the new solution, we have been able to reduce the potential for accounting errors and close our books more efficiently, ultimately saving us time and money." – **Michael McCullough, Vice President, Enterprise Business Systems, MoneyGram International, Inc.**

Please refer the link http://www.oracle.com/customers/snapshots/moneygram-international-ebs-snapshot.pdf

"Infosys is a different kind of consulting firm, their conceptualization and excellent execution is their secret sauce. [Their] methodologies and models are instrumental in guiding us in the direction of success" – **CIO of a top US upscale apparel and shoe retailer**

Expected Bus.
Support

5. Expected Business Support from DMV

5.1 Stakeholders role and availability expected from DMV

As each release/phase begins, a Readiness Network (or network of change champions) will be established who will lead tactical organization readiness planning and assessment in target locations. We will drive and closely monitor tactical readiness, using the Readiness Network for leverage, so that each stakeholder and user group understands exactly how the changes will impact them and what they need to do to be ready for "go live".

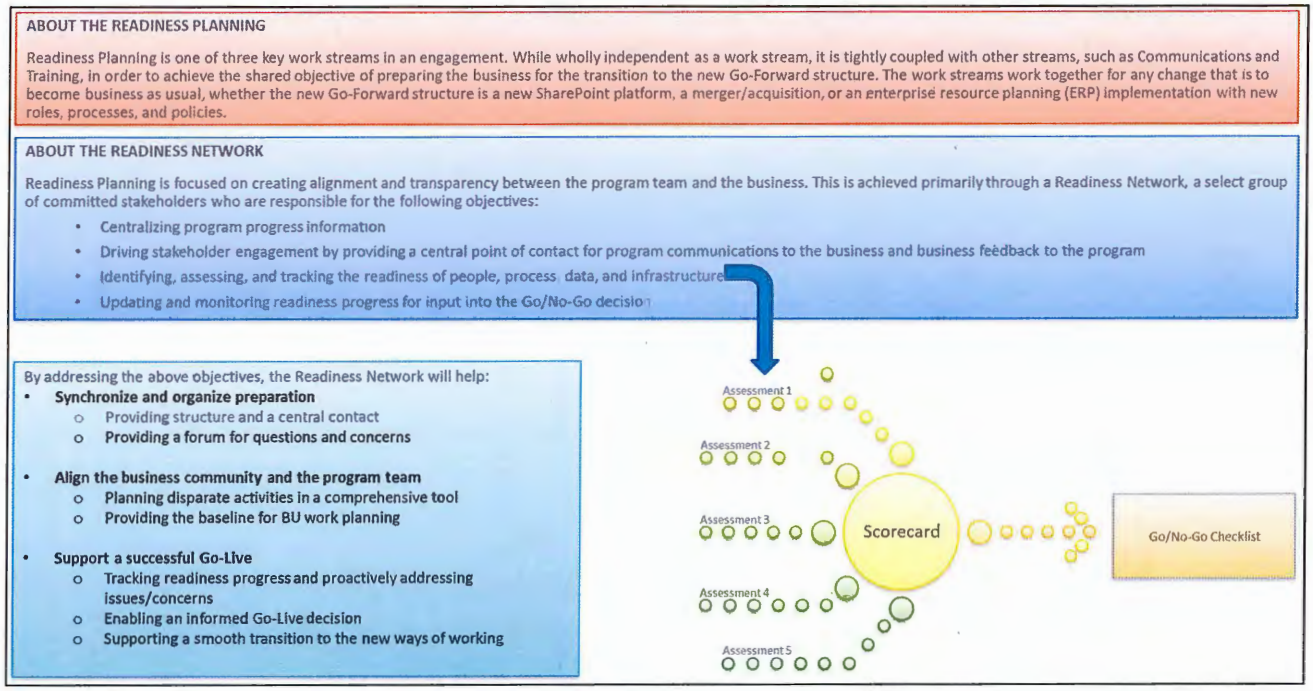

Figure 6. Infosys OCM Framework

Infosys will also work with the Readiness Network to define and prepare Super Users who will be essential for on-the-ground support after go-live, and to establish an effective training schedule for their respective organizations/locations. We will further leverage the Network to conduct one or two Readiness Assessments, where we compare the state of preparedness to a tailored Readiness Checklist.

Throughout the program, a steady flow of information will be maintained, and targeted to the need of specific user groups and organizations. We will also support Nebraska leaders in their communication efforts and in understanding and taking specific actions required to demonstrate visible leadership for the change. Below is a sample RACI diagram depicting an alignment of roles and responsibilities that drive successful organizational change. Infosys believes strongly that clear lines of accountability and responsibility will lead to a successful outcome.

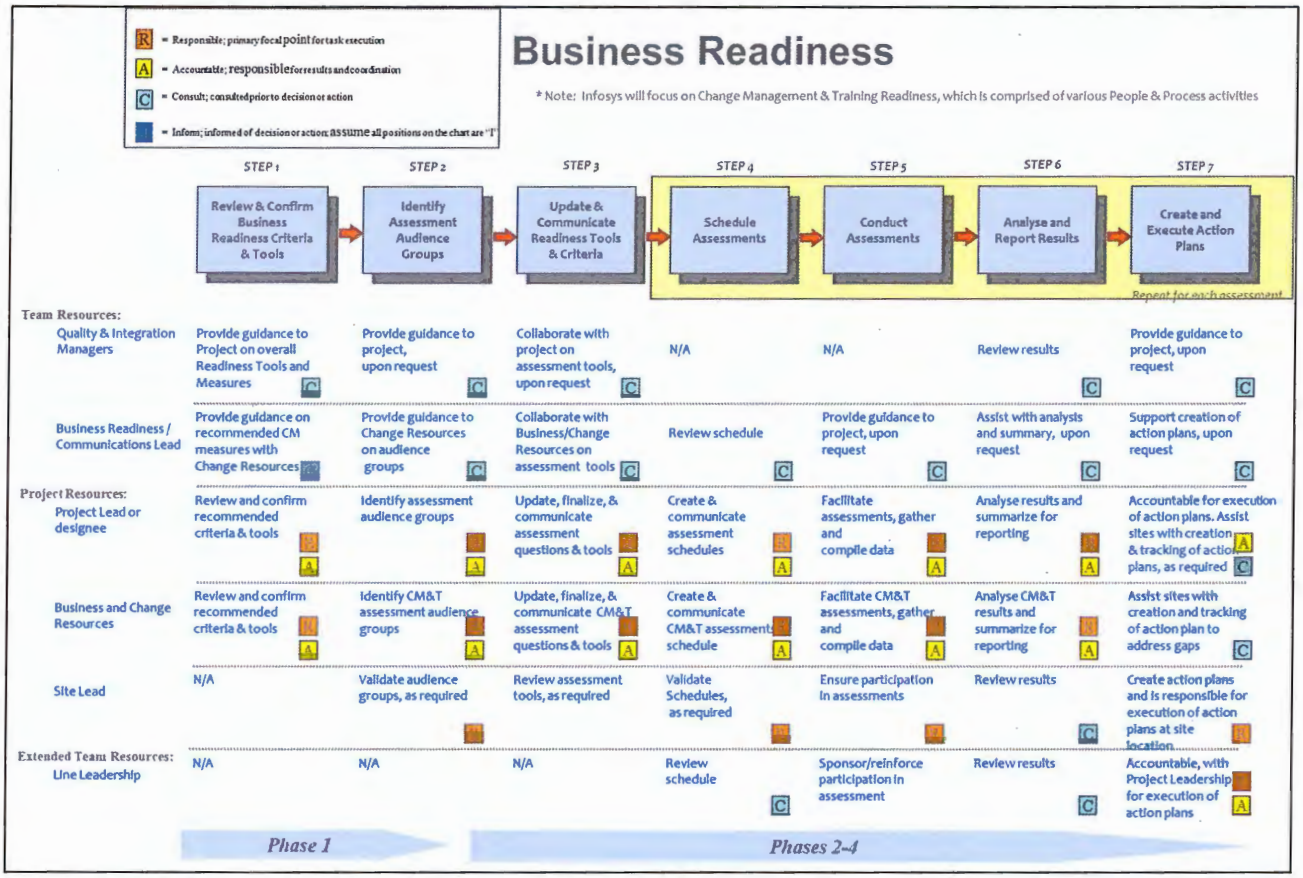

Figure 7. Sample RACI diagram

5.2 Expectation from staff/personnel for the Legacy system knowledge

As part of our knowledge transition approach, there is a critical need to obtain the legacy system knowledge that is required to successfully design, develop, and deliver a solution that meets Nebraska's requirements. We have provided additional detail in section 6 of this response on our approach to knowledge transition; both transition in and transition out.

- Access to current system and business process documentation
- Access to subject matter experts, both technical and business, throughout the project development lifecycle

5.3 Data cleansing/ conversion role and Responsibility

Our approach and expectations are based on prior successes and continuous refinement of the Data cleansing processes, over several years of experience. Infosys recommends the data cleansing process to follow a parallel SDLC to the solution build activities. Since there are multiple sources containing huge volumes of Transactional & Historic data spanning across various flavors of source database technologies, Infosys proposes a step by step data cleansing approach which will be phased and aligned to a proposed release schedule.

Our expectations of the State's DMV's roles and responsibilities from a FTE standpoint for data cleansing includes the following Responsibility (R.A.S.I.C) Matrix:

- Responsible: Those who are responsible for delivering the task successfully.
- Accountable: This individual who has ultimate accountability and approval authority.
- Supporting: Those who are supporting the "real" work with resources, time or other material.
- Informed: Those who provide input and must be informed of the results or actions taken.
- Consulted: Those who provide valuable input; e.g. SME.

High Level Data Cleansing R.A.S.I.C Matrix		
Activity	Nebraska DMV	Infosys
Approach		
Understand and agree to the recommended Data Cleansing approach	A, I, C	R, S
Planning		
Participate in the Data cleaning planning	S, I	R, S
Analysis		
Participate in identifying the Source/Target data profiling/cleansing discussions	I, C	R, S

High Level Data Cleansing R.A.S.I.C Matrix		
Activity	Nebraska DMV	Infosys
Evaluate the required mapping and the effort required to implement the data cleansing solution	I, C	R, S
Assess the current data quality, identify root causes for data quality issues, and put in place proactive measures	I, C	R, S
Requirements		
Identify the appropriate legacy data to be cleansed and converted as per the standards of the new system	I, C	R, S
Provide the data profiling/cleansing rules as per the DMV businesses standards.	S, I, C	R, S
Data Extraction & Staging		
Apply data profiling / cleansing rules to the consolidated legacy data post data extraction and before loading in the staging area. Understand the various data quality issues and publish the results	I, C	R, S
The reports would be monitored, reviewed and analyzed by businesses. Correct data in source system	R, S, I	I,C
De-Duplication Cleansing		

High Level Data Cleansing R.A.S.I.C Matrix		
Activity	Nebraska DMV	Infosys
Cleansing and standardization rules (based on the initial profiling results and user workshops) are executed to address data quality exceptions	I, C	R, S
The cleansing results will be returned. Businesses can measure the incremental improvement of the quality against specified targets per attribute (or group of attributes)	I, C	R, S
The Standardized and cleansed data will undergo matching process using a recommended Enterprise Data Quality tool match processor	I, C	R, S
Potential duplicates will be identified via matching rules configured and score will be returned by the recommended Enterprise Data Quality tool	I, C	R, S
Transformation and Data Load		
Post Data cleansing conversion testing, data can be used for new system validations such as cardinality, checksums, allowed characters, and others	I, C	R, S
Unique records will then subsequently loaded into	I, C	R, S

High Level Data Cleansing R.A.S.I.C Matrix		
Activity	Nebraska DMV	Infosys
target base tables		

Table 4. Data Cleansing Responsibility (R.A.S.I.C) Matrix

Infosys will work with the appropriate DMV SMEs to establish governing policies concerning the required data sources, quality measurements, the data conversion, and synchronization architecture.

Data quality/cleansing requirements will be gathered through workshops and meetings involving the source system business SMEs Infosys functional leads, and Infosys data conversion analysts. The workshops/meetings will be conducted for each data entity as identified in the scope, the detailed business requirements, and in the business logic for conversion.

5.4 Impact on the DMV Personnel as a result of the software implementation (Post Implementation)

Infosys will perform the following tasks to provide superior service for knowledge transfer to Nebraska to ensure they are positioned to efficiently and effectively assume accountability for the solution. We have provided additional detail in section 6 of this response on our approach to knowledge transition.

- Maintain the systems and supporting documentation in such a manner that application knowledge can be easily and promptly transferred
- Develop a detailed turn-over plan in response to the incoming DMV discovery requests that identify all procedures, resources, tasks, responsibilities, and timeframes required
- Infosys will complete a review of all system documentation prior to the completion of the transition period

5.5 Project Team Organization (Including Partnership if any)

Infosys' approach to managing an engagement of this size and complexity is to ensure there are complimentary key roles between Infosys and Nebraska. These partnerships are vital to a successful delivery and our collective ability to manage issues and risks that could adversely affect the success of the program. As you can see by the diagram below, there is critical importance placed on

program governance, both internal and external to Nebraska. The identification of the program and key roles is complete prior to project mobilization.

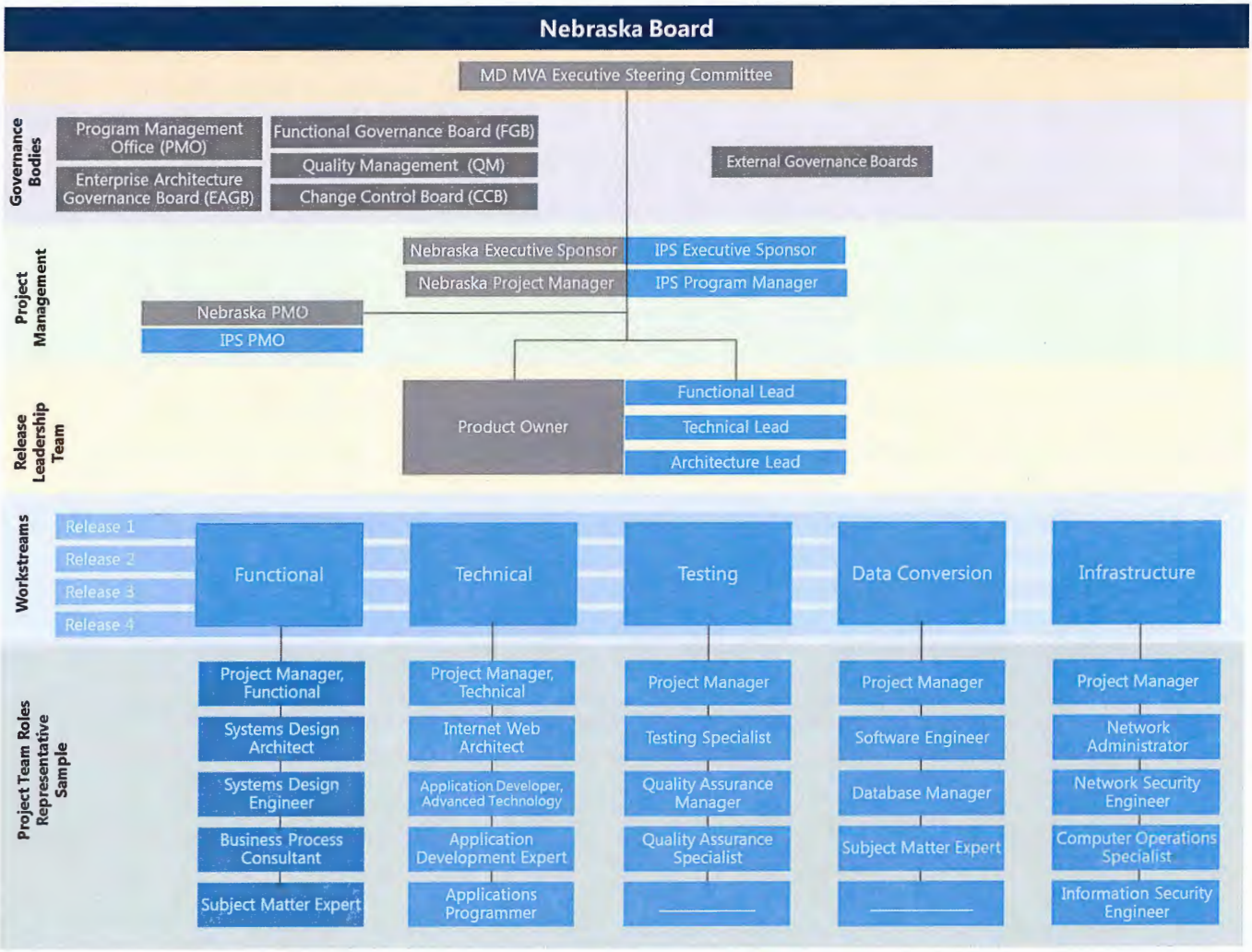

Figure 8. Team Organization

5.5.1 Key Roles

There are 4 key roles in the Impact methodology. They will work together within each Sub-Release to ensure successful delivery:

- Product Owner
- Technical Lead
- Enterprise Architect
- Functional Lead

Figure 9. Impact Methodology Roles

The Product Owner will be a Leader within the Nebraska DMV organization, and will work closely with the other 3 roles.

5.5.2 Size of the team

Infosys Public Services uses following approach to staff our projects:

For Project Initiation

- During project initiation Nebraska-DMV and IPS will drive the project plan into the final level of detail.
- This detailed work plan will identify all tasks to complete the project as well as staff resources by skill set and level of that skill set, effort for each task and related start and end dates of the task
- We then determine the number of skills at certain level that are needed during each period to complete the tasks that fall into that period of time.
- We then identify the individuals within IPS or our Partners that allows us to reserve them for this project. At the same time we identify backups where it is appropriate so that we minimize any down time if one of our staff either decides to leave or is not performing to the level required.
- These individuals will be staffed to the project for the duration of their assigned tasks

Distinguishing Factor

IPS talent team is:

- Seasoned resources with recent and relevant Motor Vehicle large system implementation experience.
- Domain and Functional experts with decades of Motor Vehicle business knowledge
- Executive leadership for accountability and commitment

During the Project Execution

- If for some reason during the execution of the project there is a staffing gap or we jointly agree to remove an individual from the project for performance issues or personal issues, we will identify (if no backup is assigned) an individual to fill the role in less than 10 days
- If the resource that has to be replaced by either the Nebraska DMV direction or if the person decides to leave IPS, then IPS will provide the state the new individual credentials for review before any commitment is made to the individual to fill a key resource role.

Operations and Maintenance Initiation and Execution

- We will work with the state to identify team members from the current development team to be carried forward to the support role of the core system.
- If it is determined that there is a misalignment of someone currently on the development team, IPS will identify additional individuals from our backup pool, our overall organization or our Partners to staff the roles.

We expect that this staffing approach would also be followed by the State for employees or contractors the state assigned to this project.

5.6 Lessons learned from the previous Implementation

#	Lesson Learned	Impact	Proposed Change
1	Roles/Readiness Lead Technical and Coordinating roles, SM, TSO, DMO, Infosys, ITS, CSB, Data Mod were well defined and worked well for the project.	Positive Impact	Continue with Lead roles and enhance and promote leveraging roles for resolving issues, and obtaining resolution in a timely manner. Expand model to other areas, such as Infosys Architecture and Client Architecture to identify a point of contact.
2	Communication Infosys Architecture and Client Architecture collaterals lacked completeness, were behind the latest solution design, and did not clearly depict solutions. Deliverables collaterals were not coordinated with the IPC and tactical designs for implementation not documented/vetted early enough.	Negative Impact	IPS and client to review all Architectural artifacts and overlaps with IPC document and ensure that both are always aligned. If timing is a problem, identify as such clearly in the document and track with an expected ETA.

3	Communication Communication gap between Infosys PMO, Infosys Infrastructure, Client PMO and Service Management teams.	Negative Impact	Infosys communication to be improved between Infosys PMO, Infosys Infrastructure and Infosys Architecture work streams. To involve Client Infrastructure team in all discussions relevant to Infrastructure decisions. Ensure follow-up between Infosys and Client PMO's and provide regular status updates to SM Infrastructure team on all decisions impacting Infrastructure.
4	Project Tools Lack of integrated day-to-day project plan and tracking. Process Approach No project schedule that identified dependencies and downstream impacts. Deployment schedule was not communicated well in advance.	Negative Impact	Client to develop and implement a daily plan for Infrastructure and Deployment items with complete buy in and commitment from all stakeholders.
5	Project Tools RACI was not always up to date and not easy to add stakeholders/consulters. (E.g. TSO not consulted for Architecture Deliverables)	Negative Impact	Customer advice on how to make the addition of stakeholders to RACI more efficient. Allow stakeholders to review their status on the RACI and review and update as required with appropriate due diligence. PMO to send reminder email once a month for stakeholders to review their roles and responsibilities.
6	Meetings/Sessions Morning Touch point meeting scope can sometimes be too broad and the meetings last too long. Meetings/Sessions The Morning Touch point meetings worked well and provided an opportunity for all teams to understand the current status and next steps.	Negative Impact Positive Impact	Continue with Morning touch point meetings. Encourage greater participation as needed and focus agenda on burning issues with a clear direction on keeping updates brief. Client to redefine the purpose of the Morning Touch point Meeting, define a clear agenda and provide strong facilitation.
8	Process Approach There were unrealistic and aggressive project timelines that required significant Overtime.	Negative Impact	Planned overtime, application code releases and weekend work should be minimized and expectations should be to plan and implement all relevant code drops or Infrastructure updates for non-prod environments during business hours if possible.

9	Process Approach PCR vs. CR processes do not align properly. Timelines for CR process far exceed the timelines for PCR approval.	Negative Impact	Review CR and PCR process and identify Gaps and Overlaps. Client to recommend approval process based on Gaps and Overlaps and seek expedited approval from RUSMP Controllership, Senior Management and Governance based on time sensitivity of PCR.
10	Process Approach Opening Issues/risks without discussion can provide significant overheard and is time consuming to explain and clarify after the fact	Negative Impact	IPS and customer to ensure that all IRAD items are opened with full disclosure across all stakeholders. All stakeholders agree to open an IRAD item only after discussion with affected stakeholder.
	Roles and Readiness BRM/BA roles worked very well as a Liaison between IT and Business.	Positive Impact	To continue with strong BRM/BA liaising and fine tune communication between IT and Business.
	Roles and Readiness Onsite support was beneficial to end users.	Positive Impact	To continue and increase onsite support by TSO, Infosys and RUSSB BA's.
	Roles and Readiness End users require exposure to the system prior to training to allow for ease of use and familiarity of business process changes.	Negative Impact	To engage users in Conference Room Pilot and provide additional demos.
	Process/Approach – There were problems with the Incident process regarding opening incidents, prioritization of incidents and the process was not transitioned to BU early enough. The expectation was to follow SLA. Definition of stabilization period and negotiated support can be improved.	Negative Impact	To ensure the engagement model is followed.

6. Training Needs

We believe that a comprehensive Organizational Change Management (OCM) solution is essential for success. Analyst Gartner observed, in a study of failed business transformation programs, that 92% of the failure cases were due to some aspect of people or organizational shortfall. Therefore, a robust OCM program addresses the #1 cause of transformation program failure. Given the size, scope, and expense of the Nebraska program, we believe a robust OCM program is essential to safeguard that investment. Infosys has a strong OCM practice and are positioned to provide this depth of experience to Nebraska, in order to successfully position the organization to adopt and adapt to the solution.

Infosys' OCM methodology is based on research and experience which show that four basic conditions must be met to drive change through an organization:

1. **Individuals must know and understand what is expected of them, both during and following the implementation:** DMV and modernization program leaders must provide a compelling change rationale, describe a vision for the future, define broad timelines, establish clear roles and responsibilities, and set clear expectations for actions and behaviors.

2. **Individuals must have the skills and tools to succeed at what is expected of them:** DMV and modernization program leaders must ensure that people have the required knowledge and skills to adapt to new processes and systems and to successfully execute them in the new environment.

3. **Individuals must be held accountable for meeting expectations:** DMV and program leaders must set up tangible rewards and consequences for individuals' behavioral choices regarding adoption of new ways of working and achieving desired results.

4. **Individuals must be able to see their leaders visibly leading the change:** Senior leaders must be personally involved in ensuring that the organization in achieves the change. This responsibility is cascaded down through formal and informal leaders in the organization, as studies show that an individual's immediate supervisor is the most trusted source for information and expectations.

The Infosys Organizational Change Management (OCM) solution is proactive, pragmatic, and managed to achieve these four critical success factors. We lead activities and deliverables in ten key work streams, represented by the diagram below. We define, plan, and track practical readiness actions which the project team and stakeholders must complete. Our extensive library of tools, templates, and examples offers accelerators which reduce start-up time and put the focus on results.

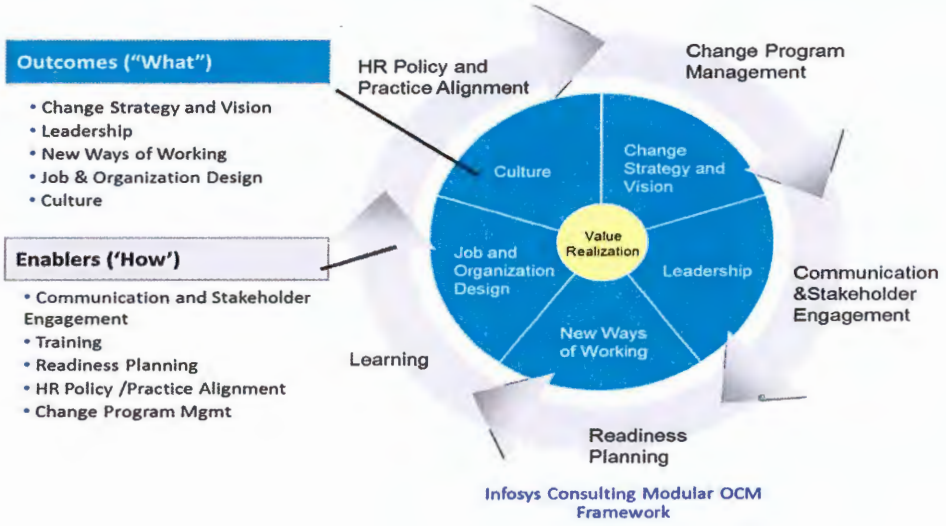

Figure 10. Infosys OCM Framework

OCM activities and deliverables are aligned to project/sprint phases. Work will begin with a series of foundational assessments to scope out the change challenge. These include a Stakeholder Analysis, Organizational Impact Analysis, and People and Organizational Risk Analysis. With the fact base established through this analytical work, we will next develop a communication strategy and plan and an OCM strategy and plan to guide activities for the remainder of the program.

We will partner with Nebraska OCM team to guide and support communication throughout the full program life cycle, at both an overarching, strategic level and at a tactical level within each release. We will ensure that managers and employees are provided with the information they need to understand the purpose and objectives of the modernization program, as well as the details of their roles within it.

As a critical part of readiness planning, we will help Nebraska determine changes in role and job design and in organizational structure, required to optimize the future state operating model and cost profile. We will also conduct detailed role mapping, where end users in each release will be carefully mapped to security access and to required training, ensuring that each user has both the correct training and the correct security access to work seamlessly at go-live.

We will also work with the Readiness Network to define and prepare Super Users who will be essential for on-the-ground support after go-live, and to establish an effective training schedule for their respective organizations/locations. We will further leverage the Network to conduct one or two Readiness Assessments, where we compare the state of preparedness to a tailored Readiness Checklist.

Throughout the program, a steady flow of information will be maintained, targeted to the need of specific user groups and organizations. We will also support Nebraska leaders in their communication efforts and in understanding and taking specific actions required to demonstrate visible leadership for the change. Infosys' understanding of the role Nebraska is anticipating the Bidder to play is depicted in the RACI diagram, Figure 7. We believe that clear lines of accountability and responsibility will lead to a successful outcome.

Our OCM methodology is integrated with the overall Project Plan, to ensure effective management and tracking of key dependencies. Training is a subordinate work stream within the overall OCM plan, with numerous dependencies to the other 4 work streams. The goal of the combined OCM and Training program is to ensure that NEBRASKA experiences no business disruption and achieves the specific benefits that it expects to realize from each release.

Infosys has a long and distinguished history of delivering world class learning solutions for ERP-enabled transformations. Recently announced as a 2015 winner of the Bersin & Associates Gold Award for Best ERP Training Program, Infosys has the expertise, experience and capacity to either manage or support the entire learning lifecycle for the Nebraska modernization.

The Infosys value proposition includes:

- Users able to operate the application efficiently and effectively on Day 1;
- Users adhering to the agreed BPM, based on understanding of how individual roles support end-to-end process outcomes;
- Smooth, efficient transition period, minimizing impact on business continuity;
- Long term self-sustainability for refresher and new recruit training;
- Increased likelihood of benefits and business case realization.

Infosys will deliver a full-life-cycle Training solution for the Nebraska modernization, from learning needs analysis through content development, end-user delivery, and finally, content archival and sustainment. Our solution will combine a wide range of training mechanisms and media, ensuring that training is efficient, effective, and interesting to the end user.

6.1 Training approach for Internal and external users

Our basic approach consists of 3 steps:

1. Process and User Evaluation – Develop a Learning Needs Analysis based on detailed solution design and change impact analysis;
2. Curriculum and Content Design – Definition of training approach and curriculum, followed by detailed content development;
3. Training Execution and Maintenance -- Execution and management of training delivery, followed by development of sustainment plan and hand-over of content to Nebraska for ongoing maintenance and administration.

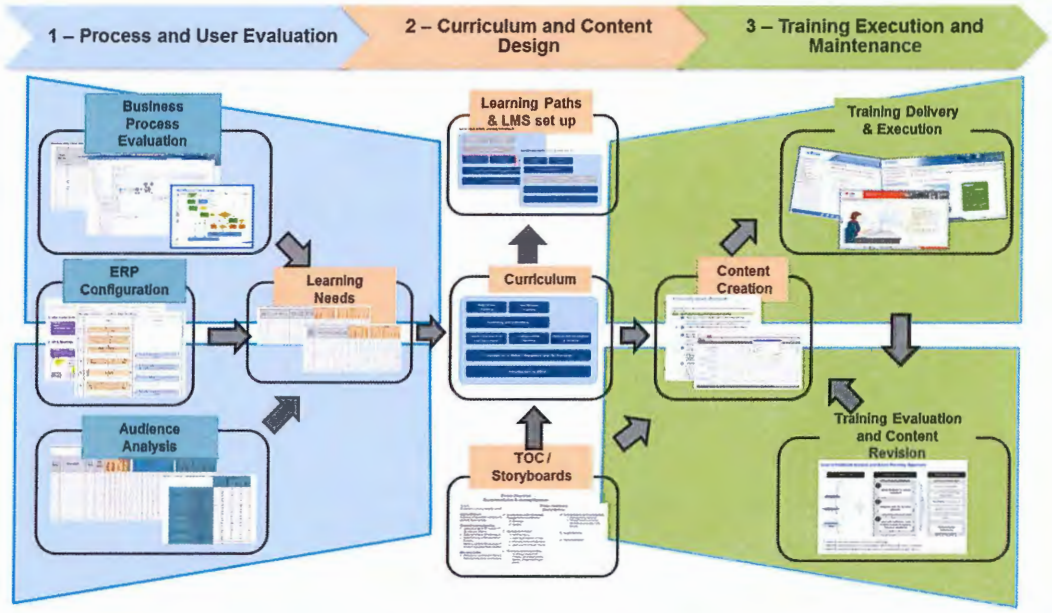

Figure 11. Training Lifecycle

The effort begins with a Learning Needs Analysis. The Learning Needs Analysis is based on understanding the modernization process/technology solution (for each in-scope function), as well the changes between current and desired future state for each user group ("role"). This Analysis underpins the optimization of training methods and tools for each end user population.

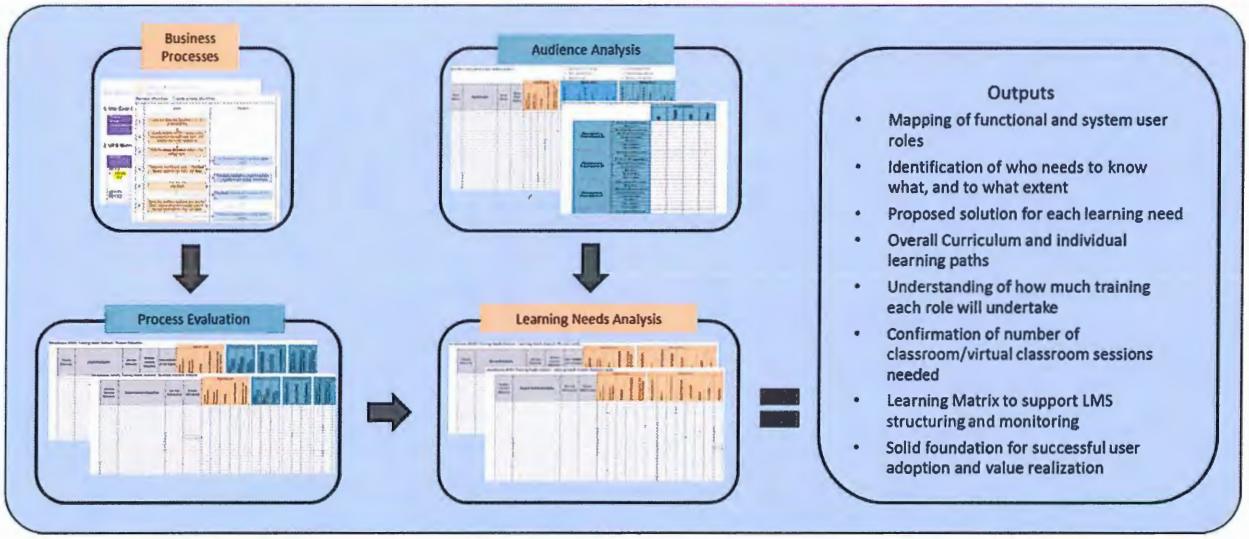

Figure 12. Training Needs Assessment

The output of the Learning Needs Analysis is used to define the Training Strategy and to develop the curriculum. The Training Strategy aligns stakeholders on how different types of training will be

delivered to different user groups. It also outlines scope, objectives, dependencies and responsibilities. The training curriculum specifies how training scope will be broken into role-based "courses". It also specifies the media that will be used to deliver each course – e.g., eLearning, classroom, coaching, etc. We will blend traditional instructor-led classroom training and eLearning to optimize the mix for ease of delivery, cost effectiveness and learning retention.

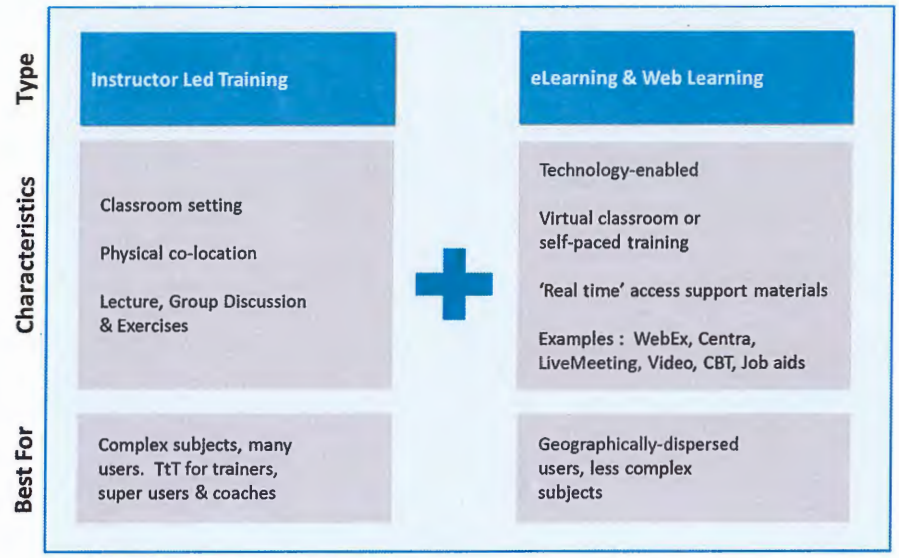

Figure 13. Infosys Blended Training Approach

Once the strategy and curriculum are defined, we will develop a detailed plan for completion of all training materials. As a precursor to content development, as per the RFP specifications, we will complete detailed process documentation for all in-scope processes.

We will use an onsite/offshore model for content development, combining a team of onsite instructional designers with offshore content developers for cost-effectiveness.

Infosys will also complete a Sustainment Plan for how training content should be maintained and updated over time. Following completion of training delivery for each sprint, Infosys will turn over training content to Nebraska individuals or organization(s) specified in the Sustainment Plan, who will be responsible for update and maintenance of the learning assets over time.

In summary, the Infosys training approach will deliver the following:

- Learning Needs Assessment
- Training Strategy
- Training curriculum
- Training content development
- Train-the-Trainer delivery and preparation of Nebraska trainers
- Deliver or provide support of Nebraska trainers during end-user training
- Management of training delivery

- Collection and analysis of training data (attendance, evaluations, etc.)
- Learning Sustainment Plan

6.2 Type of training and details for different sections of DMV staff

Role-based training content will include program and technology overviews (e.g., "Nebraska Modernization Overview", "Solution Basic Navigation"), end-to-end process context (how the role fits into the customer journey/process and relates to other roles), and detailed process and system instruction. Each user role will have a sequence of required courses that, together, will deliver the necessary level of capability in the new process/system environment.

In addition to the training program, IPS also incorporates a strong knowledge transition practice to ensure the project team and support resources are positioned for success. Infosys' key objectives driving our approach are noted in figure 14 below, of which the most important objective is to minimize business disruptions. Our comprehensive knowledge transition approach will be executed to prepare DMV to support the solution as it is deployed into production.

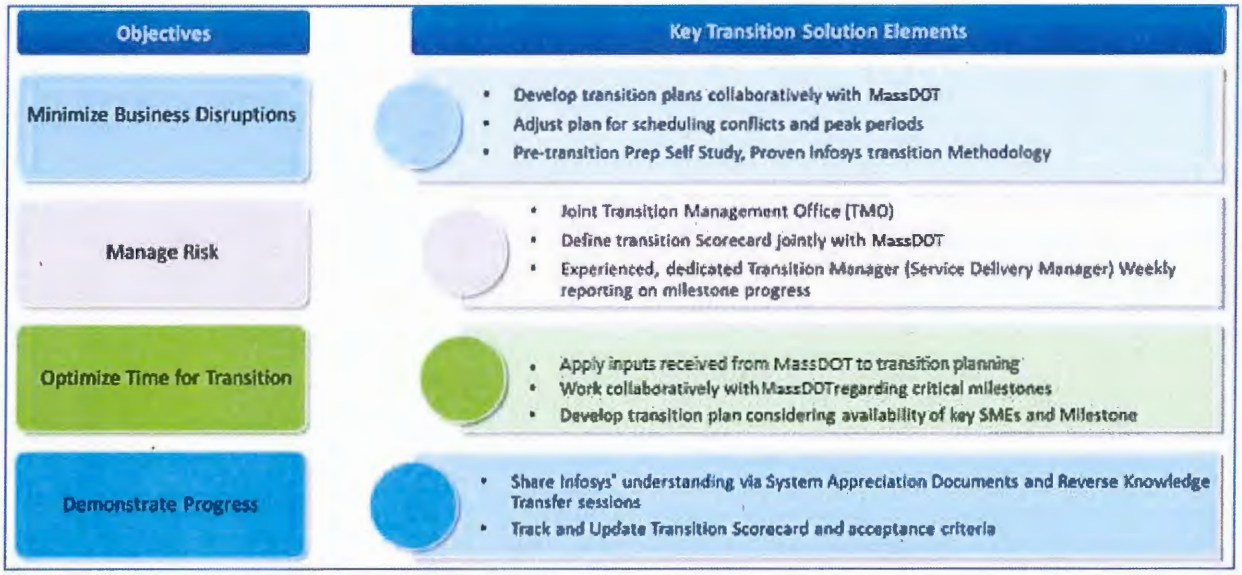

Figure 14. Knowledge Transition Objectives

Infosys will leverage our proprietary **Infosys Transition Advantage Platform™ (ITA)** that incorporates tools and best practices that are designed to mitigate most critical points of failure for transitions meeting our stated transition objectives. Refer to figure 15 below.

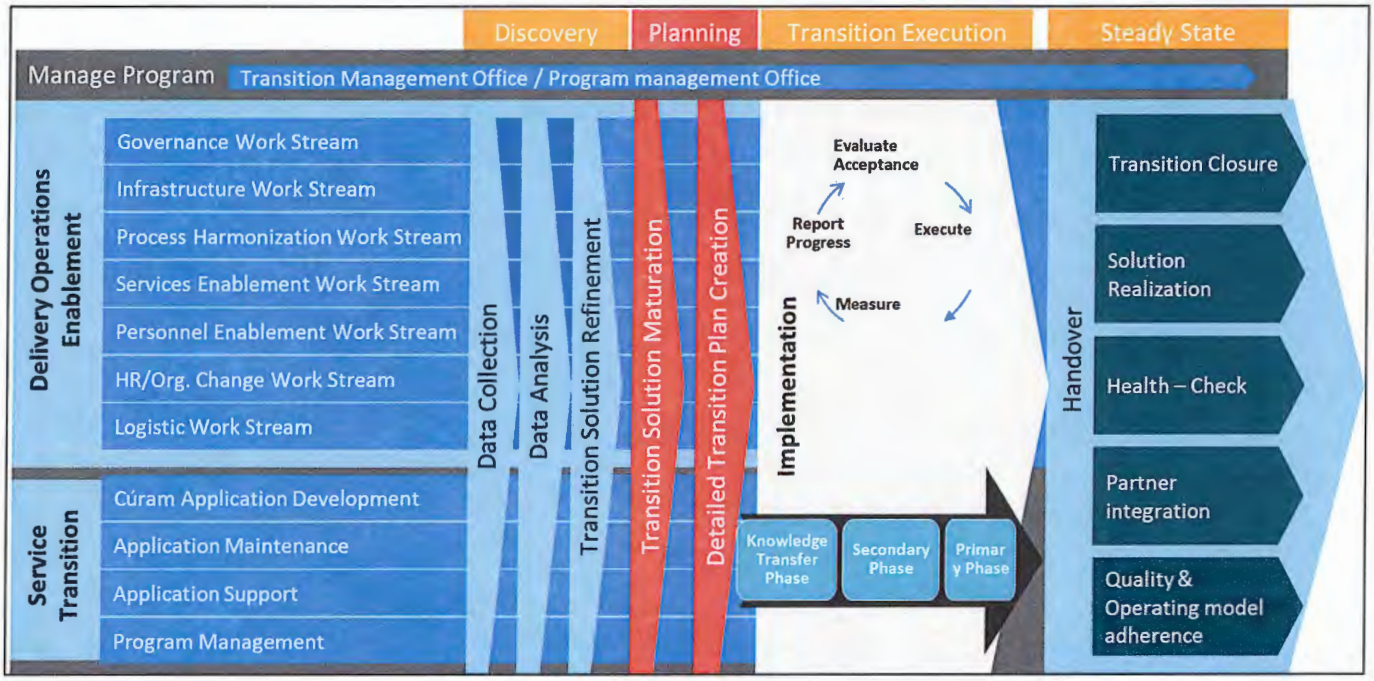

Figure 15. Knowledge Transition Framework

To ensure the success of knowledge transition, Infosys compliments the transition framework with a targeted governance structure to monitor the progress and ultimate success of the knowledge transition. Applying governance to the knowledge transition activities enables issues and risks to be uncovered and addressed early on in the transition process. Refer to figure 16.

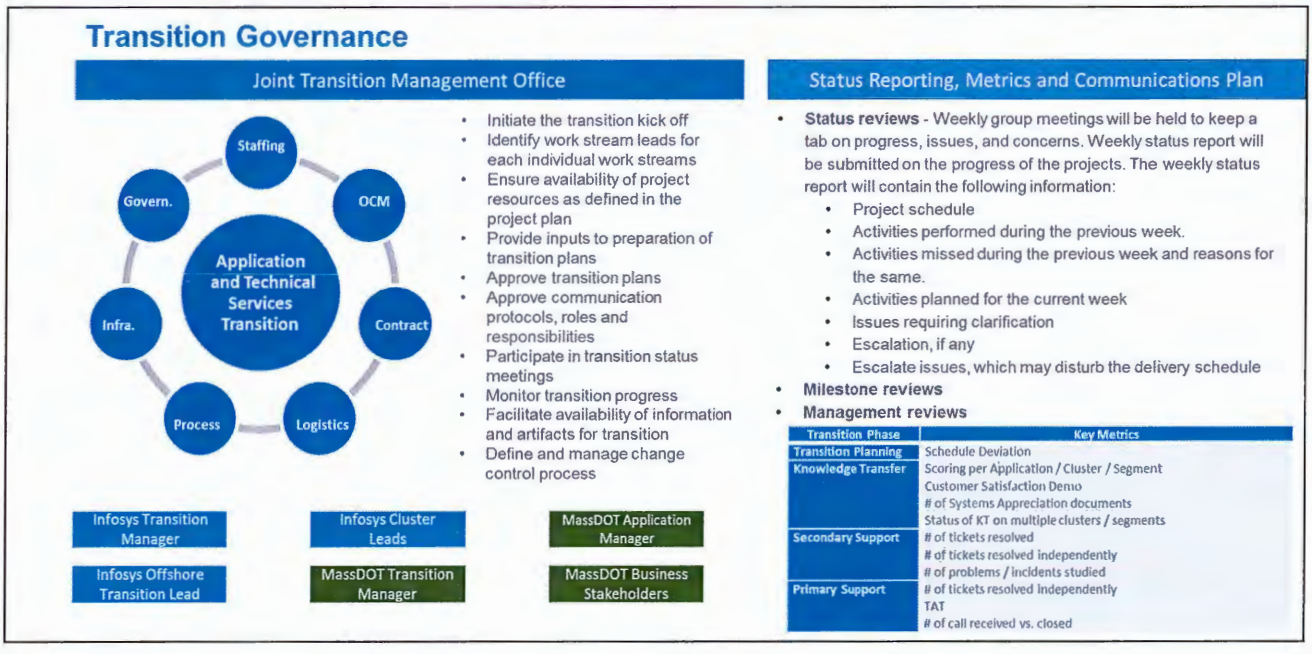

Figure 16. Knowledge Transition Governance

Infosys has an internal knowledge management tool, KShop, which can be enabled for the DMV to house the comprehensive knowledge collected and developed as part of the transition plan execution. The tool enables effective management and retention of knowledge within the project team and the organization.

As described in Infosys' Knowledge Transition framework, a critical first step is to create a detailed KT plan aligned to each implementation activity by sprint. It is not only critical to identify the knowledge to enable DMV to successfully support the new solution, but transition knowledge to Infosys regarding the existing solution(s) and environment. The details regarding the transition planning are outlined in Figure 17. At the conclusion of each sprint planning activity the knowledge transition plan is updated and ready for implementation execution.

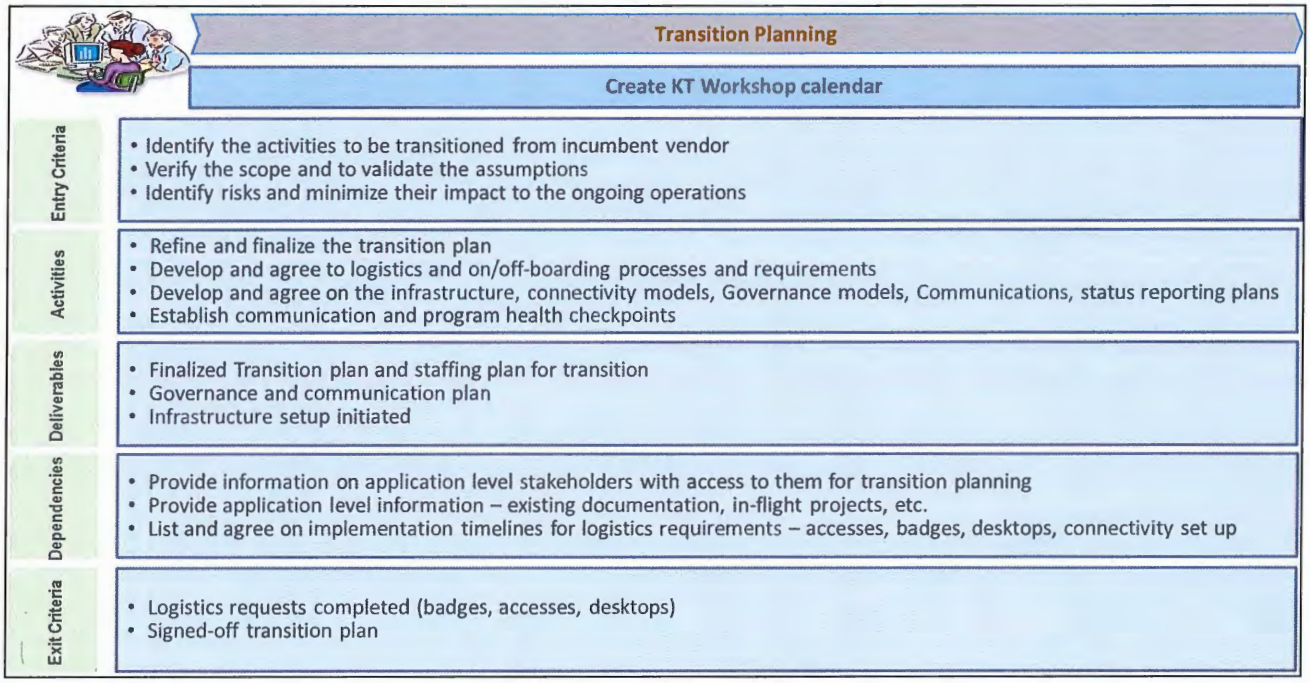

Figure 17. Knowledge Transition Planning

Knowledge Transfer	
	Completion of Knowledge Acquisition
Entry Criteria	• Transition plan signed off • Logistics requests (badges, accesses, desktops) completed • Completion of the minimum required infrastructure set-up • SME time has been booked as per training plan
Activities	• Acquire knowledge through discussions, documentation study, and environment analysis • Understand the current testing processes • Prepare Application Information Document • Validate Test cases, Requirement Traceability Matrix (RTM) and document the gaps • Conduct the Reverse KT to SME's
Deliverables	• Modified Application Information Documents as applicable • Analysis report and rectification plans
Dependencies	• SME's, Leads conduct sessions or provide information as per the signed off transition plan • Facilitate access to available documentation/manuals • Review reverse KT documentation • Facilitate access to key resources for infrastructure, knowledge sharing, approvals, reviews & issue clarification provide all assets, process, procedures.
Exit Criteria	• Completion of all planned KT sessions with SME and reverse KT sessions by the new vendor team • All KT criteria met and signed off • Secondary support acceptance criteria drafted

Figure 18. Knowledge Transfer

6.2.1 Knowledge Transfer Activities

Infosys will leverage its proprietary **Infosys Transition Advantage Platform™ (ITA)** that incorporates tools and best practices designed to mitigate most critical points of failures during transition execution. In addition to offering efficient communication and collaboration, accelerated transition capabilities, the progress tracking and transparency components ensure issues/risks are highlighted as they become evident and addressed through targeted mitigation plans.

Our plan will enable knowledge transfer from resources dedicated by Infosys to facilitate a smooth transition of project responsibilities. The transition plan identifies the areas of the system requiring specific knowledge transfer. Our transition framework employs several venues to transition knowledge to DMV staff allowing the process to be most effective.

- ***Knowledge Transfer Sessions*** - Infosys' key personnel and team leads attend high-level orientation presentations prepared for Nebraska DMV. These sessions are very structured around a specific topic.
    - Knowledge transfer topics include but not limited to: operations procedures, maintenance procedures, system user interface, data model, middleware configurations, database and entity relationship models, system security administration operations, and QA procedures, configuration management procedures, application build processes, and an overview of current status of outstanding work or fix requests.

- ***Job Shadowing*** – occurs when Nebraska DMV staff members assume responsibility by taking active roles in project and support activities, while Infosys transitions to an observation and support role.
    - In the job shadowing process, responsibilities of incumbent team members are mapped to responsibilities defined under the support contract. Incoming Nebraska DMV staff is aligned by role to follow and study the job activities of Infosys team members.
    - Job shadowing covers areas of project management, System Development Life Cycle (SDLC), production maintenance, system enhancements, batch cycle execution, configuration management, testing, and all aspects of contract responsibilities.

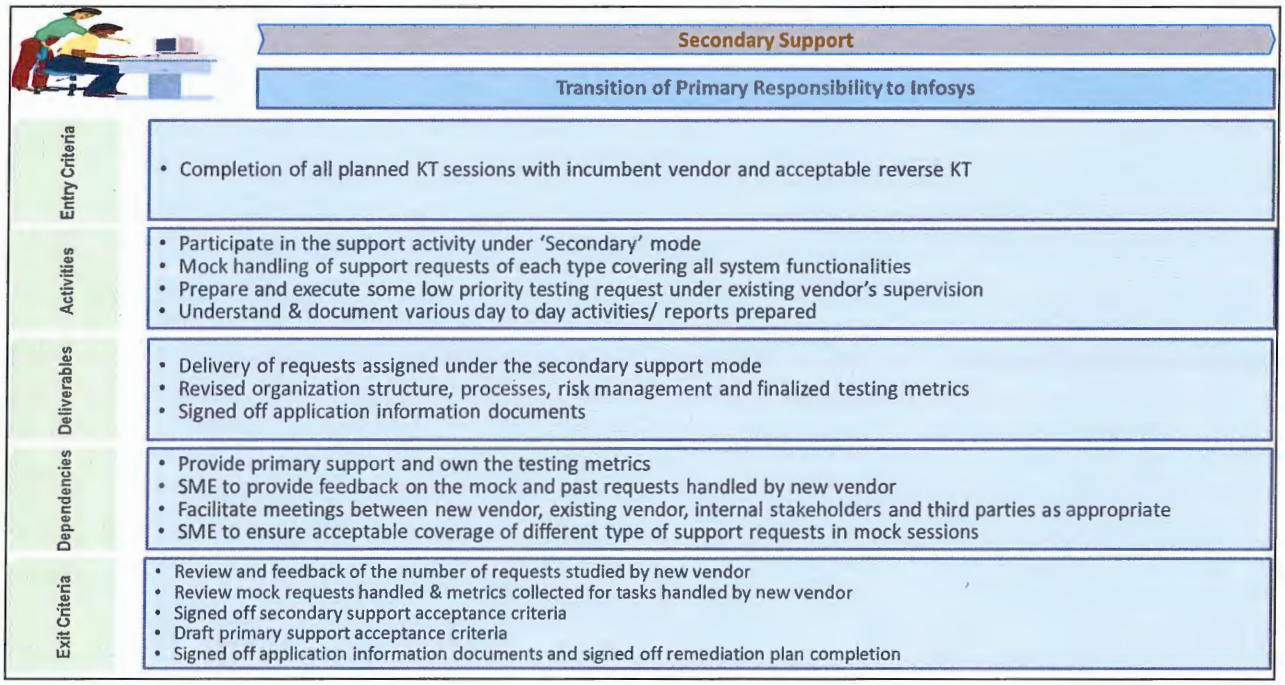

Figure 19. Knowledge Transition Framework

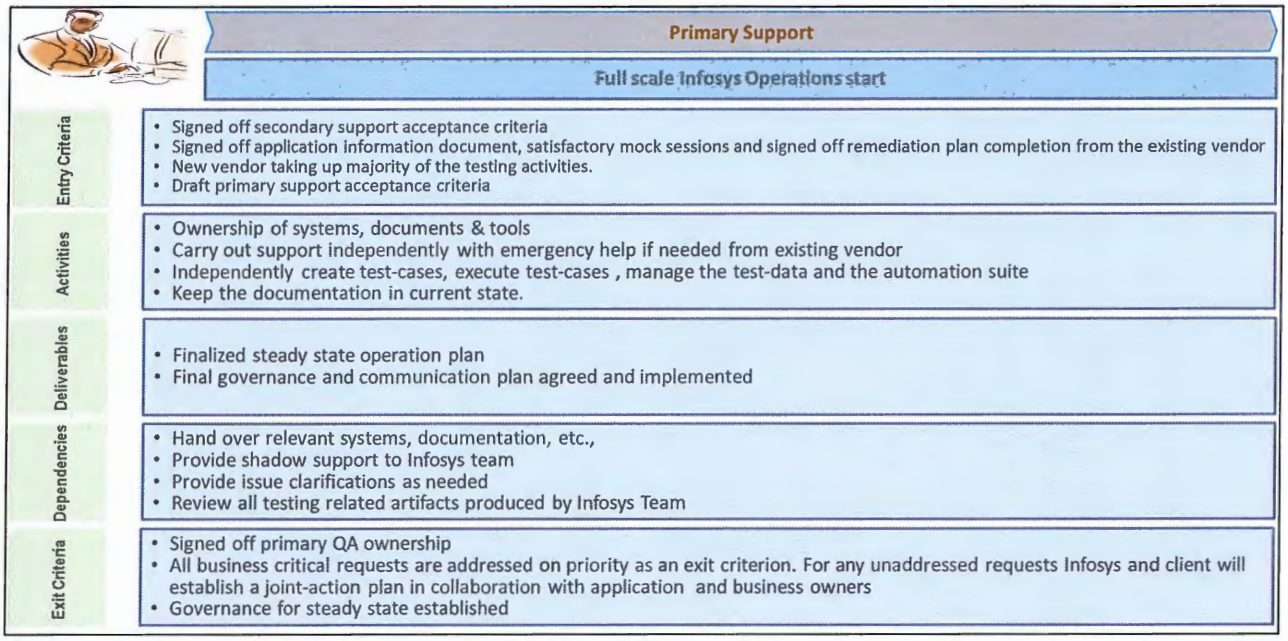

Figure 20. Knowledge Transition Framework

Throughout the execution of the knowledge transition plan, Nebraska DMV staff systematically assumes the duties and responsibilities held by Infosys. Below are detailed transition descriptions across various technical areas.

Knowledge Transfer: Application Maintenance & Support

Regarding application maintenance documentation, Infosys will provide all existing known information and documentation about applications, including work in progress, known defects, and works to be completed. This information will be provided on electronic media. We will also identify all libraries, provide all passwords, and access privileges to documentation, as well as source and production software resources to support the Knowledge Transfer.

Knowledge Transfer: System Operations

Knowledge transfer for operations facilitates transition of scheduling and monitoring of daily batch production cycles. We execute this knowledge transfer through operations documentation and orientation sessions. Knowledge transfer sessions include analysis of existing run documentation, batch schedules, and configuration of automated schedulers, operations procedures, and on-call problem resolution procedures.

Materials needed to support the transition within the Operations group include batch schedules (i.e., daily, weekly, monthly); reports; interfaces; operations procedures; and batch run documentation, including inputs, outputs, report distribution, restart information, run frequency,

automated schedule documentation, problem escalation procedures, disaster recovery, and software migration procedures.

Subject areas for knowledge sessions are reviewed and agreed to with Nebraska DMV and incorporated into the transition plan. For transition planning purposes, we have identified the subject areas, (Figure 21) to accommodate Nebraska's system operations transition.

TRANSITION AREA	ORIENTATION TOPIC
System Operations	Production Regions
System Operations	Mass Modification/Change Processing
System Operations	Operations Architecture
System Operations	Security Monitoring
System Operations	Data Analysis and Performance Tools
System Operations	System Operations Software

Figure 21. System Operations Orientation Sessions

Infosys will perform the following tasks to provide superior service for Knowledge Transfer to Nebraska DMV

- Maintain the systems and supporting documentation in such a manner that applications knowledge can be easily and promptly transferred
- Develop a detailed turn-over plan in response to the incoming Nebraska discovery requests that identifies all procedures, resources, tasks, responsibilities, and timeframes required
- Infosys will complete a review of all system documentation prior to the completion of the transition period.

Infosys's management team members are identified to manage the preparation of the plan and the transition activities. Infosys Project Manager will lead the team. The functional lead, architect, technical manager, database administrator and other technical and functional team members will be included to assist in developing and identifying resources for the completion and implementation of the transition out plan. The transition team will be located on site at the Infosys's project office and will in place for the start of the Transition out Phase.

The Infosys's transition management team will be responsible for developing the transition out plan so that maintenance & support of IMPACT Modernization Phase 2 can continue without interruption at the completion of the contract. Infosys will work closely with Nebraska DMV to develop the transition out plan so that all objectives and transition criteria can be addressed in the plan.

7. SLA (Service Level Agreements)

Infosys will work with Nebraska DMV to have service level agreements for all service areas. Infosys will benchmark data from similar services and contextualize to the Nebraska environment, understanding that every client and every client process is unique by design/nature. Infosys believes in developing SLAs mutually with the clients in order to have meaningful and efficient SLAs.
Infosys will provide all levels of support, in addition active monitoring and refresh policy as described below.

- ***Level 1 – Monitoring*** – Dedicated 24x7 team for monitoring Infrastructure devices; responding to alerts; performing initial triage of alerts, utilizing the knowledgebase to resolve issues where appropriate, and alerting the specialist teams when incidents require escalation. The Level 1 team will be staffed with a staggered shift schedule suitable to support the IT infrastructure environment.

- ***Level 2 – Operations and Administration*** – Experienced Engineers who ensure the day to day operation of the environment by responding to and resolving escalated incidents, executing change activities, performing proactive trend analysis, etc.

- ***Level 3 – Engineering*** –Architects, who use their knowledge and experience to design new solutions to solve technical and business problems with the Vehicle and Title Registration (VTR) system. They also serve as a "backstop" for problem resolution for the most difficult of issues.

Active Monitoring – Active monitoring and surveillance of the infrastructure is of crucial importance to retain high availability, provide sufficient performance; and ensure appropriate availability of the Network IT Services.

Refresh Policy - End of Life and End of Support Devices to be refreshed in phased manner.

An indicative set of service level agreements, for response and resolution of incidents and service requests is listed in Table 5 below. During project initiation Infosys and Nebraska DMV will agree on the final set of SLAs and Infosys will produce all metric reports outlined.

Priority	Response Time	Restore Time	Resolve Time
Critical	30 minutes	<= 1 hours	<= 2 hours
High	1 hour	<= 2 hours	<= 4 hours
Medium	2 hours	<= 4 hours	<= 8 hours
Low	4 hours	<= 8 hours	<= 1 business day

Table 5. Proposed response and resolution Time

8. Networking Configuration

8.1 Networking Requirements (Capacity & Challenges)

Infosys proposed solution will use enhanced caching technology along with compression to keep network bandwidth requirements to a minimum. The proposed Infosys solution will execute on 1 Gbps of network bandwidth. Considering the significant number of users for Nebraska DMV and the solution scalability, IPS recommends implementing a 10 Gbps network line.

Based on our experience with other customers the following are challenges we faced, and Infosys' proposed solutions to mitigate these challenges.

- Security and Firewall Issues: Infosys recommends keeping Production, DR and Non-Production environments in different subnets with strict access control to avoid any access and any contention of network issues
- Disaster Recovery using different IPs addresses caused many application issues. Keeping the Production and DR servers with the same IP addresses (re-IPing of Disaster recovery servers in a DR subnet in case of a DR) resulted in smooth DR operations without any modifications
- Network Utilization: Implementing compression
- Scheduling of VM and Backups: Backup scheduling was implemented during the night hours. For high data and network intensive jobs, backups were executed over the weekend, which minimized the impact to network
- Monitoring the network with sniffers for bandwidth utilization was implemented to keep resources optimized

The core system will support all the listed requirements such as SNMP V3 use, ISDN support, and VLAN connectivity. Infosys will leverage DMV's existing network Infrastructure for the proposed solution. The proposed Infrastructure solution will have to communicate to the all key Enterprise shared services components such as Enterprise Backup, Email, ISDN, Monitoring and Security components

VLAN Architecture

The following table explains the VLAN architecture of our proposed Infrastructure solution:

Tier	Purpose
DMZ/Public Subnet	This is an entry point into the proposed solution platform. All Public facing servers will be hosted on this layer.
WEB/Private Subnet	Web VLAN is created to deploy the Web components.
APP/Private Subnet	App VLAN is created to deploy the App components.
DB/Private Subnet	DB VLAN is created to deploy the DB components.
Management/Private Subnet	Management VLAN is created to deploy the Management components.

Table 6. VLAN Architecture

Connectivity Architecture

Team Infosys will work with the DMV's network team to set up the VPN based connectivity between DMV Data Centers and development environments. The connectivity will be a secure VPN based tunnel. We will work with the DMV Network team to obtain access for any specific TCP ports such http (Port No 80), https (Port No 443), SSH (Port No 22) and RDP (Port No 3389) for access if required. Infosys support staff will follow the existing connectivity procedures to access the data centers.

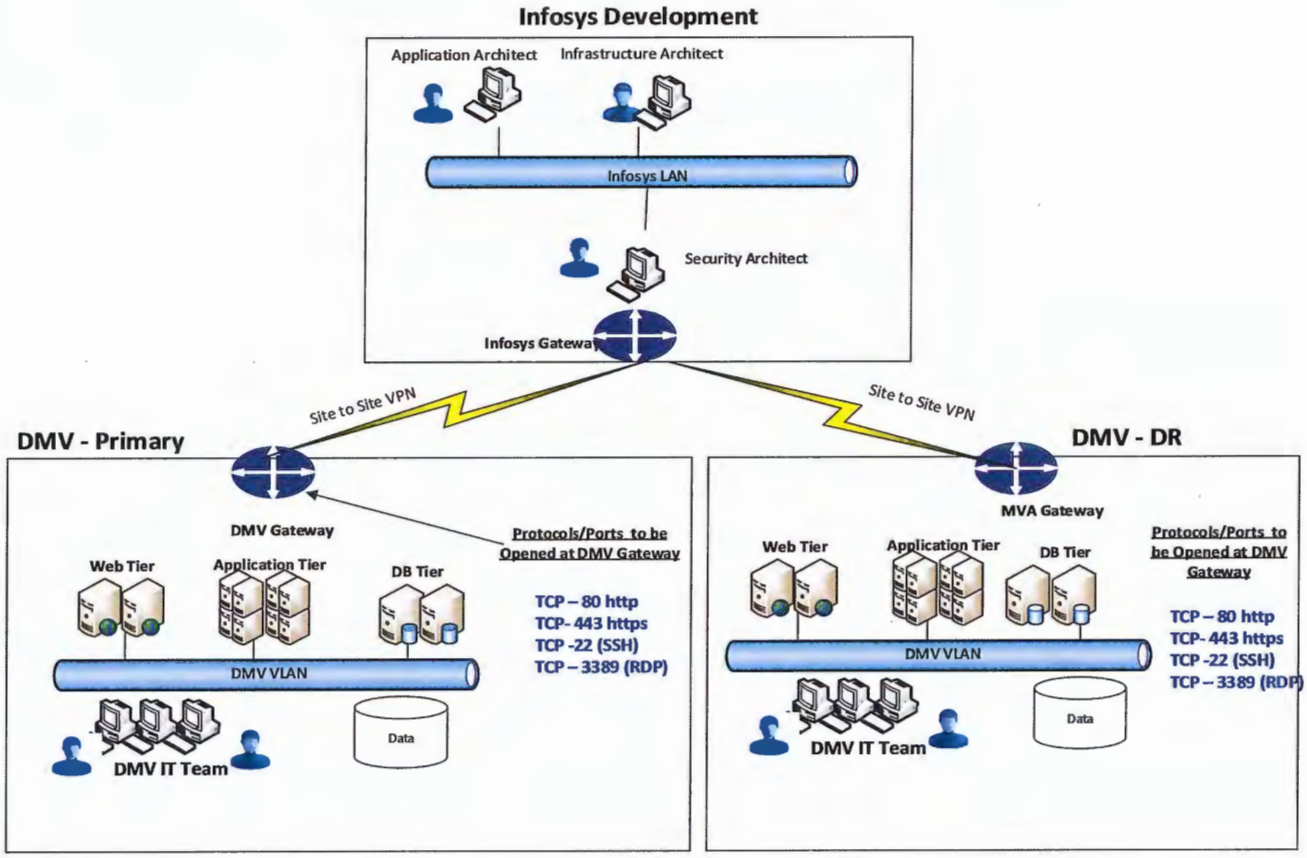

Figure 22. Connectivity Architecture diagram

9. Hardware and Software Configuration

The Solution will be deployed in both the Primary Data Center and the Disaster Recovery Environment. Our Solution will have the following Environments:

- Production
- Disaster Recovery
- Development
- Integration Test
- System Test
- UAT
- Training
- Sandbox
- Production Clone
- Production Server Infrastructure will be deployed in Oracle X5-2 Servers

The Solution will have VMWare as the virtualization layer for Non-Oracle Solution and OVM as the virtualization layer for the Oracle Solution. The Oracle Solution will be deployed on Oracle Enterprise Linux and the security and management layers will be predominantly deployed on Windows.

An Oracle ZS3-2 Storage Cluster will be used to deploy the storage solution. The solution will leverage the existing network infrastructure of the Nebraska DMV. We anticipate our backup solution will use the existing Nebraska DMV backup solution. This solution will be evaluated for feasibility during the assessment phase. If there are any incompatibility issues, Infosys will procure additional backup solution software and the necessary licenses at the end of the assessment phase. The solution will have a dedicated patch management server for the patch management solution and Infosys will leverage open source tools or any existing tools for auto scheduling. The infrastructure monitoring solution will be deployed using Nagios. The solution assumes the RTO of twenty-four (24) hours and RPO of one (1) hour.

Infosys has used the following architectural tenets to govern the design of the approach of the infrastructure solution:

Architectural Tenet	Description
No single point of failure	• Each component either has no single point of failure, or has been arranged with one or more components so that the combined set has no single point of failure • Each service has been architected to have no single point of failure, • The production systems in the primary and DR facilities are identical in all respects; the combined footprint of the primary and DR facilities have no single point of failure • This arrangement not only minimizes the possibility of outages, but also facilitates upgrades and migrations
Commodity hardware	• Industry-standard commodity components have been used throughout, across compute, storage, networking and security. Only proven and cost-effective components have been employed
Standardization	• This tenet is in the service of reducing complexity which also lowers the barrier to automation, thereby reducing labor cost. • If physical systems can be identical, they will be • If virtual system can be identical they will be
Virtualization	• The vast majority of the systems will be virtual machines ("VMs"), including the internal firewalls (e.g. those having no internet- or WAN-facing connections) • Virtual systems are much easier to clone, manage, and migrate than are physical systems • Fast server failure recovery using a cold standby design that allows replacing failed servers within minutes • Virtual systems take full advantage of the underlying hardware, thereby reducing hardware cost, but without introducing unnecessary dependencies
Automation	• Given the high degree of standardization and automation, and the fact that the environment will ultimately be relatively static in the services that it provides, emphasis has been placed on automating whatever is possible from the outset.

Table 7. Architectural Tenets

The diagram below describes the Infrastructure Deployment architecture of the proposed Solution:

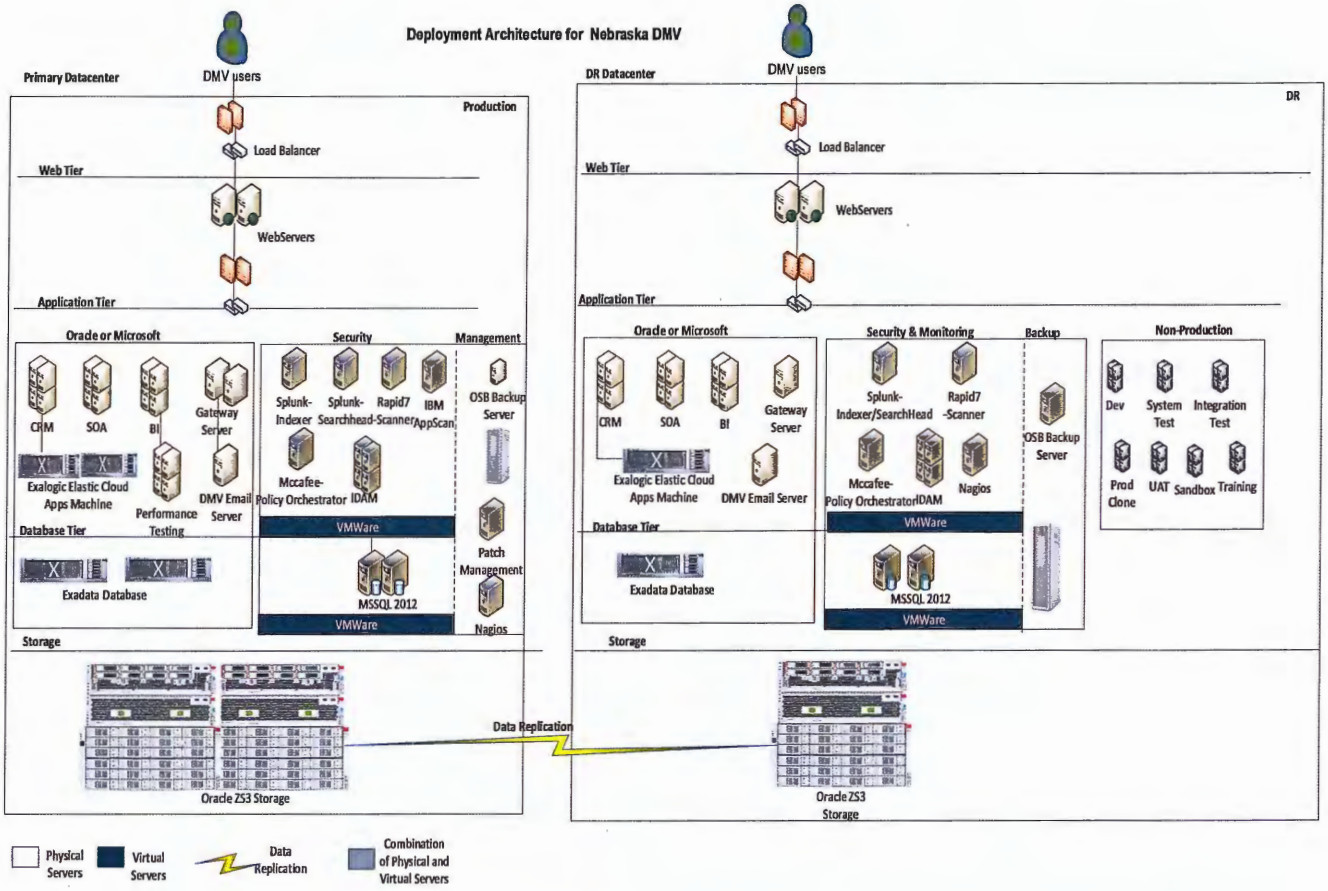

Figure 23. Infrastructure Deployment architecture

Design Considerations	Description
High Availability	• High Availability for Oracle or Microsoft Technology Stack is achieved through Maximum Availability Architecture (MAA). MAA is a best practices blueprint based on proven high availability technologies, expert recommendations and customer experiences. The goal of MAA is to achieve optimal high availability for our customers at the lowest cost and complexity. • Oracle or Microsoft provides many options for preventing downtime and data loss, all of which make up the Maximum Availability Architecture. The MAA provides redundancy on all components and employs different tools. . • MAA provide the industry leading technologies like Real Application clusters, Automation Storage Management, Flashback, and Data Guard. They protect against common courses from planned and unplanned downtime • These technologies includes Real Application Clusters to protects against server failure, Automation Storage Management to protect against storage failure, Flashback quickly undo the mistakes committed by user's and

	administrators, Data Guard which automate the failover to standby databases to protect against the complete system and site failure. • Each component either has no single point of failure, or has been arranged with one or more components so that the combined set has no single point of failure • Each service has been architected to have no single point of failure
Compute and Storage	• Industry-standard commodity components have been used throughout, across compute, storage and security. Only proven and cost-effective components have been employed • Oracle X5-2 Servers will be used for compute • Oracle ZS3-2 will be deployed for Storage
Data Centers	• The solution will be deployed at the Nebraska DMV for both Primary Data Center and Disaster Recovery (DR) environments • The racks, Power, Cooling, and Data Center space required in these data centers will be provided by Nebraska DMV
Operating System	• The Solution will be deployed in Enterprise Linux 7 • Security and Management Solution will be deployed in Windows
Virtualization	• The Solution will be deployed in Virtualization Architecture for Security and management layers • VMware will be used for setting up the hypervisor layer
Networking	• The solution will leverage the existing Network Infrastructure of Nebraska DMV • The solution will be deployed in multiple VLANs • The solution will have a separate DMZ zone for Web components • Application, DB, and Management components will be deployed in separate subnets
Integration with Enterprise Shared Services	• The solution will be integrated with existing Backup solution • The solution will communicate with existing printers, file storage, e-mail, fax machines and SFTP Servers
Remote Management	• The solution will have remote management ports enabled and the solution will be monitored • Infosys Network Team will work with the Nebraska DMV Network team to open up any necessary ports on the VPNs
Backup	• Solution will leverage the DMV's existing Backup solution for providing the Backup. This solution will be evaluated for feasibility during the assessment

	phase. If there are any incompatibility issues, Infosys will procure additional backup solution software and the necessary licenses at the end of the assessment phase
Patch Management	• Infosys will have a dedicated patch management server for the patch management solution • Infosys will leverage open source tools for auto scheduling
Disaster Recovery	• The Solution will have a RTO of 24 Hours and a RPO of 1 Hour • DR Site will be functional only when the primary site is inactive for more than 48 Hours due to any Disaster Scenario defined in the Business Continuity plan: e.g. floods and threats. • In case of a disaster Scenario, the Solution will be functional from the alternate Site • Active Dataguard will be used to replicate the database between Primary and DR sites • VMware Site Recovery Manager will be deployed for Non-Oracle/Microsoft Solution to bring up the necessary VMs in the DR site within six to eight hours

Table 8. Design Considerations Table

9.1 Minimum Hardware Requirements

Oracle Exalogic Hardware

The solution will be deployed on Oracle Exalogic Hardware. Exalogic is a computer appliance made by Oracle Corporation, commercially available since 2010. It is a cluster of x86-64-servers running Oracle Linux or Solaris preinstalled. It provides performance, reliability, availability, scalability and investment protection for the widest possible range of business application workloads, from middleware and custom applications to packaged applications from Oracle and hundreds of 3rd party vendors, in both conventional and cloud deployments. As an Oracle Engineered System, Oracle Exalogic delivers faster deployment, higher user productivity, lower TCO, reduced risk and one-stop support.

Below are the key features of the Oracle Exalogic Hardware

- Hardware: Intel Xeon E5-powered compute nodes,
- InfiniBand and Ethernet switches, integrated storage system
- Operating Systems: Choice of Oracle Linux or Oracle Solaris •
- Cloud Software: Complete Infrastructure-as-aService (IaaS) management
- Server Virtualization: High performance Type I hypervisor
- Storage Software: Complete storage management, including clones, snapshots and replication

- Management Tools: Configuration management, diagnostics and remote health monitoring
- Oracle Enterprise Manger Integration: Integrated support for end-to-end Oracle middleware and application management

Oracle ZFS Storage

The Solution shall be deployed on Oracle ZFS Storage. Oracle ZFS Storage Appliance is a hybrid storage system based on a unique cache-centric architecture featuring massive DRAM plus Flash, and is powered by a multithreaded SMP operating system. As a result, 70 to 90 percent of I/Os are served from DRAM, enabling customers to use Oracle ZFS Storage Appliance for a variety of demanding workloads, including business analytics (BI/DW), virtualization, development and test, and data protection—in traditional on-premises deployments or in cloud environments. With a robust, high-performing platform, Oracle ZFS Storage Appliance complements the extreme performance of Oracle engineered systems, Oracle's SPARC and x86 servers, and the enterprise-class capabilities of Oracle Solaris.

9.1.1 Server Requirements

The Solution will be deployed in following Infrastructure Environments

- Production
- Disaster Recovery

The DR Solution will be deployed at the alternate site with 50% Capacity of the Primary Site. Infosys has not assumed any specific RTO and RPO for the proposed DR solution. The Solution will have a RTO of 24 Hours and a RPO of 1 Hour. However these values will be revised in discussion with customer during the assessment phase based on further due diligence.

Brief Description of the Server	Component	Sub Component	OS	No of Cores Per Server	Memory Per Server (In GB)	Quantity
Oracle Exalogic Server	Oracle	Exalogic Elastic Cloud apps Machine	Oracle Enterprise Linux 7	36	256	8
Oracle Exadata Server	Oracle	Exadata Database Machine	Oracle Enterprise Linux 7	44	256	4
Oracle Advanced Support Gateway Server	Oracle	Gateway Software	Oracle Enterprise Linux 7	16	48	1
Oracle Support	Oracle	Data/Audit Vault, Oracle Enterprise Management	Oracle Enterprise Linux 7	16	128	1

Brief Description of the Server	Component	Sub Component	OS	No of Cores Per Server	Memory Per Server (In GB)	Quantity
		components, Oracle ASR,				
Security and Event Management	Splunk	Indexer / Search Head	Windows 2012 R2	4	16	1
Scanning Solution	Rapid 7	Scanner	Windows 2012 R2	2	8	1
Antivirus	MacAfee	McAfee Policy Orchestrator	Windows 2012 R2	2	8	1
Antivirus	MacAfee	MS SQL 2012 Database	Windows 2012 R2	2	24	1
Infrastructure Monitoring Database	MSSQL	MS SQL 2012 Database	Windows 2012 R2	2	16	1
Identity and Access Management	IDAM	Oracle IDAM Solution	Windows 2012 R2	40	160	10
Monitoring Solution	Monitoring	Nagios	Redhat Linux7	2	8	1

Table 9. Server Requirements Table

Non-Production Environments

The following Non-Production Environments will be deployed for this Solution:

i. Development
ii. Integration Test
iii. System Test
iv. UAT
v. Training
vi. Sandbox
vii. Production Clone

This environment will follow the guidelines below for the computing capacity and memory of the respective environments.

Environments	Key Guidelines	Software Components	No of Cores Per Server	Memory Per Server (In GB)
Development	Non HA, 5% of prod	Oracle Core components as in Production	13	74
Integration Test)	Non HA, 5% of prod	Oracle Core components as in Production	13	74
System Test	Non HA, 5% of prod	Oracle Core components as in Production	13	74
UAT	HA, 5% of prod	Oracle Core components as in Production	13	74
Training	Non HA, 5% of prod	Oracle Core components as in Production	13	74
Sandbox	Non HA, 5% of prod	Oracle Core components as in Production	13	74
Production Clone	HA, 10% of prod	Oracle Core components as in Production	26	148

Table 10. Non Production Environments

9.1.2 Processor Requirements

See Table 9 above – Server Requirements Table, Column labeled "Number of Cores per Server".

9.1.3 Storage Capacity Requirements

The need to audit data and transactions exists not only for the customer information but also to system access and adherence to regulations. We will provide a comprehensive solution to ensure that our storage size is sufficient to store all data and transactions related to audits and monitoring. We will work with Nebraska DMV to establish the appropriate logging parameters to automatically monitor and record user access activities, authorized and failed access attempts, system exceptions, and critical information security events as recommended not only by the operating system and applications manufacturers but also by PCI and IT security standards.

9.1.4 Scaling Options (Growth)

At the core of this solution is a Service Oriented Architecture (SOA), composed of loosely coupled modules that provide the Nebraska DMV with the flexibility to add new services and capabilities. It is scalable to expand in response to both a growing customer base and greater data handling and service requirements. It is secure, with the incorporation of state-of-the-art security measures that are upgradable to meet future threats, and cost effective in its design, expansion, operation, and maintenance.

9.1.5 High Availability Options

Adaptability and Flexibility

This architecture provides the ability to adapt and configure new business scenarios and easily modify existing ones to meet changing business needs. The Infosys Nebraska DMV VTR solution architecture provides support for extending and enhancing product capabilities using its set of product tools without changing the core product.

The Infosys Nebraska DMV VTR solution provides a rich application platform that can be extended easily by the following:

a. The User Interface (UI) is robust and improves the usage of the system and the user experience
b. The application platform SOA Suite, CRM, and ESB provides flexibility and standardizes connectivity to add new functions, features, and systems to the solution as business needs change with minimum effort
c. The Rules Engine frees staff from programming activities and allows them to focus on rule conditions, tables, and fees.

Portability

The Nebraska DMV VTR solution is designed to follow the architecture principle of portability of applications across platforms and application components of the Nebraska DMV. The proposed solution will adhere to open systems standards. This leads to an increased ease-of-movement across heterogeneous computing platforms. Application components will allow upgrades to their platforms as version upgrades change with minimal impact on operations. All interactions with target components/systems will follow industry standard practices. Only hardware and software that have standards-based interfaces will be selected, so upgrades or the insertion of new products will result in minimal disruption to the Nebraska DMV's environment.

Component Integration

Infosys' Nebraska DMV VTR solution recommends the implementation of a standard transaction model that will provide synergies across the entire Nebraska DMV enterprise. This will also offer same customer experience through any of the Nebraska DMV lines of business for any of their transactions. Most of the components used in the solution will be reused for all the lines of business.

9.2 Minimum Virtual Environment Requirements

Virtualization

OVM

The solution will be deployed on Oracle Enterprise Linux and with OVM Virtualization layer offered by Oracle. The Oracle VM Server for x86 is a zero license cost server virtualization and management solution that makes enterprise applications easier to deploy, manage, and support. Backed worldwide by affordable enterprise-quality support for both Oracle and non-Oracle environments, Oracle VM reduces operations and support costs while increasing IT efficiency and agility.

VMWARE

The solution layers such as security and management will be deployed in the VMware Solution. VMware® Infrastructure is the industry's first full infrastructure virtualization suite that allows enterprises and small businesses alike to transform, manage and optimize their IT systems infrastructure through virtualization. VMware Infrastructure delivers comprehensive virtualization, management, resource optimization, application availability and operational automation capabilities in integrated offerings.

The solution will have Vcenter, which is the central point for configuring, provisioning and managing virtualized IT infrastructure

VMWare Site Recovery Manager Solution offers the replication solution between Primary and DR sites.

9.2.1 VM Server Requirements

For the server purpose or component description for the Nebraska DMV VTR hosted virtualization infrastructure system, please see the following sections:

- Section 4 – Approach and Possible Solutions, Solution Component Matrix table
- See Section 9 – Hardware and Software Configuration, Infrastructure Deployment Architecture Diagram
- Design Consideration Table, Virtualization
- Section 9.1 Minimum Hardware Requirements
- Section 9.1.1 – Server Requirements, Server Requirements Table & Non Production Environments table

9.2.2 VM Processor Requirements

For the virtualization processor requirements for the Nebraska DMV VTR hosted virtualization infrastructure system, please see the following sections:

- Section 4 – Approach and Possible Solutions, Solution Component Matrix table

- See Section 9 – Hardware and Software Configuration, Infrastructure Deployment Architecture Diagram
- Design Consideration Table, Virtualization
- Section 9.1 Minimum Hardware Requirements
- Section 9.1.1 – Server Requirements, Server Requirements Table & Non Production Environments table

9.2.3 VM Storage Capacity Requirements

For the VM storage capacity requirements see section 9.1.3.

9.2.4 VM Scaling Options (Growth)

For VM scaling options response see section 9.1.4.

9.2.5 VM High Availability Options

For VM high available options response see section 9.1.5.

9.3 Vendor Owned Hardware Requirements

9.3.1 Number of Physical servers

Thirty-seven (37) servers distributed across the solution are expected. However, based upon the final Nebraska DMV VTR requirements, these items and numbers are subject to change. See Section 9.1 – Server Requirements table and Non-Production Environments table for details.

9.3.2 Racks provided by vendor for Installation

The racks, Power, Cooling, and Data Center space required in these data centers will be provided by Nebraska DMV.

9.4 Hardware required for the County treasurer DMV office

9.4.1 Users hardware requirement (specific or proprietary)

Currently, there are a total of eight hundred and twenty four (824) users enrolled in the County VTR system. At a minimum, and without making assumptions, attempting to determine the minimum number of end-user hardware needed to conduct the business of registering and titling vehicles would require using information that is inconclusive. Assumptions of training environment users and the identified 824 users presented are not categorized by group, roles, and or workloads based upon to be determined requirements.

Our solution does not require specific or proprietary hardware. Workstations are the main user interfaces to the system, comprising of the main workstation with screen, keyboard and mouse. This desktop will house all the application software to enable its usage as the primary interface point.

This component forms the main interface to the end users. It consists of the user interaction controls and the presentation layer, enabling the user to utilize all the necessary functions offered by the Nebraska DMV VTR system. It is the component that makes use of all the user devices via the integration adapter. These are the devices used by the end users in the execution of their day-to-day work. These devices shall be accessed from their workstations. This workstation component will be the user interface for the customers, partners, and employees and will be via a web browser.

9.4.2 User Peripheral (workstation requirement)

These are the main user interfaces to the system, comprising of the main workstation with a screen, keyboard, mouse, network (Ethernet card), and with an appropriate licensed operating system. This component will be the user interface for the customers, partners, and employees. This will be via a web browser.

9.5 Hardware/Network Anomalies (if any)

There are no hardware configuration incompatibilities between our solution and the State's existing environment or other DMV systems. This assumes user workstations currently support web client capabilities.

A basic tenet of SOA is that the use of explicit service interfaces and interoperable, location-transparent communication protocols means that services are loosely coupled with each other. Data formats are often transformed. It is very common, for example, to convert legacy formats, such as COBOL copybooks, to XML formats when enabling service interfaces to legacy systems. Alternatively, different XML schema may be used by different systems in a SOA solution to describe the same data models. In either case, the supported format is, or will be, defined in a service interface, and SOA ESB middleware transformation capabilities will be used in the service infrastructure to perform the required transformations without affecting application code or behavior. The identity of a service provider will be negotiated through a broker component. The broker will use geographical location, client identify, membership scheme information, transaction value, or several other criteria to match the service requester with a suitable service provider.

10. Database Requirements

10.1 Proposed database structure (any prerequisite)

For our solution key components like CRM and Oracle E-Business Suite (EBS), the proposed Infosys solution database structure will be similar to the standard Oracle Database structure with few product specific customizations. Any customizations will be done based on the To-Be business requirements.

The prerequisites for our solution's database are that the database system and operating systems should be designed, configured and sized based upon the product specifications with adequate system resources.

11. Data Cleansing and Data Conversion

11.1 Previous Experience on consolidating a single statewide Title and registration database

Infosys has rich experience in data conversion and migration for various clients. In the MTO project we converted and migrated nearly 32 million records totaling over 225 gigabytes, while in the DCAS project, Team Infosys migrated over 7 years of legacy data totaling over one terabyte in volume.

In the DCAS project, we worked with the client to develop a data conversion plan that includes three high level directives:

1. Entities / Records that will be migrated
   a. Entities
   b. Volume of each entity (# of years, etc.)
2. Entities / Records that will be migrated to a 'read only' / archival system
3. Entities that will not be considered and will not be migrated

The plan included establishing a data conversion team that had the following responsibilities:

- Analyze the source system to identify and document the data entities including data elements for conversion processing
- Analyze the target system to identify all required data structures including data elements that need to be converted from the source system
- Develop detailed requirements for data conversion based on existing high level requirements
- Develop the data mappings and transformation rules for the identified data elements from the source system that qualify for data conversion
- Review and obtain sign off on the data conversion requirements from the business owners
- Develop and test data conversion scripts and programs based on the data mappings and transformation rules
- Develop data cleansing and data validation process as per business provided by District SME
- Create staging area for the source data for applying cleansing and transformation rules as per the business requirements
- Execute multiple mock data conversions during the course of data conversion development life cycle
- Execute final production data conversion to load data from the source into the destination system
- Validate the data loaded into the production database to ensure data quality.
- Consult with business owners to resolve all data value exceptions that fall outside acceptable parameters
- Generate reports to represent data completeness

- Generate Error reports at ETL and BPO processing. Error report to provide the identifiers for the error records and the possible reason for error.

Data conversion requirements, based on existing high-level requirements, are gathered through workshops and meetings involving the source system business leads, Infosys business leads, and Infosys data conversion analysts. The workshops/meetings will be conducted for each data entity as identified in the scope, the detailed business requirements, and in the business logic for conversion.

11.2 Tools or techniques to be used for consolidating the statewide Title and registration data

The conversion and migration processes are expected to handle large volume of data for extraction, processing and loading from above listed systems. While developing the migration solution we have considered the key aspects listed below:

- Error handling
- Metadata management - Oracle Enterprise Data Quality (OEDQ)
- Reporting/Data auditing
- Robustness
- Scalability
- Extraction of Incremental data

The proposed solution utilizes Pentaho as an ETL tool for data extraction; Oracle Enterprise Data Quality (OEDQ) will be used for cleansing and de-duplication and uses Siebel Database Native SQL to transform data from Staging to Siebel EIM tables. Siebel EIM will be used to load the data into the Siebel base tables.

Data Synchronization

As part of the conversion, there may be multiple instances of a particular data element. We will use data standardization to decide up front what standard to use for the respective data elements, so that we are consistent with its use in the design and build.

Data Quality

Infosys proposes a proactive approach to Data Quality. The process involves assessment of current data quality, identify root causes for data quality issues, put in place proactive measures to ensure quality of data are greatly improved before data conversion.

The steps below detail the Data Quality approach we would adopt before data conversion.

Step 1: Data Profiling

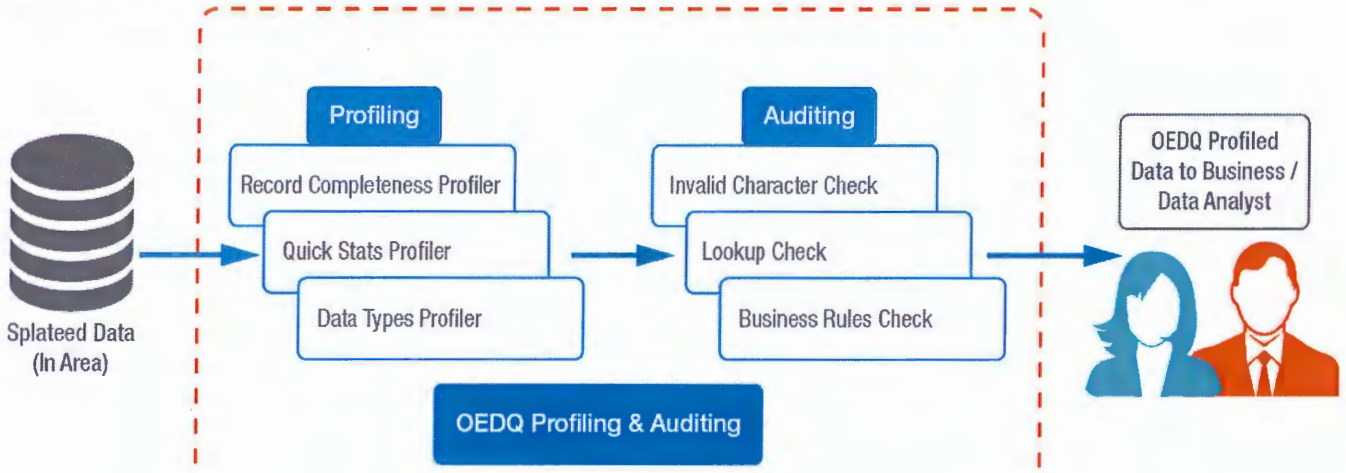

Figure 24. Data Quality Step One: Data Profiling

Step 2: Standardization and Cleansing

- Legacy Data will be loaded from current source systems, in the required format, into the Staging Area (In Area) using Pentaho ETL.
- Data profiling and auditing methods would be applied on the legacy data consolidated in the staging area, to help in understanding the various data quality issues (based on the profiling rules that would be provided by DMV business).
- The results would be available in dashboards and reports. The reports would be monitored, reviewed and analyzed by DMV business.
- Business will review report and provide cleansing and standardization rules or Business will correct the data in the source systems.

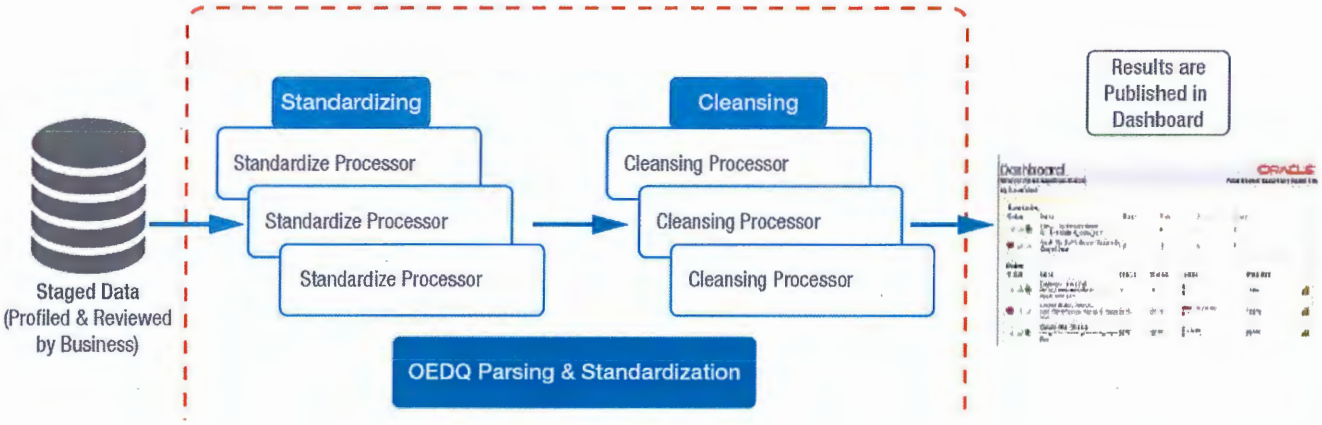

Figure 25. Data Quality Step Two: Standardization and Cleansing

- Cleansing and standardization rules (based on the initial profiling results and user workshops) are executed to address data quality exceptions.
- The cleansing results will be returned by OEDQ. Business can measure the incremental improvement of the quality against specified targets per attribute (or group of attributes) using the Dashboard feature.
- A summary will be created in a dashboard with an aggregation of all rule results from the executed process thus making it simple and effective medium to monitor data quality.

Step 3: Matching

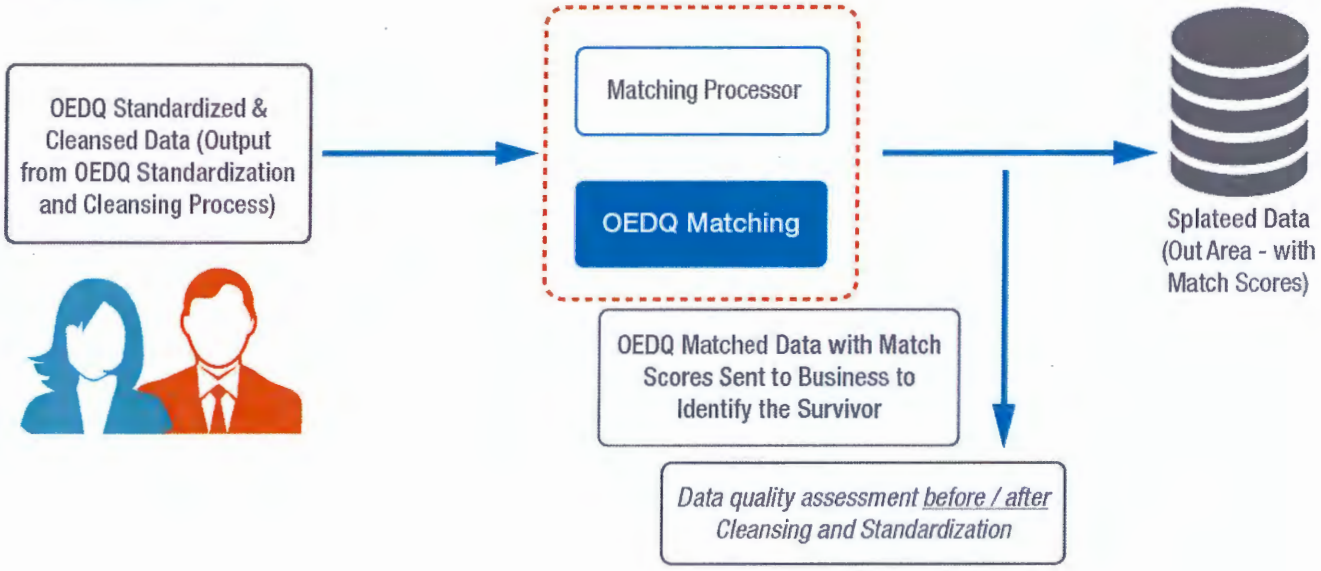

Figure 26. Data Quality Step Three: Matching

- The Standardized and cleansed data will undergo matching process using OEDQ match processor.
- Potential duplicates will be identified via matching rules configured in OEDQ.
- The identified potential duplicates with match scores will be returned by OEDQ which will be routed to Business to identify the survivor and victim records.
- Unique records, identified by Business will be loaded into interface tables using native Siebel database DML's (Select, Insert etc.) and then subsequently loaded into target base tables in Siebel.

11.3 Issues related to data conversion

Through the data conversion, many different versions of a customer will need to be collapsed into one entity. Our solution, using CRM, will be integrated with Oracle Enterprise Data Quality (OEDQ)

to achieve our "One Entity - One Record" solution, through comprehensive logic of data profiling (highlighting key areas of data discrepancy), parsing, standardization, matching and merging.

This process will continue during routine operations as new records that need to be merged are uncovered. Our solution will ensure that merged records retain their unique ID number so that they can be unmerged if required but also enable the reporting and tracking of any such transactions. In our experience, no specific data elements have caused issue(s) with conversion; big or small.

11.4 Timeline for Data cleansing

Data conversion follows a parallel SDLC to the product build activities and will be managed in the same way. To begin Planning & Prep of Data Conversion activities, we will perform an assessment of the current state documentation of legacy system documentation to understand the source systems (number/type of source systems, target databases (Oracle, SQL Server).

- Source/Target data mapping discussions.
- Data profiling/cleansing discussions.
- Evaluate the mapping script required, effort required and transformation required.
- Evaluate the effort required to design, code, test, and implement the data migration solution.

Since there are multiple sources containing huge volume of Transactional & Historic data spanning across various flavors of source database technology, Infosys proposes a phased step by step migration approach as shown below:

The figure -27 below shows the proposed solution architecture where Oracle Enterprise Data Quality (OEDQ) is used to extract data from Source and stage the data. Data Cleansing and de duplication is performed on the staged data and the Qualified data is migrated to EIM tables using native Siebel database DML's (Select, Insert, etc.).

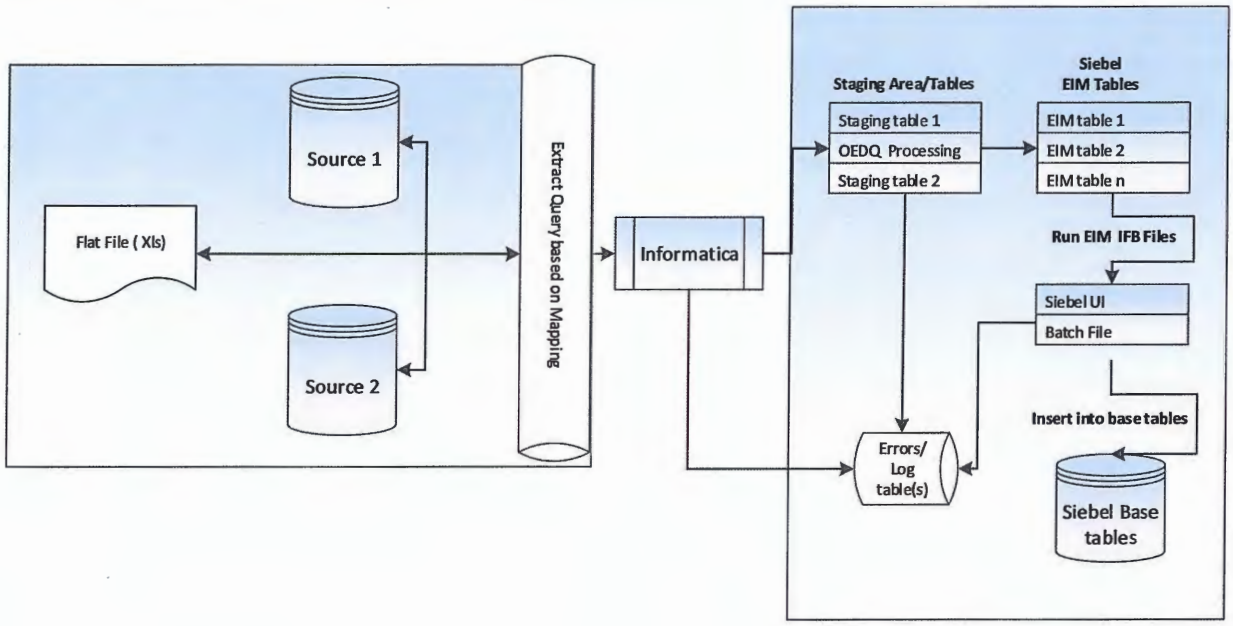

Figure 27. Proposed Solution Architecture. Oracle EDQ

12. Collection of Fees/Taxes

12.1 Proposed modernized solution to identify the tax location and improve the collection

Our solution uses Oracle Policy Automation (OPA) to facilitate management of collection, reconciliation and disbursement of fees, taxes, credits, debits, payments and adjustments. The system uses Oracle Siebel CRM and Oracle Service Oriented Architecture (SOA) to interface with systems such as state's revenue system for collecting and disbursing payments. Our solution contains dedicated modules, such as Siebel CRM Cash Management, that will be used to manage collections including tracking components at the transaction level, cross referencing funds collected with transactions posted and payment documents to ensure accurate reconciliation, and reporting that meets DMV's requirements.

12.2 Proposed solution to include Point Of Sale or Cash drawer component to manage collection

Our solution uses Oracle Siebel CRM and Oracle Retail XStore Suite, which comprises POS and Office modules. These offer a PCI, PA-DSS compliant POS solution to perform all financial transactions. This solution supports all required functionality as required in this RFI including reconciliation, reporting and auditing for all registers and cashier staff, and interfaces with other systems.

Point of Sale (POS) systems will leverage the same secure functionality across all access channels, whether in-person at a DMV location, at a kiosk, online, or in a business portal environment. Multiple points of reconciliation and layers of authentication will ensure that every transaction in all DMV areas will be integrated, which will reduce the potential for error and fraud. These reconciliations and authentications immediately detect and limit inaccuracies, duplications, and other errors so they can be fixed before the transaction is completed.

12.2.1 Manage electronic and Credit card payments

All types of payments that are accepted will be provided in our POS, including: cash, paper check, guaranteed check, debit card, credit card (Visa, MasterCard, American Express, and Discover), payment voucher, drawdown account, eCheck, Electronic Funds Transfer, and Automated Clearing House.

As new types of payments are accepted by Nebraska DMV, such as PayPal, authorized DMV staff will be able to add them to the system, including specific circumstances under which they can be accepted.

12.2.2 Refund and credits

Oracle Retail Xstore suite comprises of Oracle Retail Xstore Point-of-Service (POS) and Oracle Retail Xstore Office modules. These modules offer a PCI PA-DSS compliant point-of-sale solution that can help to perform day-to-day transactions and associated sales, refunds and checkouts.

By using the OPA component any rules management and case management related to refunds and other financial adjustments for all transactions will be automated. This will minimize manual processing of payment exceptions. Business intelligence related to payment adjustments, from routine refunds for registration cancellations to more complex proportional registration transactions, will be incorporated into the design and functionality of our Siebel CRM Open UI System. While there are many types of financial transactions, there are a finite number of known transactions commonly used by DMV, and they will be included in the initial design build. As new exceptions and transactions develop, they will be added into the workflow by DMV staff.

12.2.3 Inventory tracking and management capability

Infosys' solution uses Oracle Supply Chain Management (SCM), a COTS product, to fulfill the Inventory Management requirements of DMV. SCM seamlessly integrates with Oracle Siebel CRM and automates all key supply chain functions.

The solution is secure, and can track inventory from various locations down to the serial number level. The system is fully auditable. The system tracks usage trends to efficiently manage inventory levels and provide analysis of inventory usage and ordering. The solution provides secure tracking of chain of custody for inventory assets, and provides notifications if inventory trends do not match expected usage patterns. The system is manageable and configurable by authorized DMV staff.

13. Electronic Transactions/Interfaces

13.1 Interfaces

Our solution, designed using CRM, will provide a common look and feel for DMV customers and staff, service providers, dealers and agents, and external partners such as law enforcement agencies who will be conducting transactions with the Nebraska DMV. Standard transaction models for over-the-counter, self-service, central office, web services, and batch processing will be finalized in collaboration with DMV subject matter and process experts during discussions in the requirement elaboration phase of the SDLC.

Our solution will provide a highly flexible, modular design with an intuitive interface using Oracle Open UI and Oracle Office Policy Automation (OPA) that will enable DMV staff to:

- Easily view all customer-related information and their transactions, assets, and history
- Modify Siebel CRM workflows and processing to meet new requirements
- Quickly and efficiently implement changes to business rules
- Provide a variety of service channels that will allow for transactions to be processed over-the-counter, online, and using the IVR, Kiosk, and Mobile platforms.

Our approach will enable us to reuse common system components in the design and execution of our solution, which will result in a lower total cost of ownership for the DMV. Standardized business operations will enable the DMV to allow flexible resource utilization across business units, which will also lower overall costs,

Our solution, designed using Siebel CRM, will deliver a customer-centric user interface (UI) that will present a "common look and feel" throughout all of the delivery channels. From the DMV employees to the online customer to back office DMV staff and management, the screen display will use intuitive design features and look consistently the same, promoting familiarity and ease of use. Our Role-Based Access Control (RBAC) design and configuration for access will ensure security, reduce risk, and provide appropriate transaction options based on the user's profile. Our 360° view of the customer or entity combined with a common look and feel will promote standardized business operations and allow for flexible resource utilization across business units. We will implement Siebel Task-Based User Interface (UI) wizards, which guide customers and users throughout an entire transaction. It also offers the capability to navigate back and forth in the transaction before it is completed.

Customers, external partners, verification services, and other business entities performing services with the DMV will seamlessly integrate with our solution using secure interfaces and Oracle SOA middleware, which will provide excellent throughput and reliable, redundant connectivity. We will also provide secure transport file transfer protocol (SFTP) to support batch processing of data, document scanning and transmission, electronic data exchange and electronic transfers for funds

for various third-party providers and financial institutions. As the model for these interfaces changes over the course of the contract, we will work with the DMV to ensure that we are updating the DMV's interface protocol (e.g. changing from SFTP to XML) for the affected transactions, so that sending and receiving data continues without interruption.

13.1.1 Electronic lien/ Title (ELT)

If the sale is from a dealership, licensed employees will use the Electronic Registration and Titling (ERT) system to exchange information with CRM using Oracle SOA to record the information necessary to initiate the title request. For private sales, customers will use a Title Service Agent or enter their request (and upload the necessary documents) online, using the Web-Based Transaction Center (WBTC). The WBTC will be connected to the CRM system using Open UI. If the vehicle has a lien holder, the owner will not receive a paper title until the lien is satisfied. Liens will be attached to the customer account record in our CRM system.

For vehicles that have been in a collision or damaged, a salvage title will be issued by the DMV when the insurance company reports a change in status. This designation means the vehicle can't be driven on Nebraska roadways. If a vehicle owner wants to drive it again, they will follow the instructions in their WBTC and have the appropriate inspections done to get a new title. Titles can also be designated for vehicles that are returned to the dealership because of repeated problems, and these vehicles are labeled as "lemons." These designations, or brands, will be applied to titles that match the criteria established by DMV during the design phase of the SDLC, and updated during the course of the contract.

13.1.2 National Motor vehicle Title Information System (NMVTIUS)

Nebraska DMV systems are in turn supported by interactions with a variety of internal and external systems that will exchange data with the Nebraska DMV. External systems may include District and Circuit Courts, the Vehicle Inspection and Emissions Program (VEIP) and the National Motor Vehicle Title System (NMVTIS). Internal systems may include the Nebraska State Highway Administration, the DMV's Driver's License Central Print Facility, and the Nebraska DMV's Title and Registration Remittance Processing system.

Motor Vehicle Administrations share information regarding Commercial Driver's Licenses (CDL's) using the Commercial Driver's License Information System (CDLIS) and regarding titles using the National Motor Vehicle Title Information System (NMVTIS). Inspectors use FMCSA's Safety and Fitness Electronic Records (SAFER) system to identify carriers that should be inspected more frequently based on their safety records. Our Core Solution will make SAFER records and safety ratings available to the DMV for CMV and CDL inspections, using a real-time or batch interface to obtain the data, and help identify priority targets.

13.1.3 Dealer and Fleet processing

Our solution, using CRM, will provide customers with fleet management functionality on a secure Web Based Transaction Center portal. This will enable large, medium and small companies to manage all of their fleet requirements online, providing a 360° view of their vehicles, transactions, drivers, financials, flags, inspections, and insurance to aid in compliance and to minimize and simplify the workload associated with fleet management. Companies that do not remain compliant with insurance or flags may face sanctions or penalties.

The company's authorized representative, typically the fleet manager, will review the documentation that fully explains the program and its benefits online. They will use the CRM's Task Based UI (TBUI) wizard to guide them through creating a company account, providing secure authentication of the company and user information. The authorized user will establish the basic information about the company and its identifying information, including the Federal Employer ID Number (FEIN), USDOT number, locations of their offices, and contact information for all authorized users. The CRM system will create a unique ID for the company and require a two-factor authentication for user access which, for external users, will be in the form of an email sent to their address with a one-time security PIN that they must enter to gain access.

The authorized employee(s) will be able to manage fleet inventory by adding and deleting vehicles, requesting registrations for new vehicles, including proportional registrations, renewing registrations, paying fees, managing expiration dates, querying and viewing fleet and driver information, updating addresses and other company data, scheduling and tracking inspections, adding and removing users and assigning role-based access, creating and sending correspondence, viewing IRP or MIRP transactions, analyzing vehicle usage and metrics, reporting on fleet activity, maintaining insurance, and viewing all historical information. This replaces intensive manual work that the fleet office staff had to perform and DMV staff had to review and process.

13.1.4 VIN/HIN validation

The VIN will be validated using the CRM system and Oracle SOA middleware to interface with R.L. Polk, which is a third-party entity, to validate the vehicle characteristics and to ensure that the VIN does not exist for another vehicle (The record can be corrected if needed). Vehicle data will be captured and stored in CRM system, which will trigger the VIN validation process. Before the VIN is validated, the format and check digit will be internally validated by Siebel CRM to ensure it follows the correct format, and no incorrect VIN numbers are passed to the external system. VIN decoding will allow validation of data fields against the information returned through an inbound interface from R.L. Polk to the CRM system. Some vehicles and trailers will need to have a VIN assigned to them, and this will be done by authorized DMV staff. Concurrently, the CRM system will interface with NMVTIS to provide the vehicle title history to the DMV employee, who will take the

appropriate steps based on the data returned. Questionable records returned from NMVTIS will be flagged for potential audit and investigation based on the Rules-Based Management System (RBMS), using Oracle Policy Automation (OPA). The rules for processing VIN data will be established by the DMV during the design phase of the SDLC.

13.1.5 MSRP values

Vehicles are valued via the Manufacturer's Suggested Retail Price (MSRP) using one of several tools. The most common interface and first choice is NADA, which is used to value most cars, light trucks and motorcycles using the vehicle's identification number (VIN). It's a valuation tool for taxes and sales tax.

13.1.6 Address validation

The CRM system will connect to external sources, such as Melissa USPS, for additional checks/validations for address verification. We will maintain a list of unauthorized addresses in the CRM system. If a transaction uses an unauthorized address, RBMS (Rules Engine) will alert the Investigation unit via e-mail or other alert as determined by the DMV. In cases where the same address, valid or invalid, is being used beyond a configurable threshold, the Investigative branch will also be notified.

13.1.7 Other third party data providers and stakeholders

To facilitate data exchanges between the solution and external systems, Infosys will use a Service Oriented Architecture (SOA) platform. The SOA suite enables interoperability with external systems. The service layer includes an API Gateway and Web Services on the Enterprise Service Bus (ESB) and will be used wherever applicable to interact with external systems.

The data received and sent will be formatted loaded or extracted according to a variety of individual schedules including real time data exchange. This will include both high and low volume data exchange requests. A data dictionary will be maintained for each interface to ensure data validation and integrity. Invalid data will be rejected and the sender notified. Data exchanges may be handled automatically or manually. Integration within the SOA suite will allow the DMV to translate the data into a form and syntax appropriate to MVA data systems. This will allow Rules Engine to apply rules to the data received from external systems.

The example below, Figure 28 - Component Level System Context Diagram, lists various channels, systems, components, and services along with internal and external interfaces for Nebraska DMV's consideration.

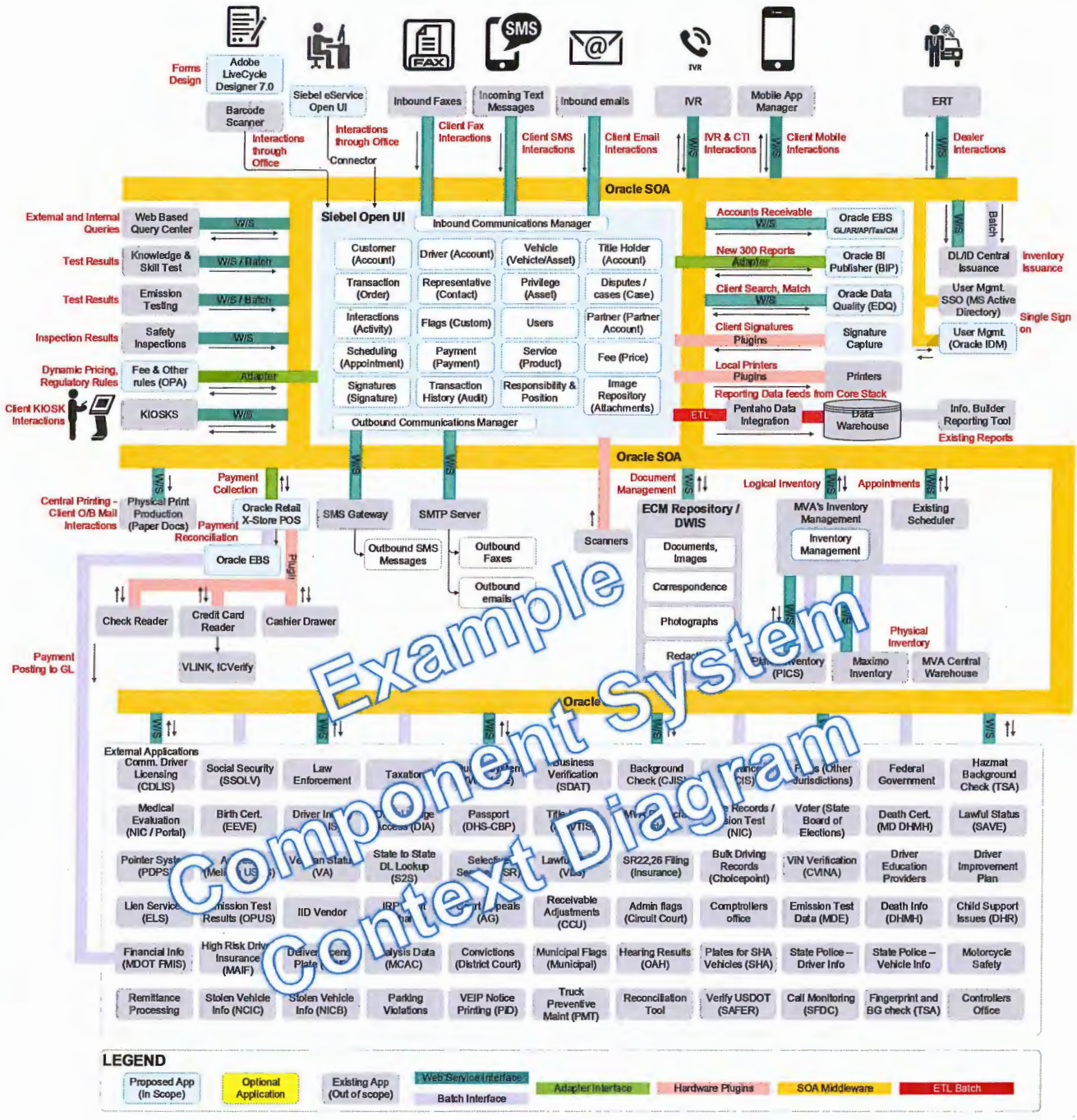

Figure 28. Component Level System Context Diagram

13.2 Document Management and Imaging Solution

The Infosys solution is based on the integrated stack of the CRM system and the DMV's assumed existing Document Imaging application. The scanned image will be sent to the CRM system which will associate the document to the existing record (or create a new record if not already present) and generate a unique CRM Document ID. The image will then be sent to Document Imaging application for storage along with other metadata and will be cross referenced with the existing Document Imaging application Document ID, which will be sent back to the CRM system. The CRM system will manage the access control of the documents that are retrieved from the Document Imaging application.

For bulk scanning, the scanned documents will be placed at a pre-determined network (folder) location and a Workflow will be configured to pick up these documents and attach them to the corresponding customer record in the CRM system, based on the metadata applied on the scanned electronic files (such as file name). Once the scanned documents are attached to the customer records in CRM system, an automatic interface will be triggered to send the documents to Document Imaging application for storage. We will work with the DMV to include OCR as an optional component of our solution.

13.3 Best Practice or Industry standard for DMV

Infosys solution follows the best practices and the Industry standards. Some of the highlights are:

- Many governments have made efforts to improve service delivery through online portals or "one-stop shops" like centralized call centers, but find they are still unable to meet the public's expectations while facing increased costs associated with delivering services across multiple channels.
  Despite their best intentions, DMV's continue to design and deliver services based on their own requirements and processes instead of the needs of the people they serve.
  IPS Solution: Approach transformation with a customer-centric governance model instead of technology-centric model with measurable KPI's leveraging incremental delivery model.

- Many large transformation initiatives fail to realize the business objectives. As we have learned, one of the factors involved is that many of the programs are looked upon as modernization v/s transformation.

  IPS Solution: DMV's modernize with Technology upgrades with little or no improvements to existing business processes, resulting in efficiency gains of processing times (technical). The Initial planning phase should involve reviewing & optimizing existing business processes considering Six Sigma levers. Large scale transformation programs are successful on technical modernization, but overlook business optimizations that lead to business process efficiency.

- DMVs work in an eco-system consisting of many partner organizations that may have different governance & objectives. Many large transformation programs have schedule delays primarily due to lack of alignment within and across the partner organization. A Program Charter with a clear Vision and Mission statement is needed

  IPS Solution: Developing the common vision and mission are two of the most important steps toward creating a successful program. Done well, they give clarity and direction for the stakeholder community and help integrate. It defines success metrics, engagement model and timelines upfront. From a long term perspective, Capability building is a critical part of any transformation program. It set-up measurable performance management and building the right governance system to continue to drive—and sustain—improvements.

- Interoperability and extendibility is limited with a large network which is made up of several different technology systems. Prioritizing the existing legacy landscape as part of the modernization program is important.

  IPS Solution: It identifies business and mission critical applications. It modernizes the underlying hardware and software system in a phased approach. It cleans up existing data and prevents duplicate or fraudulent records. It supports increasingly interconnected government systems and citizen services.

- How to know when you need to build a custom solution OR buy commercial of the Shelf (COTS) solution

  IPS Solution: It is critical to analyze the total cost of ownership (TCO) of a public services solution, weighing both direct and indirect costs, to understand the best long-term solution. The total cost of ownership needs to be considered from the very beginning of the planning for a new information system. When evaluating vendor proposals, agencies should carefully analyze TCO, in addition to the typical budget analysis required to justify a new information system

  A total cost of ownership (TCO) analysis model enables an organization to consider resource commitments and identify support cost options while providing a context for examining the effect of license fees. A TCO model also exposes the long-term ramifications of decisions made today and provides the context for tactical decision making as well as strategic planning. TCO incorporates both direct and indirect savings. While direct savings are more easily quantifiable, it is often the indirect savings that can deliver the greatest long-term value to the organization.

14. Customer Relationship Management (CRM)

14.1 CRM functions for tracking correspondence and customer touch points

Team Infosys is proposing to partner with the Nebraska DMV to deliver a complete solution that will revolutionize the customer experience for all users, internal and external, at all levels, from the anonymous website visitor to senior DMV and State management. Our solution for Nebraska's Project Core's modernization effort will transform the customer experience with the DMV by providing a customer-centric approach to design and delivery.

Our Core Solution includes all of the necessary components to enable DMV to efficiently manage current and future vehicle services needs as defined by the contract. Oracle's suite of products is designed to work collaboratively and upgrade seamlessly. Product schedule updates are coordinated throughout the suite to optimize compatibility and performance.

Our experience and understanding of both the Nebraska and federal requirements regarding registration, commercial motor vehicles and IRP, disability and medical services, liens, inspections, insurance, and inventory will shorten our development and delivery time for DMV's new vehicle services. Infosys Public Services is an active member of AAMVA and we will leverage our knowledge of law enforcement, traffic safety, homeland security and motor vehicle systems to advance our clients' and the industry's role in making the nation's roadways safer for all users. As industry leaders in the motor vehicle sector, we will ensure that Nebraska's Project Core Solution will continually evolve and serve as a model for system modernization.

Our fully integrated technical approach provides Nebraska with the most customer-centric, scalable, flexible, and secure solution and a lower total cost of ownership. Our proposed project team provides local domain expertise in motor vehicle and licensing systems, law enforcement, state government, information technology, and traffic safety and is backed by one of the largest IT outsourcing companies in the world. We propose to combine our expertise and innovative approach in partnership with the DMV to successfully implement this mission-critical modernization project.

Our Core Solution will enable the DMV to provide a secure, personalized experience for its customers. Continual feedback and analysis will provide proof that the DMV is meeting its customer service metrics and goals.

Change must be managed to be successful. Our goal for this project is to provide a transformational experience not only for the customers, but also for the DMV's staff. Using a system that works quickly and as expected, has minimal steps to accomplish tasks, and is intuitive and comprehensive will enable them to be as productive as possible.

TRAVELS from Infosys Public Services is a modular enterprise solution that will help the Nebraska DMV to build a modern and customer-centric system. TRAVELS offers pre-integrated modules to support core transportation processes including licensing, registration, enforcement, titling, third

party and agent support, performance monitoring, security, and audit. These pre-integrated modules deliver most of the requested functionality out-of-the box and offer flexibility to quickly modify key features to meet the DMV's unique requirements. By building a system with components that are tightly integrated yet flexible and scalable, our Core Solution will grow with the Sate of Nebraska for decades to come.

Our Core Solution, designed using Siebel Public Sector, will provide a common look and feel for DMV customers and staff, service providers, dealers and agents, and external partners such as law enforcement agencies who will be conducting transactions with the Nebraska DMV. Standard transaction models (STM) for over-the-counter, self-service, central office, web services, and batch processing will be finalized in collaboration with DMV subject matter and process experts during the SDLC.

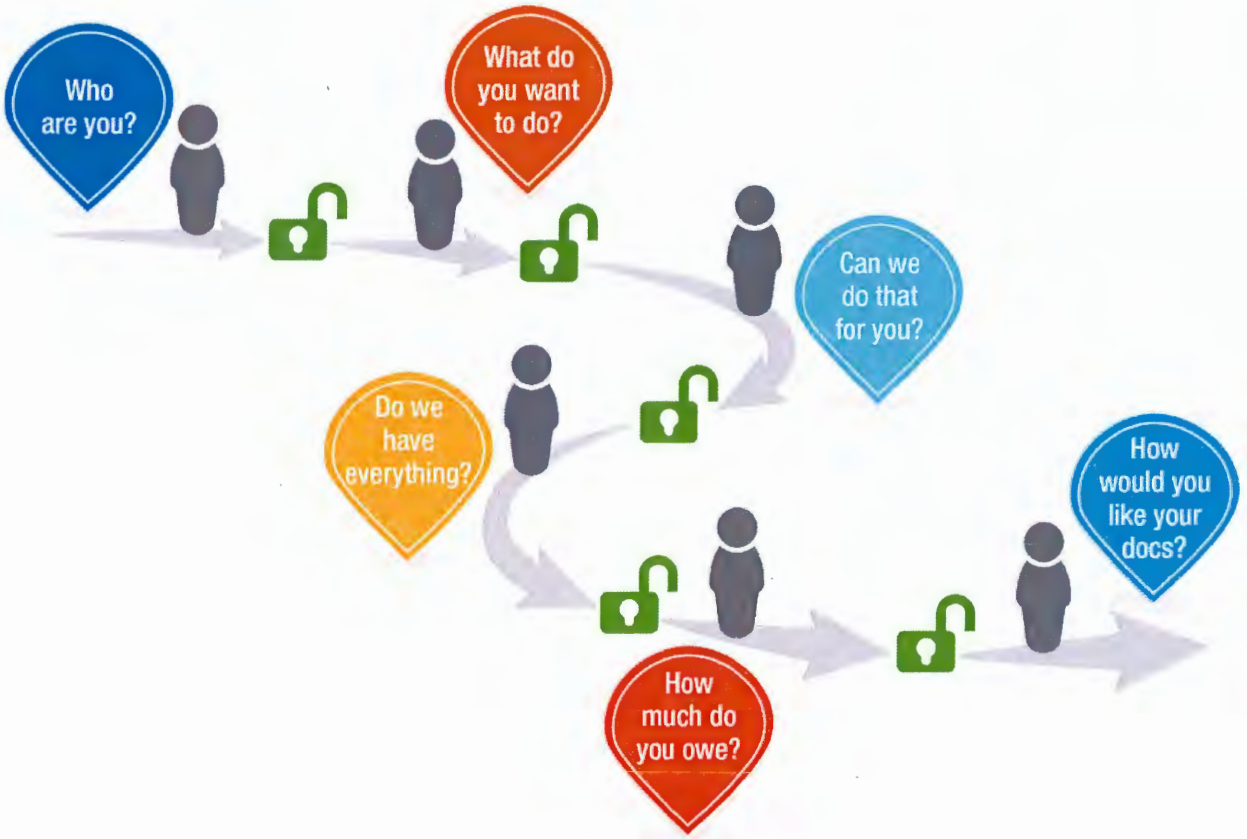

Figure 29. Simple, Secure Standard Transaction Model

- Who are you? This includes identification and validation of the user requesting service, and information capture for new users.
- What do you want to do? This includes evaluating what the user is authorized to do based on their 360° account and only presenting permitted functions.

- Are we able to perform that for you? This step includes external data checks and presents information about any exceptions when the requested service can't be provided.
- Do we have everything we need to complete the transaction? This includes capturing of information and documentation.
- How much do you owe? The payment (or gratis transaction) is applied and the transaction is committed.
- How would you like your documents sent to you? Channels include online (preferred), via Kiosk, mail, or in-person.

Our STM will provide a highly flexible, modular design with an intuitive interface using Oracle Open UI and Oracle Office Policy Automation (OPA) that will enable DMV staff to:

- Easily view all customer-related information and their transactions, assets, and history
- Modify Siebel CRM workflows and processing to meet new requirements
- Quickly and efficiently implement changes to business rules
- Provide a variety of service channels that will allow for transactions to be processed over-the-counter, online, and using the IVR, Kiosk, and Mobile platforms.

Our approach will enable us to reuse common system components in the design and execution of our Core Solution, which will result in a lower total cost of ownership for the DMV. Standardized business operations will enable the DMV to allow flexible resource utilization across business units, which will also lower overall costs.

Shown below our proposed "home" page for a Business customer. It is designed to include the most current information and critical data on one page. Additional information is easily retrieved to see comprehensive views of assets, documents, financial transactions, and upcoming events pertinent to the user. The section labeled "My DMV Menu" will present icons for the actions that that particular user is most likely to perform, minimizing the time necessary to navigate the system to obtain services.

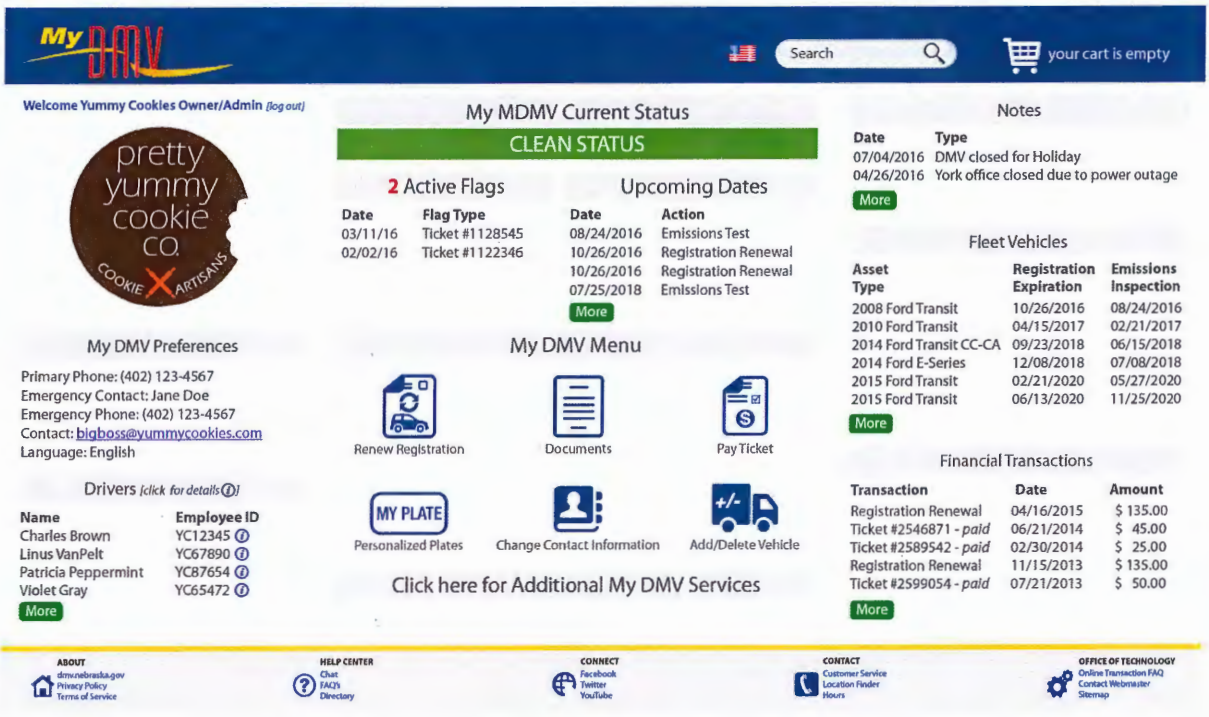

Figure 30. My DMV for Business customer

Our Role-Based Access Control (RBAC) design and configuration for access will ensure security, reduce risk, and provide appropriate transaction options based on the user's profile. Our 360° view of the customer or entity combined with a common look and feel will promote standardized business operations and allow for flexible resource utilization across business units. We will implement Siebel Task-Based User Interface (UI) wizards, which guides customers and users throughout an entire transaction. It offers the capability to navigate back and forth in the transaction before it is completed.

Customers, external partners, verification services, and other business entities performing services with the DMV will seamlessly integrate with our Core Solution using secure interfaces and Oracle SOA middleware, which will provide excellent throughput and reliable, redundant connectivity. We will also provide secure transport file transfer protocol (SFTP) to support batch processing of data, document scanning and transmission, electronic data exchange and electronic transfers for funds for various third-party providers and financial institutions. As the model for these interfaces changes over the course of the contract, we will work with the DMV to ensure that we are updating the DMV's interface protocol (i.e., changing from SFTP to XML) for the affected transactions, so that sending and receiving data continues without interruption.

For over-the-counter transactions, Siebel CRM will be integrated with a customer-facing touchscreen that will display information related to the customer's transaction, including their photograph and data, and preferences for voter registration and organ donation. The authorization

signature provided by the customer through the signature capture device or customer facing touchscreen will be stored against the customer record in Siebel CRM through the Signature Capture module.

For full self-service account access where the user has created a permanent username and password for authentication, we will provide the ability for a user to create a Web Based Transaction Center (WBTC) account using Siebel eService. Customers will be able to conduct virtually all transactions online, receiving customized notifications and alerts, reducing their in-person interaction with the DMV to the minimum necessary to authenticate their identity.

Our solution will provide for the interactive creation of customer accounts, leveraging the latest cyber security methodology and modern authentication protocols and two-factor authentication that will provide the self-service tools for customers to securely manage their accounts.

To better manage the DMV data and services, we will provide the ability to define a report as a set of data elements detached from a physical piece of paper or an electronic file to provide greater understanding with minimal effort for DMV staff and administrators. For example, a report can be automatically created when a certain parameter is met, such as a wait time that exceeds or is approaching a specified limit, based on date and time and location. The data report will provide the status and whereabouts of existing staff so reallocation can be done before the limit is reached.

Auditing reports will be developed that can be used by investigators to perform routine, random audits as well as to research any identified anomaly. Oracle BI Publisher will be integrated with Oracle EBS to generate inventory management reports that will dynamically measure run rates to ensure correct reordering levels.

Workflow reporting will track each item through the various steps and identify any bottlenecks to enable automatic escalation and workload redistribution. These reports will help the managers determine how improvements can be made in the workflow design so they can be changed by authorized DMV staff using our RBMS.

Ad hoc reporting using SQL queries will be available as needed, since urgent requests will need to be answered expeditiously. We will take advantage of a metadata repository and data warehouse approach to perform all report processing and data mining activities that are non-production transaction based. We will employ online analytical processing (OLAP) to enable a user to easily and selectively extract and view data, for reports and requests that do not require real-time production data. All reports will be available online for authorized viewers via RBAC permissions. These will take the form of dashboards, static reports, interactive reports, and others determined during the SDLC.

By tightly integrating all components of our Core Solution into a structure that is scalable and highly flexible, we will be able to provide the Nebraska DMV with a state-of-the-art modernization system that will serve the residents and visitors for decades.

Implementing our solution to provide the best overall value and lowest cost of ownership is a significant step in the right direction to minimize the fiscal impact of modernization. Our team's experience implementing large-scale, complex technical programs and unparalleled financial strength will provide the bedrock for on-time, on-budget delivery.

15. General

15.1 Timeline for planning, development, integration, implementation

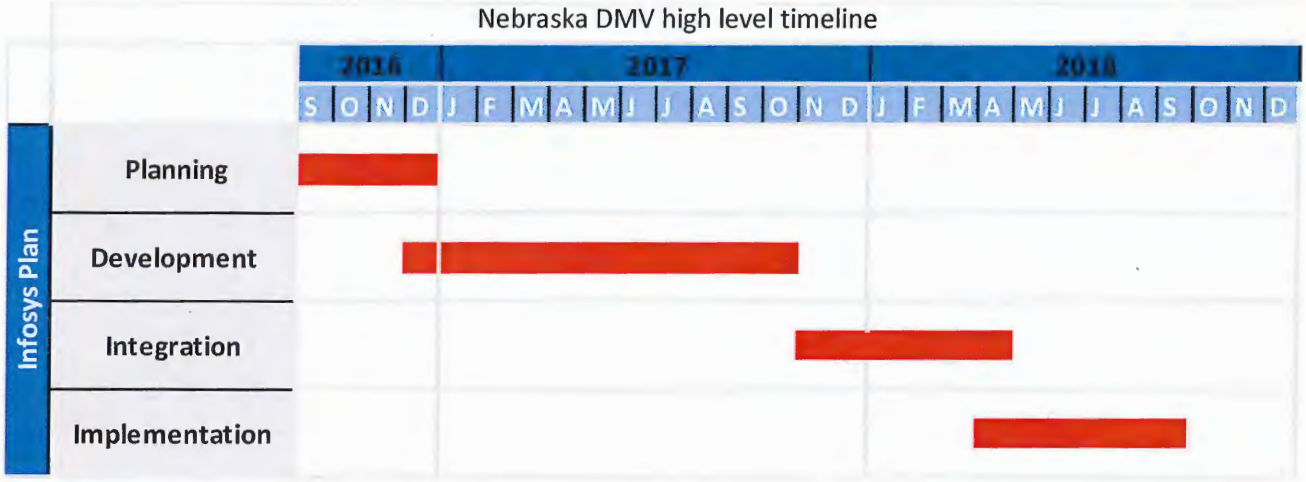

Figure 31. High level Timeline

The planning phase will include the project mobilization as well as the planning and design of the solution. As the solution planning and design are coming to a close the project team will move into the development phase. As development comes to a close we move into the integration phase where integration testing will be conducted in various forms. Prior to the close of the integration phase we will ensure that the implementation strategy and plan are ready for execution during the implementation phase.

15.2 Unique advantage of the proposed solution over other solution

- It Leverages a customer engagement model (CEM) to implement a "one client, one-record" model, delivering a 360° view of the citizens, across different functions
- It has a service-oriented architecture (SOA) to ensure interoperability with other systems, and the scalability to adapt to changing requirements
- It Embrace knowledge-transfer and early feedback mechanisms that support consensus building, and minimize adoption challenges

15.3 Common weakness/limitation of the proposed solution

Solution Weak Points	Description	Mitigation Plan
Technology Complexity	Infosys proposed solution uses best of breed technology components to meet DMV requirements considering futuristic view in mind. Since multiple technology components are used, System Integration can cause potential concern in case of heterogeneous environment	Infosys's Core strength in System Integration though the use of In-house Tools and Accelerators with defined and Proven methodologies and effective Program Governance Approach will mitigate these Challenges. The solution will use Loosely coupled model based on SOA principles to replace or modify components on need basis to meet future scalability requirements.
Operational Challenges	Since multiple Products are used for meeting DMV solution. Needs, Following are high level Operational Challenges are envisaged for this solution 1) Each Product have their own release cycle and different support/retirement and Licensing model and different technology refresh activities needs to be planned which adds complexity. 2) During Pilot Rollout, Case workers have to use Legacy Systems along with Modernization System so working on Parallel System can add potential Complexities. 3) During Production, Managing incidents, Problem resolutions, FAQ, Availability of SME, and Chat Support are necessary for Governance of such a large solution. Absence of these can	Infosys have developed a number of Products to boost Productivity improvement based on our experience with Commercial and Public Sector Customers. Following are some Products in Infosys Productivity improvement suite to address these Operational Concerns. 1) Assist Edge : To help case workers working on multiple System and having features like Search and One click update to improve Operational efficiency. 2) Infosys Virtual Operational Center" Infosys Virtual Ops solutions brings all stakeholders: Support Personnel, SME's

	cause Productivity issues.	developers under one platform for speedy resolution of incidents. It also has Knowledge repository, Common issues, Self Service etc. capabilities to mitigate Operational challenges.
Resources/ Governance/ Compliance Challenges	Based on our Proposed solution and our experience with Public sector customers, We have seen some of Challenges **Security and Compliance**: With amendment in Compliance and Legal regulations, Solution has to abide by new laws with minimal impact and also solution has to comply with regular audits based on agency onboarding. **Resources Challenges:** Solution uses niche skills and Industry specific products and talent for these skills are not easily available. Governance Challenge: In the absence of necessary bandwidth of Customer SME and functional consultant, Effort and timelines are getting impacted.	With Large Pool of talent available, Infosys team can ramp up required resources in minimal time to avoid any potential impact to Customer. With our established methodologies and Governance framework based on best Practices of Agile and Waterfall will always mitigate Risks at earliest stages. Being CMMI Level 5 Company, Infosys Processes are mature to handle complex deals involving multiple System Components and Stakeholders

Table 11. Common Weakness & Mitigation plan

For more information, contact askus@infosyspublicservices.com

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