REDACTED

SuperCom Proposal for State of Vermont

Information Technology RFP for Driver's License/ID System Replacement

January 12, 2018

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Table of Contents

Requirements Check List viii
Cover Letter ix
Certificate of Compliance xiii

State of Vermont Bidder Response Form 1
Part 1: Bidder Profile 3
Part 2: Bidder Proposal/Solution 28
Part 3: Functional Requirements 70
Part 4: Non- Functional Requirements 87
4.1 Hosting 87
4.2 Application Solution 90
4.3 Security 92
4.4 Other Non-Functional Requirements 97
4.5 Data Compliance 163
Part 5: Implementation/Project Management Approach 165
Part 6: Technical Services 197
Part 7: Maintenance and Support Services 206
Part 8: Pricing 214
Part 9: Terms and Conditions 222
Part 10: Authorized Company Signature 223

Attachment 1 - Financial Statement 1-1
Attachment 2 - Road Map 2-1
Attachment 3 - Executive Summary PowerPoint 3-1
Attachment 4 - Project Phases, Tasks, and Implementation Timeline 4-1
Attachment 5 - Project Manager Resume 5-1
Attachment 6 - Typical Implementation Plan 6-1
Attachment 7 - Technical Resources' Resumes 7-1
Attachment 8 - Service Level Agreement 8-1

List of Figures

Figure 1 – SuperCom's Headquarters. 4
Figure 2 – Ecuador's End-to-end Turnkey National ID System 13
Figure 3 - e-ZamTIS Project in Zambia 15
Figure 4 - Provision of an End-to-End Multi-ID System for the Republic of Moldova. 17
Figure 5 – Tanzania's Smart Driver Licenses Sub-system 19
Figure 6 – Panama's Monitor And Improve Immigration Verification Processes Project 21
Figure 7 – SuperCom has been providing ePassports to Iceland for the past 12 years 23
Figure 8 - Ethiopia's personalization of Passports, Visas & Foreigner IDs 25
Figure 9 – Vermont DMV Project Architecture Diagram 32
Figure 10 – Vermont DMV Project Data Centers Configuration 33
Figure 11 – Sample Project Performed Based on Magna 37
Figure 12 - Registries/Applications Supported by the Magna™ platform 38
Figure 13 - Typical Magna™ Architecture 40
Figure 14 - Magna™'s Hierarchical Layered Diagram 41
Figure 15 – Typical Search Screen 71
Figure 16 – Sample report output image. 75
Figure 17 – Sample Report Output Image 76
Figure 18 – Sample report format for SuperCom's Zambia Project 77
Figure 19 - Driving License Renewal - Process Diagram (example) 79
Figure 20 – Error Flag Sample 1 83

Figure 21 – Error Flag Sample 2. 84
Figure 22 – Vermont DMV Project Architecture Diagram 99
Figure 23 – Vermont DMV Project Data Centers Configuration 100
Figure 24 - Training activities 108
Figure 25 - Train the trainer approach 109
Figure 26 – MegaMatcher ABIS Architecture 117
Figure 27 – MegaMatcher ABIS Client - Adjudication Application 120
Figure 28 – High Availability Technology in MegaMatcher ABIS 123
Figure 29 – MegaMatcher ABIS FAR Threshold Score 125
Figure 30 - Client architecture 129
Figure 31 - Back server components 130
Figure 32 – SuperCom's Solution Architecture With Full Redundancy 141
Figure 33 – Disaster Activation and Recovery Process Flow 143
Figure 34 – Change Management Process 154
Figure 35 – SuperCom Training Courses' Classification 158
Figure 36 – SuperCom's Project Management Process 165
Figure 37 - PMP Knowledge Areas 166
Figure 38 – SuperCom Team Project Organization Chart 179
Figure 39 - SuperCom Risk Management Process 184
Figure 40 – SuperCom's Risk Priority Matrix 185
Figure 41 - Communication Activities 188
Figure 42 - SuperCom Procurement Process 192

List of Tables

Table 1 – List and Reason of Redacted Material xi
Table 2 – Division of Responsibility 10
Table 3 – Proposed Security Features of Card Material 113
Table 4 – Training Courses Available for this Project 159
Table 5 - Communication Plan Reports 189
Table 6 - Communication Plan Meetings 191
Table 7 – Group of Courses for the Vermont DMV Project 203

Requirements Check List

Section	RFP REFERENCE	RESPONDED TO	PAGE NUMBER IN PROPOSAL
3.3.2	Cover Letter	✓	Page ix
3.3.3	Certificate of Compliance	✓	Page xiii
3.3.4	State of Vermont Bidder Response Form	✓	Page 1
	Part 1: Bidder Profile	✓	Page 3
	Part 2: Bidder Proposal/Solution	✓	Page 28
	Part 3: Functional Requirements	✓	Page 70
	Part 4: Non-Functional Requirements	✓	Page 87
	Part 5: Implementation/Project Management Approach	✓	Page 165
	Part 6: Technical Services	✓	Page 197
	Part 7: Maintenance and Support Services	✓	Page 206
	Part 8: Pricing	✓	Page 214 (Separate Envelope)
	Part 9: Terms and Conditions	✓	Page 222
	Part 10: Authorized Company Signature	✓	Page 223
	Attachment #1 – Financial Statement	✓	Page 1-1
	Attachment #2 – Road Map	✓	Page 2-1
	Attachment #3 – Executive Statement (PowerPoint)	✓	Page 3-1
	Attachment #4 – Project Phases, Tasks and Implementation Timeline	✓	Page 4-1
	Attachment #5 – Project Manager Resume	✓	Page 5-1
	Attachment #6 – Implementation Plan	✓	Page 6-1
	Attachment #7 – Technical Resources' Resumes	✓	Page 7-1
	Attachment #8 – Service Level Agreement (SLA)	✓	Page 8-1

Cover Letter

January 12, 2018

Department of Buildings and General Services Agency of Administration
Office of Purchasing & Contracting
109 State Street, 3rd Floor
Montpelier VT 05609-3001
Attention: Stephen Fazekas, Technology Procurement Administrator

Dear Mr. Fazekas:

In response to The State of Vermont's Information Technology RFP for Driver's License/ID System Replacement, SuperCom Inc. (together with its parent company, SuperCom Ltd., [together "SuperCom"]) is submitting our sealed bid proposal to the Department of Buildings and General Services, Office of Purchasing & Contracting.

Your RFP evaluation criteria emphasized the desire to select a vendor offering the best combination of technical solutions, experience and management approach, cost effectiveness, proper attention to the RFP requirements, content, and format.

Our proposal presents the solution of an experienced team that can rely on extensive world-wide experience in this field, ensuring efficient execution of the contract while providing a cost effective solution to the State. We are committed to providing the highest levels of customer service and a quality experience for Vermont. We also commit to developing a strong, long-term partnership in delivering high quality drivers' license services, building on our numerous successful program throughout the world.

Established in 1988, SuperCom has more than 30 years of experience in system integration of national ID projects, contactless microprocessor-based smart card solutions for electronic and traditional National ID cards, biometric passports, voter registration and election management systems, driving & vehicle license projects and other homeland security solutions. SuperCom is an experienced system integrator that has an exceptional performance record implementing several National ID Projects, worldwide, such as in: the UK, Hong Kong, Macao, Israel, Ethiopia, Moldova, Tanzania, Iceland, Poland, Uganda, Ecuador, Zambia, Panama, Zanzibar, Angola and more. The offered solution for this project will be based on SuperCom's proprietary, state-of-the-art and field-proven software, Magna™. Magna™ has been successfully implemented in over 20 national ID projects, worldwide.

SuperCom, as Prime and System Integrator, has teamed with 3 leading industry partners in order to address, with the highest quality and reliability, the requirements of this state-wide project. These companies, which were selected by SuperCom as the best candidates from a pool of reputable candidates, have a proven successful track record of exceeding customer expectations and delivering solutions locally in Vermont as well as throughout Northern America.

American Banknote Corporation (ABCorp) will serve as the primary secure card production facility and will manufacture, personalize and ship the cards to fulfill all VT DL/ID card credentials from their centralized Card Production Center in Boston, MA. ABCorp is a leading global supplier of secure documents, services and solutions. For over 200 years, ABCorp has manufactured high quality, tamper-resistant products for governments, financial institutions, retailers and other organizations throughout the world. ABCorp has successfully manufactured millions of DL/ID cards for over a-third of the US states and several Canadian provinces in compliance with AAMVA and US Federal Government Real ID Act. In addition to this, they have provided millions of secure ID Cards in PVC, PVC/PET and Polycarbonate construction to foreign governments world-wide in support of National ID, Driver's Licenses, Voter ID, Military ID and other ID Cards. They proudly manufacture the RFID-enabled U.S. Passport Card for the US Department of State.

Police & Sheriffs Press, Inc. (PASP) will serve as the secondary card production facility and will be the partner in-charge of supporting any DR requirements for card production and personalization and be the back-up source. Our plan of operation includes PASP having a workshare with ABCorp in a way as to ensure that the interfaces can be tested to be operating in total transparency to the State of Vermont. PASP manufactures, personalizes, and mails millions of secure government issued Identification Cards to various Federal, State, and Local Government agencies in both the United States and abroad from a secure facility in Vidalia Georgia. As one would expect by its name, PASP has a strong presence in the first responder market providing credentials to over 5,000 Law Enforcement Agencies. All Credentials provided by PASP exceed AAMVA security requirements and are used by Law Enforcement Officers every day to fly armed on various official duties. PASP also manufactures, personalizes and mails high security Voter ID Cards as well as Concealed Weapons Carry Licenses for several states and government agencies in the U.S.

Simpleroute will provide in-place support, monitoring, and training for the VT DL/ID card project. Simpleroute was founded in 2009 and is a leading Vermont based Managed Service Provider and provides IT services and 24/7 monitoring services to its clients. Its managed IT services provide less downtime, lower overall IT costs, planned expenses and increased efficiency to its clients. For this reason, Simpleroute has been chosen by the Town of Stowe as well as Chittenden Solid Waste District for managed IT Services. Simpleroute also provides hourly services for the Town of Richmond's Water Department.

Confidentiality

Please note that certain information in this proposal is protected from disclosure to the public because it is a proprietary trade secret or confidential commercial or financial information of SuperCom Inc. or its parent company and/or affiliates (individually and collectively, "SuperCom Team" or "SuperCom"). SuperCom has endeavored to identify each page of its proposal that contains any such proprietary or confidential information and this is reflected in the table below. For this reason, we are also providing a redacted version to the State:

Table 1 – List and Reason of Redacted Material

PROPOSAL SECTION #	PROPOSAL PAGE #	REASON FOR REDACTION
Part 2, #3	35-43	This information is considered by SuperCom as Commercially Sensitive Information. They include information about SuperCom's proprietary technology which is not generally known or reasonably ascertainable by others, especially by competitors, or anyone who can use the information to obtain an economic advantage over competitors. Disclosure of such Commercially Sensitive Information following SuperCom's intensive investment and pursuant to SuperCom's years of development may cause SuperCom serious harm, while providing an unfair advantage to SuperCom's competitors. This Information is confidential and is an important component of our company's intellectual property and, as such, is a major contribution to the company's value. We consider it would not be in the public interest to disclose information, where confidentiality with regards to the technology is a must. We estimate that the time period applicable to that Confidential Information is at least till 7 years.
Attachment 2	Attachment 2	
Part 8	214-221	The breakdown of our prices is considered Commercially Sensitive Information and disclosure of such Commercially Sensitive Information may cause SuperCom serious harm while providing an unfair advantage to SuperCom's competitors.

SuperCom looks forward to providing a reliable and efficient solution to the State of Vermont for this project.

This proposal is signed by Mr. Jason Gilbert, who is authorized to legally bind SuperCom to fulfill the performance and pricing commitments outlined in this proposal. Please send all notices relative to a contract to Mr. Jason Gilbert, email address: jasong@supercom.com

Thank you for your time and consideration.

Jason Gilbert
Vice President of Sales, Public Sector Solutions
SuperCom
Email: jasong@supercom.com
Phone: 212-675-4606

Certificate of Compliance

EXHIBIT A

CERTIFICATE OF COMPLIANCE

For a bid to be considered valid, this form must be completed in its entirety, executed by a duly authorized representative of the bidder, and submitted as part of the response to the proposal.

A. **NON COLLUSION:** Bidder hereby certifies that the prices quoted have been arrived at without collusion and that no prior information concerning these prices has been received from or given to a competitive company. If there is sufficient evidence to warrant investigation of the bid/contract process by the Office of the Attorney General, bidder understands that this paragraph might be used as a basis for litigation.

B. **CONTRACT TERMS:** Bidder hereby acknowledges that is has read, understands and agrees to the terms of this RFP, including Attachment C: Standard State Provisions for Contracts and Grants, and any other contract attachments included with this RFP.

C. **FORM OF PAYMENT:** Does Bidder accept the Visa Purchasing Card as a form of payment?

____ Yes___✓___No

D. **WORKER CLASSIFICATION COMPLIANCE REQUIREMENT:** In accordance with Section 32 of The Vermont Recovery and Reinvestment Act of 2009 (Act No. 54), the following provisions and requirements apply to Bidder when the amount of its bid exceeds $250,000.00.

Self-Reporting. Bidder hereby self-reports the following information relating to past violations, convictions, suspensions, and any other information related to past performance relative to coding and classification of workers, that occurred in the previous 12 months.

Summary of Detailed Information	Date of Notification	Outcome
None		

Subcontractor Reporting. Bidder hereby acknowledges and agrees that if it is a successful bidder, prior to execution of any contract resulting from this RFP, Bidder will provide to the State a list of all proposed subcontractors and subcontractors' subcontractors, together with the identity of those subcontractors' workers compensation insurance providers, and additional required or requested information, as applicable, in accordance with Section 32 of The Vermont Recovery and Reinvestment Act of 2009 (Act No. 54), and Bidder will provide any update of such list to the State as additional subcontractors are hired. Bidder further acknowledges and agrees that the failure to submit subcontractor reporting in accordance with Section 32 of The Vermont Recovery and Reinvestment Act of 2009 (Act No. 54) will constitute non-compliance and may result in cancellation of contract and/or restriction from bidding on future state contracts.

E. Executive Order 05 – 16: Climate Change Considerations in State Procurements Certification

Bidder certifies to the following (Bidder may attach any desired explanation or substantiation. Please also note that Bidder may be asked to provide documentation for any applicable claims):

1. Bidder owns, leases or utilizes, for business purposes, space that has received:
   - ☑ Energy Star® Certification
   - ☑ LEED®, Green Globes®, or Living Buildings Challenge℠ Certification
   - ❑ Other internationally recognized building certification:

_____

2. Bidder has received incentives or rebates from an Energy Efficiency Utility or Energy Efficiency Program in the last five years for energy efficient improvements made at bidder's place of business. Please explain:

_____

3. Please Check all that apply:
   - ❑ Bidder can claim on-site renewable power or anaerobic-digester power ("cow-power"). Or bidder consumes renewable electricity through voluntary purchase or offset, provided no such claimed power can be double-claimed by another party.
   - ❑ Bidder uses renewable biomass or bio-fuel for the purposes of thermal (heat) energy at its place of business.
   - ☑ Bidder's heating system has modern, high-efficiency units (boilers, furnaces, stoves, etc.), having reduced emissions of particulate matter and other air pollutants.
   - ❑ Bidder tracks its energy consumption and harmful greenhouse gas emissions. What tool is used to do this? _____
   - ❑ Bidder promotes the use of plug-in electric vehicles by providing electric vehicle charging, electric fleet vehicles, preferred parking, designated parking, purchase or lease incentives, etc..
   - ❑ Bidder offers employees an option for a fossil fuel divestment retirement account.
   - ❑ Bidder offers products or services that reduce waste, conserve water, or promote energy efficiency and conservation. Please explain:

_____

_____

4. Please list any additional practices that promote clean energy and take action to address climate change:

Our Treatment and EM Case Management Systems have been developed to be Paperless, and we are transitioning to paperless offices company wide.

_____

_____

F. Acknowledge receipt of the following Addenda:

Addendum_____No.: Dated_____:_____

Addendum_____No.: Dated_____:_____

Addendum_____No.: Dated_____:_____

Bidder Name: **SuperCom, Inc.** Contact Name: **Jason Gilbert**

Address: **200 Park Avenue South,** Fax Number: **414-755-7599**

9th Floor, Telephone: **212-675-4606**

New York, NY 10003 E-Mail: **jasong@supercom.com**

By: Jason Gilbert Name: **Jason Gilbert**

Signature of Bidder (or Representative) (Type or Print)

END OF CERTIFICATE OF COMPLIANCE

ISO 14001:2004
RONET
Enviromental Management System

RONET
International Certification Services Ltd.

Certifies that the Environmental management system of:

Supercom Ltd

1 Arie Shenkar St.

Herzliya, Israel

Has been assessed and registered as meeting the International standard requirements of:

ISO 14001:2004

Standard within the scope of activities detailed below:

Development, sales and project management for ID, IT, and e-Monitoring systems. Manufacturing of wireless e-Monitoring products

Ronen Tuchfeld C.E.O

Effective From: 14/01/2015

Valid Until: 14/01/2018

Original Approval Date: 14/01/2015

Certification No. E4279

This certificate remains valid subject to satisfactory Surveillance visits conducted by RONET I.C.S. Ltd.
With accordance to the agreement and code of practice.
Main office: Maor 27, M.P. Hefer 38830, IL
www.ronet-ics.com

ANAB accredited

RONET
International Certification Services Ltd.

Exhibit C

State of Vermont Bidder Response Form

Request for Proposal Name: **Driver's License/ID System Replacement**

Bidder Instructions:

Provide the information requested in this form and submit it to the State of Vermont as part of your Request for Proposal (RFP) response. All answers must be provided within the form unless otherwise specified.

Important: This form must be completed and submitted in response to this RFP for your proposal to be considered valid. The submission must also include the eight (8) additional artifacts requested within this form (denoted by underlined green font).

See the RFP for full instructions for submitting a bid. **Bids must be received by the due date and at the location specified on the cover page of the RFP.**

Direct any questions you have concerning this form or the RFP to:

Stephen Fazekas, Technology Procurement Administrator
State of Vermont
Office of Purchasing & Contracting
109 State Street
Montpelier VT 05609-3001
E-mail Address: **SOV.ThePathForward@vermont.gov**

PART 1: BIDDER PROFILE

1. Complete the table below.

Item	Detail
Company Name:	**SuperCom Inc.**
Physical Address:	**200 Park Avenue South, 9th Floor, New York, NY 10003**
Postal Address:	**200 Park Avenue South, 9th Floor, New York, NY 10003**
Business Website:	**www.supercom.com**
Type of Entity (Legal Status):	**Incorporation**
Primary Contact:	**Jason Gilbert**
Title:	**Vice President of Sales, Public Sector Solutions**
Email Address:	**jasong@supercom.com**
Phone Number:	**212-675-4606**
Fax Number:	**414-755-7599**

2. Provide a brief overview of your company including number of years in business, number of employees, nature of business, and description of clients. Identify any parent corporation and/or subsidiaries.

2.A. Corporate Overview:

SuperCom (NASDAQ: SPCB, www.SuperCom.com) is a leading global provider of traditional and digital identity solutions, providing advanced safety, identification and security solutions to governments and organizations, both private and public, throughout the world since 1988. Through its proprietary e-Government platforms and innovative solutions for traditional and biometrics enrollment, personalization, issuance and border control services, **SuperCom** has inspired governments and national agencies to design and issue secured Multi-ID documents and robust digital identity solutions to its citizens and visitors. **SuperCom** offers a unique all-in-one, field-proven RFID & mobile technology and product suite, accompanied by advanced complementary services for various industries, including healthcare and homecare, security and safety, community public safety, law enforcement, electronic monitoring, livestock monitoring, and building and access automation.

SuperCom has successfully implemented national ID systems in more than 20 countries, worldwide including the UK, Hong Kong, Poland, Iceland, Ecuador, Israel, Panama, Macao, Ethiopia, Moldova, Zambia, Angola, Tanzania, Uganda, Zanzibar, and more. **SuperCom's** ID solutions are based on its state-of-the-art and field proven, Magna™ Software Platform.

In 2010, **SuperCom Ltd**., has incorporated a fully owned subsidiary - **SuperCom Inc**., based in the USA. **SuperCom Inc**. is responsible for the sales, marketing and support of **SuperCom's** solutions within the USA, in order to be closer to the American customers' needs.

Figure 1 – SuperCom's Headquarters. SuperCom has over 30 years of experience providing national ID systems to over 20 countries worldwide.

SuperCom has also expanded in the US market, gaining experience with governmental clients, through its subsidiary Leaders in Community Alternatives (LCA), a company that has extensive experience in providing electronic monitoring services to state governments, including city governments (such as for the San Francisco Sheriff's Department), state courts or counties.

SuperCom has launched a mobile payments platform that provides solutions ranging from mobile wallet to mobile banking and provides mobile services using a hybrid of components and services to enable secure mobile transactions and mobile payments. In addition, **SuperCom** has recently launched cutting edge Cyber Security services and solutions based on leading methodologies and best practices in Information Security and Cyber Doctrine. **SuperCom's** newest activity is GIS and Land & Housing Management Solutions. Altogether **SuperCom** employs around **120 personnel**.

2.B. SuperCom's Divisions:

1. ∑ID™ (Sigma-ID) Division – Comprehensive Solutions System Integration

Working as a system house and a system integrator for Governments and other public entities, SuperCom's ∑ID™ is an internationally recognized leader in the design, development, integration and delivery of highly secured National ID and e-Government solutions. In addition, SuperCom ∑ID™ offers a variety of related Services like: requirements extraction & system design, project management, project operation, training, operational processes optimization, assimilation, project financing (under BOT/PPP scheme), knowledge transfer, fee collection, maintenance & support and more.

National ID/e-ID and e-Government solutions:

- National ID (all national documents from birth to death)
- Population registries, Censuses
- e-Government portal
- Driving license, Vehicle license
- e-Passport
- Biometric border control, e-Visas
- Voter ID & election management
- Internal Revenue & Social Security projects
- Pension Verification Systems
- Documents Archiving & Management Solutions

2. M2M Division – SuperCom's PureConnect™ Suite is a hybrid of smart devices and cloud-based software which enables secure Internet of Things (IoT) using a long list of encrypted communication methods including 3G, NFC, BLE, WiFi, and Stealth RFID. PureConnect™ provides authenticated, secure and flexible IoT solutions for both the public and private sectors. SuperCom created solutions for public safety (electronic monitoring), healthcare, cargo management and livestock management.

3. SuperPay Division (Mobile Payments) – Offers an advanced secure mobile payments suite ranging from mobile wallet to mobile POS using a set of components and platforms to enable a long list of secure mobile payments and financial services.

- SuperTap – allows customers to securely make payments using any mobile device includes old phones and smartphones, no extra hardware needed.
- SuperPOS – allows merchants to use any smartphone or tablet device as a secure mobile payments POS.
- SuperWallet – provides a wide range of secure mobile money services with any mobile device, by using the SuperPay technology.
- SafeMoney – a mobile security platform that layers SuperPay into a leading mobile security solution.

4. Cyber Security Division – SuperCom's cyber security division provides cutting edge services and solutions based on leading methodologies and best practices in Information Security and Cyber Doctrine. The division specializes in protecting strategic assets for governments, militaries and large enterprises in various domains including Critical Infrastructure, Finance and Telecom, with an extensive customer portfolio in Israel, South America, Europe and Asia.

5. GIS & Land Division -SuperCom GIS & Land division offers a comprehensive solution for land management- Starting from:

- Mapping, through first registration
- Deeds
- Production of secured land title & deeds
- Monitoring and verification of the secured titles & deeds

SuperCom provides a full solution for monitoring, planning and outage management of underground and above ground utilities/assets (water, sewage, drainage, communication, electrical assets) in a unified, modern environment.

On the next pages are SuperCom's ISO certifications: ISO 9001-2015, ISO 27001-2013, and ISO 14001.

SuperCom at a Glance

Years in Business: 30 years

Number of Employees: 120

Nature of Business:

- National ID/eID and eGovernment
- M2M
- Mobile Payment
- Cyber Security
- GIS and Land

Clients:

- Over 20 Governments across the Globe
- Many State Agencies

Other:

- Listed on NASDAQ (SPCB)
- World-wide leader in Location Based Solutions
- 40% of staff devoted to R&D and IT and technical support
- 7 patents in RFID Technologies

RONET
International Certification Services Ltd.
Certifies that the quality management system of:

SuperCom Ltd
1th Arie Shenkar St.
Herzliya, Israel

Has been assessed and registered as meeting the
International standard requirements of:

ISO 9001:2015

standard within the scope of activities detailed below:

Design, software development, integration and implementation of systems and ID products, IT, GIS, M2M, security, and secure payments

Ronen Tuchfeld C.E.O

Effective From: 26/09/2017 **Valid Until:** 26/09/2020
Original Approval Date: 26/09/2014 **Certification No.** Q4279

This certificate remains valid subject to satisfactory
Surveillance visits conducted by RONET I.C.S. Ltd.
With accordance to the agreement and code of practice.
Main office: Maor 27, M.P. Hefer 38830, IL
www.ronet-ics.com

ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY
RONET International Certification Services Ltd.

CERTIFIED ISMS
SI ISO 27001 2013
THE STANDARDS INSTITUTION OF ISRAEL

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

This is to certify that the Information Security Management System of

SuperCom Ltd.

1, Arie Shenkar St. , Herzeliya , Israel

Has been audited and registered by SII-QCD as conforming to the requirements of

ISO/IEC 27001:2013

This Certificate is Applicable to

Business processes: Development and sales and projects management for id, it and e-monitoring systems. Manufacturing wireless e-monitoring.

System/products: Design, development, integration and implementation of systems and ID products, IT, M2M, security and secure payments.

According to Statement of Applicability: Date August 2015.

Certificate No.:	75071	**Certificate Issue Date:**	13/01/2016
Initial Certification Date:	13/01/2015	**Certification Expiry Date:**	12/01/2018

SII-QCD assumes no liability to any party other than the client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organization maintaining their system in accordance with SII-QCD requirements for system certification. The continued validity may be verified via scanning the code with a smartphone, or via website www.sii.org.il. This certificate remains the property of SII-QCD.

Eli Stein
Director General

Eli Cohen-Kagan
Director, Quality & Certification Division

מתי
The Standards Institution of Israel

Page 1 of 1

Our Vision: To Enhance Both Global Competitiveness of our Services, with our Uncompromised Quality and Integrity

ISO 14001:2004
RONET
Environmental Management System

RONET
International Certification Services Ltd.
Certifies that the Environmental management system of:

Supercom Ltd

1 Arie Shenkar St.

Herzliya, Israel

Has been assessed and registered as meeting the
International standard requirements of:

ISO 14001:2004

Standard within the scope of activities detailed below:

Development, sales and project management for ID, IT, and e-Monitoring
systems. Manufacturing of wireless e-Monitoring products

Ronen Tuchfeld C.E.O

Effective From: 14/01/2015

Valid Until: 14/01/2018

Original Approval Date: 14/01/2015

Certification No. E4279

This certificate remains valid subject to satisfactory
Surveillance visits conducted by RONET I.C.S. Ltd.
With accordance to the agreement and code of practice.
Main office: Maor 27, M.P. Hefer 38830, IL
www.ronet-ics.com

RONET
International Certification Services Ltd.

2.C SuperCom Team

SuperCom, as Prime and System Integrator, has teamed with 3 leading industry partners in order to address, with the highest quality and reliability, the requirements of this state-wide important project. These companies, which were selected by SuperCom as the best candidates from a pool of reputable candidates, have a proven successful track record of delivery throughout Northern America that continually exceeds customers' expectations.

Table 2 – Division of Responsibility

	SuperCom (Prime)	ABCorp	PASP	Simpleroute
Management	●	●	●	●
Implementation	●	●	●	●
Support	●	-	-	●
Training	●	-	-	●

Key
- ● Major Responsibility
- ● Minor Responsibility
- \- No Responsibility

American Banknote Corporation (ABCorp) will serve as the primary secure card production facility and will manufacture, personalize and ship the cards to fulfill all VT DL/ID card credentials from their centralized Card Production Center in Boston, MA. ABCorp is a leading global supplier of secure documents, services and solutions. For over 200 years, ABCorp has manufactured high quality, tamper-resistant products for governments, financial institutions, retailers and other organizations throughout the world. ABCorp has successfully manufactured millions of DL/ID cards for over a-third of the US states and several Canadian provinces in compliance with AAMVA and US Federal Government Real ID Act. In addition to this, they have provided millions of secure ID Cards in PVC, PVC/PET and Polycarbonate construction to foreign governments world-wide in support of National ID, Driver's Licenses, Voter ID, Military ID and other ID Cards. They proudly manufacture the RFID-enabled U.S. Passport Card for the US Department of State.

Police & Sheriffs Press, Inc. (PASP) will serve as the secondary card production facility and will be the partner in-charge of supporting any DR requirements for card production and personalization and be the back-up source. Our plan of operation includes PASP having a workshare with ABCorp in a way as to ensure that the interfaces can be tested to be operating in total transparency to the State of Vermont. PASP manufactures, personalizes, and mails millions of secure government issued Identification Cards to various Federal, State, and Local Government agencies in both the United States and abroad from a secure facility in Vidalia Georgia. As one would expect by its name, PASP has a strong presence in the first responder market providing credentials to over 5,000 Law Enforcement Agencies. All Credentials provided by PASP exceed AAMVA security requirements and are used by Law Enforcement Officers every day to fly armed on various official duties. PASP also manufactures, personalizes and mails high security Voter ID

Cards as well as Concealed Weapons Carry Licenses for several states and government agencies in the U.S.

Simpleroute will provide in-place support, monitoring, and training for the VT DL/ID card project. Simpleroute was founded in 2009 and is a leading Vermont based Managed Service Provider and provides IT services and 24/7 monitoring services to its clients. Its managed IT services provide less downtime, lower overall IT costs, planned expenses and increased efficiency to its clients. For this reason, Simpleroute has been chosen by the Town of Stowe as well as Chittenden Solid Waste District for managed IT Services. Also, Simpleroute also provides hourly services for the Town of Richmond's Water Department.

3. **Provide a Financial Statement* for your company and label it Attachment #1**. A confidentiality statement may be included if this financial information is considered non-public information. This requirement can be filled by:
   - A current Dun and Bradstreet Report that includes a financial analysis of the firm;
   - An Annual Report if it contains (at a minimum) a Compiled Income Statement and Balance Sheet verified by a Certified Public Accounting firm; or
   - Tax returns and financial statements including income statements and balance sheets for the most recent 3 years, and any available credit reports.

   **Some types of procurements may require bidders to provide additional or specific financial information. Any such additional requirements will be clearly identified and explained within the RFP, and may include supplemental forms in addition to this Bidder Response Form.*

   Please see Attachment #1 – Financial Statements

4. Disclose any judgments, pending or expected litigation, or other real potential financial reversals, which might materially affect the viability or stability of your company or indicate below that no such condition is known to exist.

   None.

5. Provide a list of three references similar in size and industry (preferably another governmental entity). References shall be clients who have implemented your Solution within the past 48 months.

SuperCom (Prime):

Reference 1	Detail
Reference Company Name:	Registro Civil of **ECUADOR**
Company Address:	Av. Amazonas N37-61 y NNUU (02) 381 4290, Quito, Ecuador
Type of Industry:	Government
Contact Name:	Mr. Jorge Troya, General Director, Direccion General De Registro Civil, Identificacion Y Cedulacion
Contact Phone Number:	+593-2-3814290
Contact Email Address:	jorge.troya@registrocivil.gob.ec
Description of system(s) implemented:	End-to-end Turnkey National ID System, including: - **Biometric data capture stations** (fixed and mobile) – More than 700 stations - Datacenters (including Disaster Recovery) - AFIS and PKI Subsystems - Personalization System for smart ID cards and various national certificates (already issued and delivered **14 million eID cards**) - Blank ID cards and consumables - Training, Maintenance & Support - Project value exceeded **$51 million**.
Date of Implementation:	2009 - 2016

Figure 2 – Ecuador's End-to-end Turnkey National ID System. Project running since 2009 in which out of 15 million Ecuador's population, 14 million have received National Smart ID Cards including as well as Birth, Marriage and Death certificates with on-the-fly biometric identification (1:N)

Reference 2	Detail
Reference Company Name:	Road Transport & Safety Agency (RTSA) of **ZAMBIA**
Company Address:	P.O. Box 32167, Dedan Kimathi Road, Lusaka, Zambia
Type of Industry:	Government
Contact Name:	Mr. George M. Mutale, Head of Information and Communication Technologies
Contact Phone Number:	+260 211 226 909
Contact Email Address:	rtsa@zamnet.zm
Description of system(s) implemented:	SuperCom is currently implementing the e-ZamTIS Project in Zambia, for the Roads Transport and Safety Agency of the Republic of Zambia. The Project includes the following Sub-systems: **1.** A **Driver Licenses Sub-system** (including: Driver License workflows, Driver Examination, Driving Test, Penalty Points, Issuing of Driving Licenses and International Driving Permits); The number of driver licenses issued by our system **exceeds 1 million**. **2.** A **Driver Vehicle Licenses Sub-system** (including: Vehicle Licenses, Vehicle Registration, Motor Vehicle Examination, Toll Vehicle, Road Tax, Owner Identity, Cross Border Permits). The number of vehicle licenses issued by our system **exceeds 600,000**. **3.** A **Payments Module** (including: Handle Cash payments, Toll and Revenue Monitoring, Integrate credit card payments, Improve financial consolidation. The contract provides for the supply of SuperCom's End-to-End turnkey solution, based on its proprietary state-of-the-art, field-proven eID Magna™ platform. The project includes establishing of: **1.** **Data and Disaster Recovery Centers** **2.** **An Automatic Fingerprint Identification System** (AFIS) **3.** **Ticketing**, Management, Road Safety and Law Enforcement consulting **4.** **A Web Portal** and a **Reporting Module**. The project value exceeds **$23 million**.
Date of Implementation:	**2014 - To date**

Figure 3 - e-ZamTIS Project in Zambia. SuperCom is currently providing a Driver Licenses Sub-system, a Driver Vehicle Licenses Sub-system, and a Payments Module for the Road Transport & Safety Agency (RTSA)

Reference 3	Detail
Reference Company Name:	Ministry of Information Technology and Connection of the Republic of **MOLDOVA**
Company Address:	MD-2012,42 Pushkin str., Chisinau city, Republic of Moldova
Type of Industry:	Government
Contact Name:	Mr. Sergey Railean General Director of Centre "Registru" of Ministry of Information Technology and Connection
Contact Phone Number:	+373 22504654
Contact Email Address:	registu@registru.md
Description of system(s) implemented:	The project included the provision of an end-to-end Multi-ID System, including: - Main Datacenter (including Servers Farm and Database) for the national population registry. - PKI sub-system. - IT systems including data centers, security and maintenance and support throughout the lifetime of this project. - Central Registry. - Passports and ePassport Personalization Sub-system. **5 million Passports** were issued and delivered. - Provision of Passport and ePassport Raw Materials and Consumables including secured, holographic laminates. - Provision of National ID Cards Raw Materials and consumables. **10 million ID cards** were issued and delivered. - **Driving Licenses** Personalization Sub-system - **6 million driving licenses** were issued and delivered. - Provision of Driving License Cards Raw Materials and consumables. - Vehicle Registration Certificate Personalization Sub-system. - **Provision of Vehicle Registration** Cards Raw Materials and Consumables - **4 million vehicle** licenses were issued and delivered. - During 20 years of implementation (1996-2016), project value accumulated to **$100 million USD**.
Date of Implementation:	1996 - 2016

Figure 4 - Provision of an End-to-End Multi-ID System for the Republic of Moldova. The project included ID, ePassport, Driving & Vehicle Licenses and ePassport Smart Stickers. Over 20 million National Documents were issued.

Reference 4	Detail
Reference Company Name:	Tanzania Revenue Authority - **TANZANIA**
Company Address:	Dar-Es-Salaam, Tanzania
Type of Industry:	Smart Driving Licenses Project (CDLS)
Contact Name:	Mr. Salum Yusufu, Deputy Commissioner for domestic revenue and CDLS project manager
Contact Phone Number:	+255784777812 , +255222113058
Contact Email Address:	syusufu@tra.go.tz
Description of system(s) implemented:	The project included implementation of and end-to-end **Smart Driver Licenses Sub-system** and included the following components: - Driver Licence workflows, - Driver Examination, - Driving Test, - Issuing of smart Driving Licenses The project is funded based on a Build-Operate-Transfer (BOT) model. As part of the contract, SuperCom will supply its end-to-end solution, based on its proprietary state-of-the-art ID Registry Magna™ platform. SuperCom's system which will be deployed nationwide provides advanced software for ID management, bundled with secure biometric contactless cards. SuperCom will also provide about 100 fixed and mobile enrollment stations, and will incorporate a biometric Automatic Fingerprint Identification System (AFIS). SuperCom's solution supports both online and offline communication, thereby allowing every citizen, from cities to rural areas to register, regardless of the area's communication infrastructure. Number of drivers is about **2.2 million**. The project value is about **$20 million USD**.
Date of Implementation	2010 – to date (on-going provision of card consumables and 3rd level maintenance)

Figure 5 – Tanzania's Smart Driver Licenses Sub-system. On-the-Fly Biometric AFIS Identification (1:N) with De-centralized DL card Personalization. Over 2 million National Smart DL Cards have been issued.

Reference 5	Detail
Reference Company Name:	Ministry of Public Security (Defense) - **PANAMA**
Company Address:	Ministry of Public Security (Defense), Panama City
Type of Industry:	Border Control
Contact Name:	Mr. Carlos Guzman, Project Manager at Ministry of Public Security (Defense)
Contact Phone Number:	+507 6975 8338
Contact Email Address:	cguzman@minseg.gob.pa
Description of system(s) implemented:	The Ministry of Public Security of Panama has awarded SuperCom with a contract for the supply, design, installation and integration of systems to monitor and improve immigration verification processes and overall immigration flow. The contract provides for the supply of SuperCom's End-to-End turnkey immigration solution, based on its proprietary state-of-the-art, field-proven eID Magna™ platform. The solution includes data enrollment and issuing stations, as well as individual means to verify identity tied to Biometric Automatic Fingerprint Identification System (AFIS), allowing for better control at border points and increased efficiencies. SuperCom's Magna™ modular platform enables short implementation time frames, seamless integration with a country's existing border control system and provides external interfaces to a digital Certificate Authority for signature verification. The system is compliant with International Civil Aviation Organization (ICAO) standards and offers a migration path to additional e-Gov applications and electronic ID documents such as National IDs, Voter IDs and Driver Licenses, and more. The technology and integration within the SuperCom system enables a much more efficient and secure border control process that should reduce paperwork, operating costs and personnel needs while also substantially streamlining and speeding the immigration process to the satisfaction of all visitors. Number of visas which were issued by the system was about **25,000 visas**, and about **12 Border Control posts** were deployed. The project value exceeded **$7 million** USD.
Date of Implementation	2011-2015

Figure 6 – Panama's Monitor And Improve Immigration Verification Processes Project. With an on-the-fly biometric AFIS Identification (1:N), the system has been in use by Panama's embassies worldwide as well as Panama's International Airport.

Reference 6	Detail
Reference Company Name:	Registers Iceland - **ICELAND**
Company Address:	Borgartúni 21, 105 Reykjavík, Iceland
Type of Industry:	National Registry Office
Contact Name:	Þorvarður Kári Ólafsson, Quality and Security Manager
Contact Phone Number:	+354 515 5300
Contact Email Address:	TKO@skra.is
Description of system(s) implemented:	SuperCom has signed an 8 year contract for the development, delivery and maintenance of a new central personalization system for electronic passports and polycarbonate National electronic ID cards, for Iceland. SuperCom's provided national personalization system will produce few types of contactless polycarbonate cards and few types of thin-laminated e-passport/travel document booklets. The proposed system, based on SuperCom's cyber secure Magna™ National Population Registry platform, will personalize those documents, graphically and electronically and will protect them against forgery in compliance with the highest international standards. The provided system will interface to the customer's other various environmental IT and legacy systems. SuperCom will also maintain and support the new system for 8 years, including provision of spare parts and consumables. The current Registries Iceland's ePassports and eID cards personalization system was also delivered by SuperCom back in 2006/2007 and is running perfectly and being maintained up to date. SuperCom sees the new contract as Registries Iceland's expression of their trust in SuperCom and its ability to continue to issue Iceland's EU and ICAO standards compliant, highly secure, ePassports and National eID cards. During the two rounds of the project deployments (2006 & 2017), the system has issued and planned to issue more than **850,000 ePassports** and more than **150,000 eID cards**. The accumulated projects value **exceeds $1 million**.
Date of Implementation	2017 – to-date

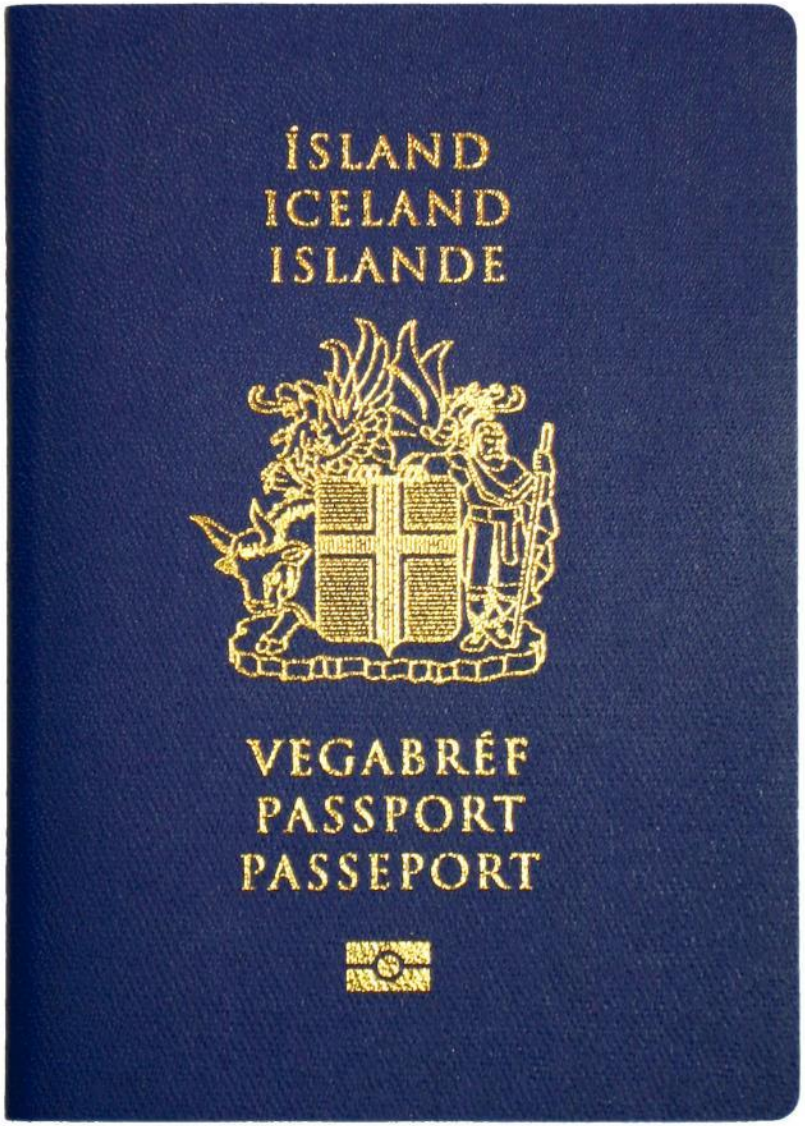

Figure 7 – SuperCom has been providing ePassports to Iceland for the past 12 years.

The Government has now awarded SuperCom a new 8 year contract for the development, delivery and maintenance of a new central

Reference 7	Detail
Reference Company Name:	Main Department for Immigration and Nationality Affairs (MDINA) & National Intelligence and Security Service (NISS) - **ETHIOPIA**
Company Address:	Addis Ababa, Ethiopia
Type of Industry:	Immigration Authority
Contact Name:	Mr. Mengistu Alemayehu, Project Director
Contact Phone Number:	+251 (11) 157 5330 +251-11-157 2532, Mobile: +251 (921) 252 529
Contact Email Address:	mengistua@gmail.com
Description of system(s) implemented:	SuperCom is working with the Immigration Authorities. The project encompasses the personalization of Passports, Visas & Foreign IDs in 2 central sites, 6 embassies, and in the future, development and implementation of an additional 6 border controls. SuperCom's role in this project is to supply all of the HW (servers, workstations, printers, cameras, etc.), SW (full printing SW, production management control application, image capture and integration to the main database) and consumables (holographic laminates, ID pouches, printers ink, etc.). SuperCom has designed, developed, integrated, and is at the stage of deploying the project. SuperCom will give full maintenance & support for HW and SW for the complete duration of the project. During the 14 years of the project (since 2003), the system has issued more the **3 million Passports**. The accumulated project value **exceeds $15 million**.
Date of Implementation	2004 – to-date (providing consumables and maintenance)

Figure 8 - Ethiopia's personalization of Passports, Visas & Foreigner IDs. The project is being performed at 2 central sites and 6 embassies, and will be implemented at 6 additional border controls in the future, with over 3 million passports already issued.

Reference 8	Detail
Reference Company Name:	San Francisco Sheriff's Department
Company Address:	San Francisco, California
Type of Industry:	Electronic Monitoring
Contact Name:	Hubert Hunter, Lieutenant
Contact Phone Number:	415-575-6462
Contact Email Address:	hubert.hunter@sfgov.org
Description of system(s) implemented:	This program is a full service electronic monitoring program embedded within the Sheriff's facility. The program includes GPS and continuous transdermal alcohol monitoring. SuperCom's subsidiary, LCA, provides equipment installation and removal, initial orientation, as well as ongoing office meetings and verification of community activities, as established by the Sheriff's Department. Field supervision is provided by the Sheriff's Department staff. Any program deviations are investigated and a detailed written report is submitted to the Sheriff's staff. The program is county-funded, with client fees collected by LCA offsetting over 90% of the costs of the program. LCA has onsite staff working in the Sheriff's office. 24-hour high level monitoring is managed through LCA's 24-hour monitoring center.
Date of Implementation	1993 - 2008, and 2014 - present

Note: Although LCA's project is for Electronic Monitoring and is not in a similar industry; we have included one of many of LCA's projects to show that we have ample experience in working with the state governments in US.

ABCorp (Card Manufacturing and Personalizing):

Reference	Detail
Reference Company Name:	Creative Information Technology Incorporated
Company Address:	7799 Leesburg Pike, Suite 500 North, Falls Church, VA 22043
Type of Industry:	Provides IT products and services for Federal and State governments and commercial customers
Contact Name:	Sunil Kolhekar, President and CEO Cristian Rubio, Project Manager
Contact Phone Number:	703 483 4300
Contact Email Address:	Sunil Kolhekar: skolhekar@citi-us.com Cristian Rubio: crubio@citi-us.com
Description of system(s) implemented:	Provided Secure Credentials in CR80 Size/Format for Military ID Cards, and Medical Marijuana Cards. The project has been ongoing since 2015 (Medical Marijuana), with an annual projection of 100,000 cards used by the State of Illinois for issuing cards and mailing out to the Cultivators, Pharmacists, Patients, and Prescribers. The project for Military ID Cards for NATO in Afghanistan has been going on since 2012, and to-date has issued over 300,000 Credentials by consolidating over 60 different credential types into a single ID.
Date of Implementation	2015 till present (For Medical Marijuana Card), and 2012 till Present for Military ID Cards

Note: As a leading global supplier of secure documents, services and solutions, known by many State governments for their card manufacturing services, ABCorp has successfully manufactured millions of DL/ID cards for over a-third of the US states and several Canadian provinces in compliance with AAMVA and US Federal Government Real ID Act. They proudly manufacture the RFID-enabled U.S. Passport Card/Border Crossing Card for the US Department of State. However due to strict confidentiality issues, they cannot provide the references for these government related projects.

PART 2: BIDDER PROPOSAL/SOLUTION

1. Provide a description of the technology solution you are proposing.

The solution that SuperCom is offering to Vermont DMV is based on SuperCom's Magna platform for National ID and Registry. This product has been deployed by SuperCom in many national documentation projects such as Driving License, Passport, ID card, Visa, Voter Card issuing projects. All these projects contain elements of registration, management of central registry, and issuing of the national document involved.

The proposed solution meets all the requirements of the Vermont DMV as presented in this RFP and its clarification Q&A.

The following figure 9 at the end of this question response shows the architecture of the proposed system.

The proposed system consists of 2 Central sites working as the Main data center and Disaster Recovery (DR) data center. These two centers work with the workstations found in service offices all over the state. The received data is checked for certain business rules, it is check biometrically and also saved to the DMV mainframe. If all the relevant rules are met a request will be generated asking the card personalization factories to produce a card for the individual. These requests are accumulated and sent to the card factory in batch twice per day.

We have 2 card personalization factories in our proposal group, one in Massachusetts (ABCcorp - American Banknote Corporation - in Boston, MA, www.abcorp.com) and one in Georgia (Police and Sheriff Press in Vidalia, GA, https://pasp365.com), serving as main and backup personalization facilities respectively.

We also have in our group Simpleroute, based in South Burlington, VT, who will provide installation, training, monitoring, help desk and maintenance services for the project length.

Simpleroute is a Managed Service Provider and provides IT services and 24/7 monitoring services. Across covered systems, we would license and install the following software:

- System monitoring software
- Antivirus
- DNS filtering
- Patching software for Microsoft Windows updates and supported 3rd party software patching

- Network monitoring software (this functionality would be restricted to monitoring only assets provided in response to the RFP or required for their direct function to aid in determining performance/SLA)

We will review each of these elements.

Service Office

The service offices have 1 or more biometric capture stations which execute the data collection process. Our application supports collection of text data, photos, signatures, scans of supporting documents, and also printing of temporary driving licenses. We can also print a replica of all the application data to let the customer verify that all the data that has been entered by the clerk is correct and contains no typos.

The Magna application software for the capture station runs within the IE browser and it connects to the central system only through web services, thus implementing a full SOA (service oriented architecture) compliant solution.

The collection of biometric data is fully compliant with AAMVA standards and Vermont DMV requirements. The collected images are fully suitable for use by the biometric engine.

The application on workstation will contain workflows for various applications.

The application can print a temporary driving license for the applicant, to be used until the official driving license is personalized.

It is possible to add more tact stations to a site in order to improve service. Text stations are good enough for most workflows where there is no need for biometric capture. For example, registering for a new driving license class could be performed in a text-only station, since we already have the biometric info for the person.

Computer Server Sites

The Central site contains the application servers that communicate with the capture stations, the database servers that hold the application information, web servers for the portal, and the central storage holding all that data. Additionally we have here the Face Recognition Servers that perform the biometric operations 1:N and 1:1 as needed. Besides this we have a backup server that performs backup of the data onto a backup media such as LTO6 tape. The configuration of all the equipment here is high availability, meaning that no single component failure will stop the system. The servers are in redundant cluster configuration to ensure this.

The Disaster Recovery site is identical to the main site and it holds a real time replica of the data. It is also capable of replacing the main central site, should that site suffer a catastrophic failure. Replication of the information is performed using redo log shipping, and applying it to the DR site standby database.

Please see Figure 10 at the end of this question response for the central sites and the setup of the servers.

DMV Environment

The new system will interface to the DMV's environment in a number of ways.

First, our central software will retrieve existing personal data for known drivers from the DMV mainframe, in order to populate new application forms and show current driver status information. We will also save updated information about the driver and his current application into the DMV mainframe.

Our central software also provides an interface, web service or database access (ODBC and JDBC), for the mainframe to access our facial image store.

Additionally, there will be two kinds of clients of our system which belong to the DMV central environment.

- Administration client is a text-only station (PC) that perform administrative operation such as defining users, computers, roles and permissions, etc.
- Back office client is a text-only station (PC) that handles special cases (exceptions) of the approval process.
    - Some applications will be flagged by the Face Recognition System as problematic. This could be an attempt to create a false identity in the system (same person going by two names), or something as simple as an error in data entry by an operator (typo in name, selection of wrong application type). It is the role of the investigator to determine what happened and if needed to call in the authorities to investigate the attempted identity forgery
    - Some application may fail on one of the business rules of the system. Once again, someone human can look at the case and decide if there are attenuating circumstances or conditions that may let the application go along.

Card Personalization Factories

The two card personalization factories are established with well recognized companies having the capability to manufacture the driving license (DL) cards and personalize them in PVC, PVC/PET (Composite Construction) an Polycarbonate Substrates.

Periodically (e.g. 2 times per day) all the pending requests are packed in a batch, cryptographically encrypted and signed, ready for pickup by the personalization factories.

The information is received, decrypted, checked and sent to the personalization machines. The factories send back approvals on receipt of the requests, and later on at the end of personalization, and at the end of shipping the documents. These acknowledgement documents are also signed and encrypted. We offer to manufacture and personalize cards of various materials, at various price points, for the DMV to be able to choose the option that makes most business sense.

Help Desk

A company from our group, Simpleroute, will operate a help desk for receiving calls for help from DMV operators and technicians, and will also operate a monitoring system checking up on the status of the entire solution to discover problems and solve them, before they become troubling.

We expect that every one of those sites of the system will be protected by a communication appliance providing services of Firewall / VPN / Router and IPS. Since some of the links used in the system may be public links over the Internet, we want all communication links to be protected by a VPN, thus making the links fully encrypted and in effect private. Since all the sites connect to the center for their work, we expect they do so over VPN.

Additional encryption exists in the system by virtue of the fact that the central web server uses HTTPS protocol and thus communications to clients are encrypted.

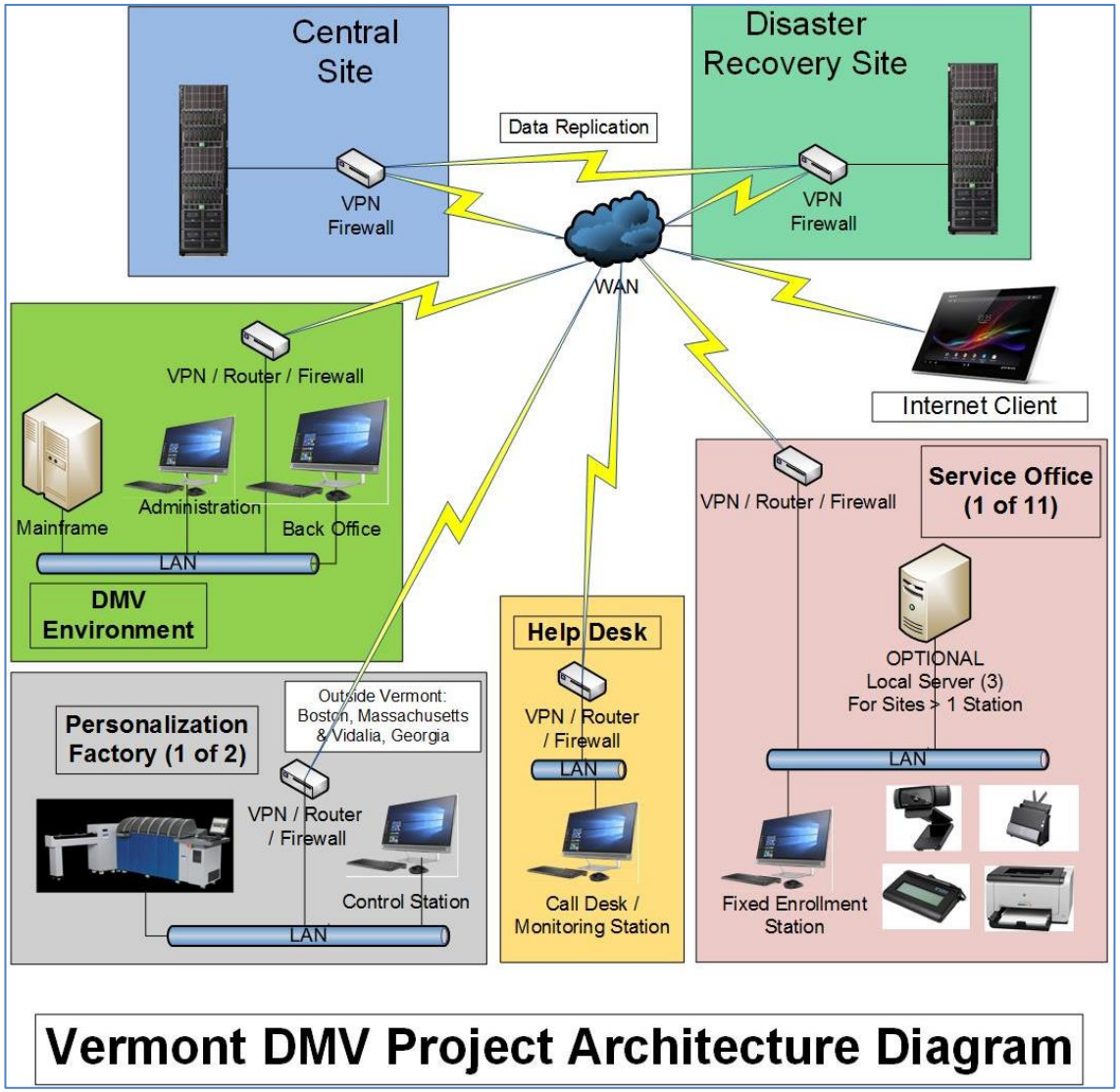

Figure 9 – Vermont DMV Project Architecture Diagram

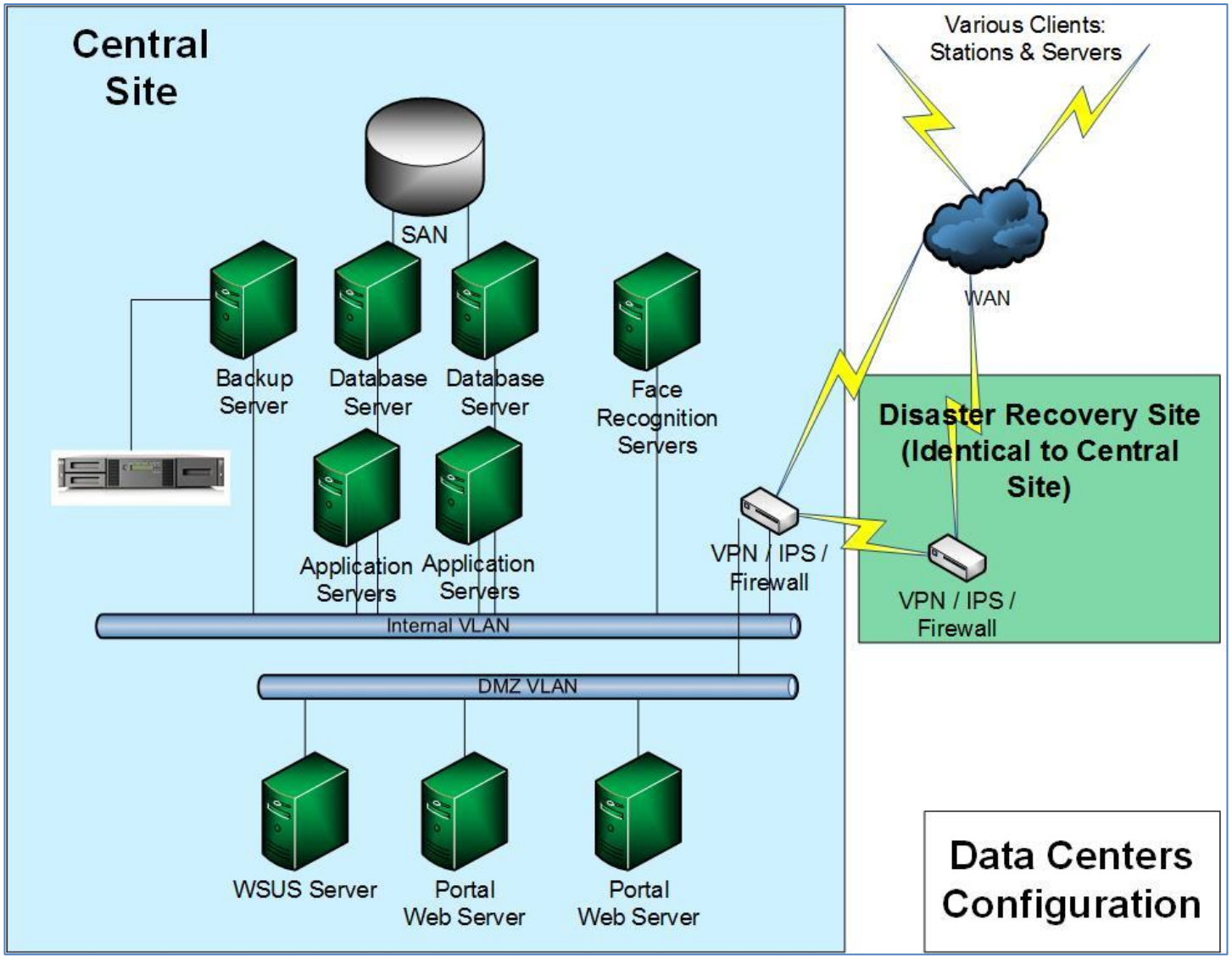

Figure 10 – Vermont DMV Project Data Centers Configuration

2. Provide a description of the capabilities of the technology solution you are proposing.

The proposed system is built to meet the requirements of registering applicants, interfacing with the DMV mainframe, and producing the requested cards.

Beyond being capable to perform the steps of the process, we will review a few of the more unique capabilities of our solution.

The proposed solution offers a highly reliable server architecture that will ensure continued service. Even at the main computer center, the components are in duplicate and in case of failure the second component takes over.

The capture station will be customized for current and future workflows and application types. This means that we can collect varying textual data for each application type, and this will be customized according to customer demands during the requirements extraction session.

Our system recognizes priority levels of various applications which enables us to issue some cards quicker, if needed. The priority information is kept as a part of the application and honored by all the stations downstream.

Our solution offers a high speed duplex scanner that offers quick accurate scanning of multiple supporting documents.

Our workstation software is capable of printing a replica of all the captured data for the customer to review, thus preventing errors in data entry.

Our workstation application can be updated automatically. Since it is a web application, an update perform at the center will be available at the workstation at the next entry into the browser. The operator can also request to have his application updated to the latest version, if, for example, the help desk advised him to do so.

Our central system keeps in parallel a number of environments: test, training and production. This means that the software can be updated in testing environment and only then approved. Even in the production environment, administrators have the capability to update to a new version only a small number of stations, and only when that is checked to update all the other workstations.

Our software suite is capable of monitoring system health and providing predictive information regarding potential failure to aid in avoiding unforeseen downtime. Antivirus and DNS filtering provide layered defense in conjunction with proper system, network and routing policies helping defend against malware. These tools allow for faster resolution of issues.

Our team is capable of assisting in a wide variety of system issues and providing vendor escalation where necessary. We license and

maintain documentation software to track vendor software issues and maintain software documentation so as to allow easier end-user support on issues. Simpleroute uses a ticketing system to track end-user issues and provide historical data across client issues. These systems are all integrated – monitoring can generate tickets, documentation can link to assets, etc.

We offer a card production and manufacturing solution that can work with 3 different card types (PVC, PET / PVC composite, and polycarbonate) all as options for the state to choose for each document type.

3. If a proprietary software is being proposed, provide a description of the:
   A. Standard features and functions of the software:

The software for the Vermont DL/ID project will be based on SuperCom's flag-ship, state-of-the-art, highly-secure and field-proven Software platform, Magna™. Magna™ was successfully implemented in about 20 different National ID projects worldwide, and has been developed and enhanced during about 20 years.

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Magna™, One Platform for Many Solutions

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[redacted]

Figure 12 on the next page emphasizes the various types of registries/applications supported by the Magna™ platform.

[redacted]

Figure 11 – Sample Project Performed Based on Magna

[redacted]

[redacted]

Figure 12 - Registries/Applications Supported by the Magna™ platform

Magna™ - Profile

- [redacted]

[redacted]

- [redacted]

Figure 13 on the following page is a Typical Magna™ System Architecture:

[redacted]

Figure 13 - Typical Magna™ Architecture

[redacted]

Figure 14 below gives another view of Magna™'s hierarchical layered diagram.

[redacted]

Figure 14 - Magna™'s Hierarchical Layered Diagram

B. [redacted]

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C. The standard performance levels:
- Hours of system availability:
- System response time:
- Maximum number of concurrent users:
- Other relevant performance level information:

[redacted]

4. Give a brief description of the evolution of the system/software solution you are proposing. Include the date of the first installed site and major developments which have occurred (e.g. new versions, new modules, specific features).

Although our systems deployed with various customers carry a lot of common code, there is also a lot which is different from project to project. The workflows to be used in the process and the business rules tend to be different from country to country. All this means that the software delivered to each customer is somewhat unique. Each customer's software and process has been optimized to achieve the best performance under the unique limitations of each country: some have better communication than others, some have more clerks than others, some request payments to be performed only in cash, others prefer plastic cards.

5. List the total number of installations in the last 3 years by the year of installation.

The total number of installations in the last 3 years is 3.

The installations are:

- Zambia – DL and VL Project. Year of installation: 2014
- Angola – Visa, Passport, Resident permits and Border Control Project. Year of installation: 2015 (still ongoing)
- Colombia – National GIS System. Year of installation: 2017 (still ongoing)

6. Provide the total number of current users for the proposed system and indicate what version they are using.

The total accumulated number of current users of Magna™ (working at different projects, like: Ecuador National ID project, Tanzania Smart Driving Licenses project, Zambia Driving and Vehicle Licenses project and Angola Visa, Passport Resident cards and Border Control project, Iceland ePassports and eID project) exceeds 1,800 users.

Although all those projects (and others as well), are using (almost) the same modules of the core and relevant services/utilities of Magna™, as the requirements and business rules of each project are different, thus the version of each project is different.

Each time when facing a new project, the main idea is to start the development phase of that project, with the last project code which is most similar to the new project; thus only customization and adaptation of that code is required.

7. Have you implemented the proposed solution for other government entities? If so, tell us who, when, and how that implementation went?

All SuperCom project implementations during its 30 years of existence have been for governments.

Please see below SuperCom's ID Track Record.

All implementations went quite smooth. Some of them took more time than the planned time lines, but, in those cases the delays occurred mostly because of delays in the preparations of the governments involved, like in site preparation, communication and alike.

SuperCom ∑ID Division: National ID Projects - Track Records (Partial List)

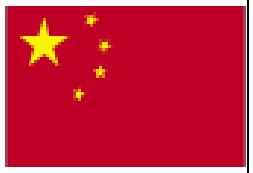
Name of Customer & Project Type	Country	Description of Project	Year
Registers Iceland **Biometric ePassport and National eID Issuing System**	**Iceland** 	SuperCom has signed an 8 year contract for the development, delivery and maintenance of a new central personalization system for electronic passports and polycarbonate National electronic ID cards, for Iceland. SuperCom's provided national personalization system will produce few types of contactless polycarbonate cards and few types of thin-laminated e-passport/travel document booklets. The proposed system, based on SuperCom's cyber secure **Magna™** National Population Registry platform, will personalize those documents, graphically and electronically and will protect them against forgery in compliance with the highest international standards. The provided system will interface to the customer's other various environmental IT and legacy systems. SuperCom will also maintain and support the new system for 8 years, including provision of spare parts and consumables. The current Registries Iceland's ePassports and eID cards personalization system was also delivered by SuperCom back in 2006/2007 and is running perfectly and being maintained up to date. SuperCom sees the new contract as Registries Iceland's expression of their trust in SuperCom and its ability to continue to issue Iceland's EU and ICAO standards compliant, highly secure, ePassports and National eID cards.	**2017**
Ministry of Justice, Registration and Notary (SNR) **Land Information**	**Colombia** 	SuperCom has been selected in a tender to be the provider of the Colombian Land Information System (LIS) as part of the project introduced by the Nobel Prize for Peace winner, the President of Columbia. SuperCom's LIS supports registering and managing land records in the aspects of land use, ownership and spatial data information. It is a full solution for maintaining	**2016**

System Project		land title and cadastral data within an integrated system and centralized database. LIS contains Geographic Information System (G.I.S), Secured Documents, Revenue Generation module and Documents Management System (EDMS) as part of the solution	
Immigration Authority **Visa, Passport, Residence Card, Border Control and Digital Archiving Integrated System**	**Angola** 	The Project includes the following Sub-Systems: ▪ A Visa Sub-System ▪ A Passport Sub-System ▪ A Residence Card Sub-System ▪ A Border Control Sub-System ▪ A Digital Archiving Sub-system ▪ A Payments Module SuperCom supplies End-to-End turnkey solution, based on its proprietary state-of-the-art, field-proven **eID Magna™** platform. The project includes establishing of a Data and Disaster Recovery Centers, an Automatic Fingerprint Identification System (**AFIS**), a Registration, Back-Office and Border Control Working Stations, a Secured Documents printing facilities, a **Web Portal** and a Reporting Module.	**2015**
Road Transport and Safety Agency (RTSA) of The Republic of ZAMBIA **Electronic Transportation Information System (e-ZamTIS)**	**Zambia** 	SuperCom is currently implementing the **e-ZamTIS Project** in Zambia, for the Roads Transport and Safety Agency of the Republic of Zambia. The Project includes the following Sub-systems: (i) A **Driver Licenses Sub-system** (including: Driver Licence workflows, Driver Examination, Driving Test, Penalty Points, Issuing of Driving Licences and International Driving Permits); (ii) A **Driver Vehicle Licenses Sub-system** (including: Vehicle Licences, Vehicle Registration, Motor Vehicle Examination, Toll Vehicle, Road Tax, Owner Identity, Cross Border Permits).	**2014**

		(iii) A **Payments Module** (including: Handle Cash payments, Toll and Revenue Monitoring, Integrate credit card payments, Improve financial consolidation. The contract provides for the supply of SuperCom's End-to-End turnkey solution, based on its proprietary state-of-the-art, field-proven **eID Magna™** platform. The project includes establishing of a Data and Disaster Recovery Centres, an Automatic Fingerprint Identification System (**AFIS**), Ticketing, Management, Road Safety and Enforcement consulting, a Web Portal and a Reporting Module.	
Registro Civil Of Ecuador **National eID System**	**Ecuador** 	SuperCom has signed contracts relating to a national eID program with the Ecuador Government with total consideration that **exceeds $30 million**. The award of the project follows a successful completion by SuperCom of a pilot program and provides for the supply of new biometric-based electronic ID cards and other official documents (relating to birth, death, marriage, etc.), as well as the equipment required for the setup of the document issuing stations country-wide. The contracts provide for the supply of SuperCom's **end-to-end turnkey solution**, based on its proprietary state-of-the-art, field-proven eID **Magna™** platform. The solution includes supply of **nationwide hundreds of stationary and Mobile Registration Systems (about 400 MRSs)** for data enrollment and issuing stations, and the creation of a **central national registry database,** including establishment of a **Disaster Recovery site**, and the provision of contactless, highly-secured of **millions of smart ID cards** and a Biometric Automatic Fingerprint Identification System (**AFIS**), to detect/prevent double registration attempts by the same ID applicant.	**2010**
Smart National Driving License Project	**Tanzania** 	SuperCom has signed a contract for the supply, transfer, maintenance and operation of an National **electronic Driving License** project. The contract provides for an initial three-year exclusive concession period and minimum guaranteed amount more than of **$17 million US**, starting in 2010. The project is funded based on a **Build-Operate-Transfer (BOT)** model. As part of the contract,	**2010**

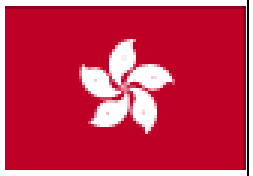
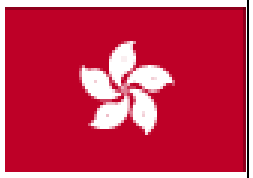
		SuperCom will supply its end-to-end solution, based on its proprietary state-of-the-art ID Registry **Magna™** platform. SuperCom's system which will be deployed nationwide, provides advanced software for ID management, bundled with secure biometric contactless cards. SuperCom will also provide about **100 fixed and mobile enrollment stations**, and will incorporate a biometric Automatic Fingerprint Identification System (**AFIS**). SuperCom's solution supports both online and offline communication, thereby allowing every citizen, from cities to rural areas to register, regardless of the area's communication infrastructure.	
UniPass – Self Biometric Screening Kiosk – Ben-Gurion International Airport, TLV, Israel	**Israel**	SuperCom has received follow-on orders to support the new revolutionary UniPass program initiated by Israel Airports Authority (IAA). The UniPass program is intended to expedite the security checks process at Ben-Gurion Airport. The UniPass solution is based in part on SuperCom's SmartID technology and products, which successfully passed rigorous testing by the Israeli IAA for product performance including security, durability, communications, personalization and more. SuperCom provides its secured contactless smart cards and readers. SuperCom's SmartID products enable multiple biometric engines and fast transfer of data – all with a view to assure secure and fast transaction. With the new system, those wishing to expedite their screening process at the Ben-Gurion airport in Israel will be required to obtain a contactless chip-embedded smart card that will enable the storage of finger and facial biometrics and will include recent photos and personal information. Once enrolled to the system, a passenger will be required to present the card in front of a reader and answer a series of security questions. Once the identity has been confirmed, the passenger will be able to continue with the check-in process. According to the IAA, at the first stage of the program, El Al Matmid Frequent Flyer club are able to join the program, before being gradually expanded to include all departing passengers who	**2010**

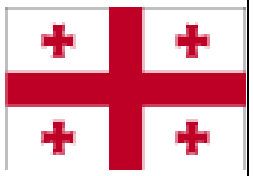
		voluntarily register. According to the IAA, the new UniPass program is intended to minimize the friction and delays the passenger undergoes during a security check, shorten the lines for security checks and creating a continuous link between the different check points the passenger goes through from the minute arriving to the airport and until takeoff.	
Registro Civil Of Ecuador **National eID System**	**Ecuador** 	SuperCom has signed a contract with the Registro Civil (Registry Office) of the Government of Ecuador to implement a limited scale pilot project for the country's **National eID system**, which will serve as the first stage of the national eID system. The project includes issuance of new biometric-based electronic ID cards and other public certificates (birth, death, marriage, etc.) for the citizens of Ecuador. SuperCom will supply its end-to-end turnkey solution, based on its proprietary state-of-the-art, field-proven eID Magna™ platform. The project includes supply of both stationary and mobile stations for data enrollment, creating a central registry database and issuing contactless, highly-secured smart ID cards. The solution also incorporates a Biometric Automatic Fingerprint Identification System (AFIS), which detects and prevents multiple registration attempts.	**2009**
The Zanzibar Electoral Commission **Voter Registry & Voter Cards**	**Zanzibar** 	SuperCom has signed a contract with the Electoral Commission of Zanzibar to implement the upgrade of the Country's **Permanent Voter Registry**, including new **biometric-based voter cards**. The project's objectives are to verify the voter identity, detect and avoid double registration attempts, and issue a new Voter ID card bearing advanced security features, which will be used in the next elections. The system will ensure "one person - one vote". As part of the contract, SuperCom will supply its end-to-end solution, based on its proprietary state-of-the-art Voter ID Registry Magna™ platform. SuperCom's	**2008**

		Voter ID system provides advanced software for electorate management, a candidate management system, objections & appeals handling and provides secure biometric voter ID cards to all of the country's eligible citizens. SuperCom will also provide **dozens of mobile enrollment stations** that utilize contactless smart cards, digital imaging and communication to the database, and incorporate the Automatic Fingerprint Identification System (AFIS) biometric system.	
Mobile Voter Registration Kits and Voter Cards	**Gabon**	SuperCom has provided **dozens of Mobile Registration Kits** and its Magna National Registry Management System, for voters' registration, including provision of Voter Cards Issuing System. The system was provided in the French language User Interface.	**2007**
The Polish Electronic Passport	**Poland**	PWPW S.A. (Polish Public Printing Works) of Poland placed its first order with ASEC S.A., SuperCom's wholly-owned subsidiary for **electronic passports** Inlays for Polish citizens. Under the contract, ASEC S.A. will supply Contactless Smart inlays that will be adhered to the passport cover. Currently there are about 1.5 million passports issued in Poland annually and the government intends to roll out the first electronic passports starting this quarter. The first commercial order will be supplied this year.	**2006**
China National ID Program	**China** 	In the China National ID program, SuperCom has been involved in the implementation and design of a contactless ID card. In the past six months, more than 4 million ISO 14443 Type B cards with the SuperCom contactless solution have been delivered. The experience gained in the China ID program implements a large scale ID program with a need to transfer information quickly, adhere to tight delivery and certification schedule and address compatibility with ISO14443 Type B specifications.	**2003**

End-to-end Solution for a National Multi-ID Issuing and Control System	**Moldova**	An end-to-end solution for a national multi ID issuing and control system. The 10-year project, which commenced during the third quarter of this year, involves the implementation of an end-to-end national ID issuing and control system based on SuperCom's Magna system and includes the supply of digital enrollment and production equipment, software, maintenance and supply of secured raw materials for the production of various National ID cards.	**Since 2006**
Biometric ePassport Production, Management & Personalization Pilot	**Moldova**	A 16-month pilot program will produce a personalized passport that includes personal details, photo identification, digital signature and biometric data. The electronic passport will be compliant with European and International Civil Aviation Authority (ICAO) standards. In addition, the passport will contain advanced security features including a high capacity contactless crypto processor chip with operating system for the secure storing of biometric data of the holder. Note: Under a specific NDA, SuperCom will provide the name of the country and the relevant contact details.	**Since 2006**
Biometric ePassport Issuing and Control System	**Iceland**	The Country, has awarded SuperCom a contract, for the implementation of a Biometric Passport Issuing and Control System, on December 30th, 2005. The contract contains the setup of a system, for physical and electronically personalization of the new Country's Passports, and includes also maintenance provision for 5 years.	**Since 2006**
Zanzibar Population Registry and National ID Cards Project	**Government of Zanzibar** **Zanzibar**	SuperCom Designs and supplies the central registry system and the secured national ID cards for the Zanzibar government. The project is an end to end solution that begins with the applicant's data capture, to registry, centralized card production and ends with the delivery of cards to the citizens. The entire solution is based on SuperCom's Magna software platform and SuperCom's production apparatus.	**Since 2004**

		The project encompasses the set-up of **about 50 fixed and mobile capture stations**, through the country's islands and a central site for a centralized registry and for the centralized production of the ID cards. These capture stations include recording the applicant's demographic data as well as capturing a digital photograph and fingerprints that are later encoded on a 2D barcode on the ID card.	
Passport & Multi ID Personalization Project	**Federal Government of Ethiopia** **Ethiopia** 	SuperCom is working with the Immigration Authorities. The project encompasses the personalization of Passports, Visas & Foreign IDs in 2 central sites, 6 embassies, and in the future, development and implementation of an additional 6 border controls. SuperCom's role in this project is to supply all of the HW (servers, workstations, printers, cameras, etc.), SW (full printing SW, production management control application, image capture and integration to the main database) and consumables (holographic laminates, ID pouches, printers ink, etc.). SuperCom has designed, developed, integrated, and is at the stage of deploying the project. SuperCom will give full maintenance & support for HW and SW for the complete duration of the project.	**Since 2003**
Ukraine Passport Project	**Polygraph Combine** **Ukraine** 	Ukraine has embarked on a new highly secured Passport. SuperCom won the tender and was selected as the supplier. SuperCom designed, developed and implemented the HW (printing server, printing stations, QA stations, administration stations, SuperCom's Press Laminator), and SW (full printing SW application, printing management application, and all of the SW applications needed to operate the HW). SuperCom is supplying the consumables and raw materials for the production process. The Passport includes unique security measures supplied by SuperCom, from its previously owned subsidiary Inksure. In addition, SuperCom has begun to implement the Ukraine ID contactless Smart Card. SuperCom is supplying the entire production line and the consumables.	**2002**

China Reentry Card	**China Travel Service (Holdings) H.K. Ltd.** **Hong Kong** 	A quick and efficient solution was required for residents of Hong Kong to travel to China. The end result was the creation of a national transit reentry document. SuperCom has supplied all of the HW (image capture stations, SuperCom's printing stations), SW (full printing SW application) and consumables (Teslin & Mylar, toner, printer drums), which are needed to personalize the Passport. SuperCom designed, developed, and implemented the project. In addition, the Company has conducted the training and assimilation of the project and was required to set up a local company to maintain the HW and SW. The card includes unique security measures supplied by SuperCom.	**1996**
U.K. Passport Project	**The Stationary Offices (SPS)** **UK** 	This project was to supply SPS, who in turn supplied the UK Passport Authority, HW (printing stations), SW (full printing SW application) and consumables in all of the distributed offices in the government that produce passports outside of the central production site. SuperCom designed, developed and implemented the project. Training was also carried out. The project includes periodical maintenance.	**1998**
Hong Kong Passport Project	**CTS Holdings** **Hong Kong** 	SuperCom and CTS Holdings, a joint venture, carried out this project for the Hong Kong government. SuperCom's responsibility was to supply all of the HW (PCs, cameras & printers), SW (image capture, full printing SW application) and consumables (transfer material, toners, printer drums, etc.), which were needed to personalize the Passport. SuperCom designed, developed and implemented the project. Training was also carried out. SuperCom set up a local company to maintain the HW and SW.	**1997**
Georgia Driving and Vehicle	**Georgian Ministry of**	SuperCom developed and implemented the entire system that included the following components: Development of a three-tier system for the complete	**1996**

Licenses	**Interior** **Georgia** 	collection of information, registration of vehicles, management of the central database, interfacing to the interior ministry's systems. The implemented system is responsible for registering and issuing national and international driving licenses, and vehicle licenses. SuperCom implemented the services at 10 district offices and 105 service stations. SuperCom is also responsible for securing the raw materials for the project.	
Moldova National Documentation Project	**Ministry of Interior** **Moldova** 	A large-scale project that involves setting up nationwide data collection stations and the production of 4 different national IDs (ID cards, Driving Licenses, Vehicle Licenses, Passports). SuperCom has designed, developed and implemented the project including training. In addition SuperCom has set up an office to maintain the HW (Image capture stations, Printing stations) and SW (full application SW for all of the above stations), and manage the consumable (transfer material, Teslin, toners, printer Drums), which are delivered by SuperCom since the project started.	**Since 1995**
Belarus Driving and Vehicle License Project	**Ministry of Transportation** **Belarus** 	SuperCom provided the personalization solution for Belarus driving and vehicle licenses that included site preparation and system integration. SuperCom supplied installation, training & maintenance services for all of the supplied hardware and software image capturing system, card printing system, raw material supply – special durable card material.	**1995**
Romanian ID Card	**Ministry of Interior** **Romania**	SuperCom supplied the Romanian government all of the HW (350 image capture stations, 50 portable capture stations, 50 printing stations with SuperCom's document printers, laminators, and cutters) and SW (full application SW for all of the above stations) and consumables (Teslin and Mylar, toners, printer drums, etc.) for capture stations and personalization stations for a distributed project.	**1995**

		SuperCom designed developed and implemented, trained and assimilated the project.	
Israeli Driving License Project	**Ministry of Transportation** **Israel** 	The Israeli driving license project was the first in Israel to include a computerized solution using personalized cards. SuperCom participated in this project and delivered an innovative technology solution to a local company that presently maintains the project.	**1991**

8. **Provide a Road Map that outlines the company's short term and long term goals for the proposed solution/software and label it Attachment #2.**

See Attachment 2.

9. **Provide a PowerPoint (minimum of 1 slide and maximum of 10 slides) that provides an Executive level summary of your proposal to the State. Label it Attachment #3.**

See Attachment 3.

10. Describe any infrastructure, equipment, network or hardware *required* to implement and/or run the solution.

The proposed system runs as a kind of web application using SOA (Service Oriented Architecture) paradigm with clients connecting to application servers using web service protocols. This means that we expect to find a TCP/IP infrastructure connecting the relevant sites to the central servers. To achieve privacy we expect to work in a fully private network (an Intranet) or a virtual private network (VPN links over public lines). The infrastructure used should provide this connectivity. To protect the sites we expect firewall at the entry to each site. Web application firewalls (WAFs) can be deployed to provide further security in the system.

The server room equipment is standard: servers, SAN, fiber channel connectivity from servers to storage and backup equipment, high speed local area networks. All these can be bought from the standard top tier suppliers: HP, DELL, LENOVO, IBM, CISCO, CHECKPOINT, FORTINET, etc. The operating environment of our application is Windows/.NET with IIS servers for the application servers. We use VMware for virtualization of multiple machines on the application server hardware. We prefer to use Oracle with RAC as high availability database cluster, but could use MS SQL servers as well with their configuration of high availability and clustering.

We are assuming that the State will provide the following:

- Cross-site connectivity (network routing/switching infrastructure, site-to-site VPNs, MPLS circuits or other cross-site connectivity).
- Network level security, both physical and virtual (Simpleroute would manage the workstations and servers in the solution).
- It is assumed that only SuperCom provided software would run on systems. Additional software may be allowed but would need to be discussed and approved for compatibility and supportability.
- Van connectivity back to the central site (Pepwave, Cradlepoint or other access will be required with a secure tunnel to the central office for processing in Vans) with adequate bandwidth.
- A Windows domain for systems being managed with OU structure to allow targeting of DMV systems on a site-by-site basis.
- Group policy and Active Directory integrated Bitlocker encryption on workstations
- Local Administrative access to the systems under Simpleroute's management
- The ability to create Group Policy Objects (GPOs) to target covered systems with State approval.
- Adequate cabling between key hardware locations including servers, workstations, access points (if any) and any other

SuperCom recommended peripherals.

- Physical site access for clock-hour/off-hour remediation of issues that require on-site presence.
- Firewall rules sufficient to ensure remote access to solution systems for maintenance and alert remediation are not blocked.

Government Furnished Equipment Configuration

In our proposal we assume that VT DMV will prefer to supply its own standard HW equipment:

- PCs for workstations
- Equipment for Main Data Center
- Equipment for Disaster Recovery Data Center

Following is a definition of the equipment that we assume that VT DMV will be supplying. For reasons of convenience we are using here model numbers from the HP/HPE product line, but similar products exist from other brand name manufacturers like DELL, IBM, LENOVO, etc.

We have not gone here to the level of detail of including FC cables, rails for the rack, HP iLO software and similar equipment. Experienced IT staff will order something that is common with the rest of the data center infrastructure. We assume that DMV will supply suitable UPS for the equipment. It is also possible that some of this equipment does not need to be bought at all. If the VT DMV already have high quality firewall defending the perimeter, there should be no need for an additional firewall mentioned here, but just adding some rules to the existing firewall.

Typical Client Workstation

HP EliteDesk 600/800
Intel i5 CPU
8 GB RAM
500 GB HD
19" - 22" LCD/LED display
8-10 USB ports
10/100/1000 LAN
Keyboard

Mouse
Windows 10 Pro

Data Center – Hardware Recommended Minimum Requirements

Item	Model & Specification	Qty
Application Server	HPE DL360 iLO Advanced 2 * Xeon 6130 (16 core, 2.1 GHz) 256 GB RAM 2 HPE 800W Flex Slot Platinum hot-plug power supply kits 2 120 GB NVMe drives 2 * HBA FC Broadcom 4x 1GbE 10/25 Gb 2-port 631FLR-SFP28 Ethernet adapter	2
Database Server	HPE DL360 iLO Advanced 1 * Xeon 6130 (16 core, 2.1 GHz) 128 GB RAM 2 HPE 800W Flex Slot Platinum hot-plug power supply kits 2 120 GB NVMe drives 2 * HBA FC Broadcom 4x 1GbE 10/25 Gb 2-port 631FLR-SFP28 Ethernet adapter	2
Storage	HPE MSA 1050 iLO Advanced 10 TB 12G 7.2K LFF dual-port MDL SAS HDD 2 HPE MSA 1050 2-port 8Gb FC Controller	1

Item	Model & Specification	Qty
Backup Library	HPE MSL2024 iLO Advanced 1 * LTO6 drive FC Interface	1
Backup Server + Storage	HPE ProLiant DL380 Gen10 entry SATA server iLO Advanced Intel XEON Scalable 4100 16 GB RAM HBA 1 HPE Smart Array P408i-a 6 * 4TB 7.2K RPM SATA HDD	1
ABIS (FRS) Servers	HP DL360 Gen9 8SFF CTO Server iLO Advanced 2 x Intel Xeon E5-2680 v4 processor (14 cores, 35M cache, 2.4 GHz) or better 64 GB RAM 6 x 300 GB HDD (SAS, 10,000 rpm); 2 * HBA FC HP Smart Array P440ar/2G FIO Controller; HP 500W FS Plat Ht Plg PwrSupply Kit x2.	3
Portal Servers	HP DL360 Gen9 8SFF CTO Server iLO Advanced 2 x Intel Xeon E5-2680 v4 processor (14 cores, 35M cache, 2.4 GHz) or better 32 GB RAM 2 x 300 GB HDD (SAS, 10,000 rpm); HP 500W FS Plat Ht Plg PwrSupply Kit x2.	2

Item	Model & Specification	Qty
AD Server	HPE DL20 Gen9 Server iLO Advanced 16 GB RAM 2 * 1TB 7.2K RPM HDD	1
Rack	42U Rack+PDU+KVM+KMM+LCD+Mouse	1
Firewall	Fortigate 200D	2
Firewall logger	FortiAnalyzer 200D	1
8-port FC Switch	---	2
Switch	HP Procurve 2920-48	2

Data Center - Software

Item	Model & Specification	Qty
OS for Application Server	Windows Server 2016 DataCenter	2
OS for Servers	Windows Server 2016 Standard	4
OS for DB Servers	RHEL	2
Virtualization SW	VMware vSphere Essentials Kit Plus	2
Antivirus	Not needed since we will have Webroot licenses for systems we monitor	-

DR Data Center: **Same as Main Data Center**

11. What is your recommended way to host this solution?

The vast majority of our systems are hosted by the governmental customers in their own server farm. In rare occasions the web portal component of the system might be hosted in a public cloud like Amazon. We recommend that the system be hosted by the DMV in their own server farm. Hosting of the system by DMV can reduce actual costs: for example backup might be a shared system used by other applications as well. Powerful perimeter firewalls might already exist and could be used at no extra cost.

We are also able to host this solution if the DMV so wishes, at an extra cost.

12. Describe how your solution can be integrated to other applications and if you offer a standard-based interface to enable integrations.

Magna offers a number of web service interfaces that can be adapted to various uses.

Here are some services that are exposed in Magna:

- Check facial image and name information to find if it matches data found in database.
- Search driver record by: SSN, name, DOB, license class, gender, etc.
- Other queries

13. Describe the workflow and specify the status data that is tracked and available to user

The workflow and especially the approval phases and rules will be customized as per the requests of DMV.

A typical workflow includes the following steps:

- Get application type
- Get identifying information for applicant
- Retrieve applicant record from database (mainframe database) and populate application form
- Get rest of application data
- Scan supporting documents
- If biometric data is old request recapture of biometric data

When the user presses "Submit"

- Check that all mandatory fields exist

- Check simple business rules for request: dates, permitted characters in name fields, etc.

Call web service to submit new request.

- Central system checks all business rules
- Biometric data check in biometric engine: either 1:N or 1:1, depending on whether this is a new or known person in the system
- In case of biometric failure send to manual investigation
- If all checks passed
    - Update mainframe
    - Create request for DL / ID document as needed

Manufacturing plant will pick up personalization request and the update the application status along the way untill shipment.

Every major step through the process is marked by a status change: request started, request saved, request submitted, waiting for biometric checks, waiting for investigation, ready to print, sent to printing, finished printing and shipped. Some more intermediate statuses may exist. All these statuses are available to the operator, and through the portal to the applicant.

From a support perspective, Simpleroute operates off a ticket system for handling technical issues. Users may call or e-mail us at our support number or e-mail address. Simpleroute assigns technicians to issues and attempts to resolve issues remotely. If remote remediation efforts are not successful in a timely manner, an on-site technician is dispatched. Issues which require vendor assistance are escalated to vendor support once approved by a higher-level technician internally.

14. Describe how you would close out this contract. For example, how would a transition to a new Bidder be structured, should you not win a rebid at the end of the contract term.

We will close out this contract in a smooth way: we will deliver all the AS-IS documentation of the system to the DMV, and will assure that the company who will take over, would know exactly the status of the system, allowing them to continue and run the system.

In case a new company takes over the project, we will support them in the transition period, during which the two systems would be running in parallel, until a complete and a successful take-over is achieved.

In addition, we will assist by answering phone calls and remote support regarding the system operation, even after we totally pull out, during a mutually agreed time period between DMV and SuperCom.

15. Respond to the following questions about the solution being proposed:

Question	Bidder Response/Explanation	
	Yes or No	
A. Does the solution use Service Oriented Architecture for integration?	**Yes**	Explained above in question 10.
B. Does the solution use a Rules Engine for business rules?	**No**	Rules are encoded either as SQL statements in stored procedures in the database or by Python code outside the database. For example: If person.age < 16 return errorcode = 1
C. Does the solution use any Master Data Management?	**Yes**	Data related to the person, the application and the issued card is being kept in a single copy. All images relating to the person are kept in a biometric dataspace and in unique copies. Multiple database entities can point to one image because that image is relevant to the application, the person and the document.
D. Does the solution use any Enterprise Content Management software?	**No**	Magna manages its own information inside the database. No third party ECM software is used.
E. Does the solution use any Case Management software?	**No**	Magna provides its own case management software, which manages its own data inside the database. We register fully all incoming requests and their transitions through various hands (and statuses) in the organization. The history of an application, a driver, or a license is all found in the Magna logs. These are easily queried and found by the system's operators. Magna provides easy navigation between all these

Question	Bidder Response/Explanation	
	Yes or No	
		views of applications, persons, document and their history, enabling the operator to investigate any aspect of requests related to the customer. Simpleroute uses a ticketing system for tracking current and historical technical service inquiries. Simpleroute also uses documentation software for creating client organization documentation.
F. Does the solution use any Business Intelligence software?	**No**	There was no need for this system. Some projects need BI software and we use JREPORTS.
G. Does the solution use any Database software?	**Yes**	Oracle RDBMS 12c
H. Does the solution use any Business Process Management software?	**Yes**	Magna has its proprietary business process management software that manages the workflow of the process. Workflows definitions are found in the database
I. Is this a browser based solution and if so what browsers do you support?	**Yes**	We support IE for the biometric capture stations, since there is need to integrate to the biometric capture devices. Text only stations can use other popular browsers, such as Firefox, Chrome.
J. Does the solution include an API for integration?	**Yes**	The application contains a number of APIs that can be used for integration. Should additional APIs be defined during requirements extraction, they will be implemented.

Question	Bidder Response/Explanation	
	Yes or No	
K. Does the solution use a facial recognition software and if so explain how this works? For example, are real-time or overnight results provided?	**Yes**	The system uses face recognition module based on a biometric engine from NeuroTechnology. The answers are real time. A typical answer will return within a few seconds of request submission. Most of this time will be spent in communication between various modules involved in transporting the result to its destination.
L. Does the solution provide tracking options and if so explain how this works?	**Yes**	Any process in the system updates the application status as the process advances. These statuses can be queried by operators and applicants.
M. Does the solution provide an automated process for DL/ID production, including standard processing times? If so provide high level description of this process.	**Yes**	Yes. The solution does provides an automated process for DL/ID production. The automated personalization process consists of as followings: a) File reception in a secure server, b) Data processing for production file generation, c) Production file is transferred to one of our personalization machines, d) Personalization of the card and printing of the corresponding card carrier, the machine automatically matches the corresponding DL/ID to the carrier and sticks the DL/ID to its surface using an adhesive sticker, e) Carriers with their corresponding DL/ID's are delivered to an automated insertion machine, which inserts it into an envelope, together with any collateral materials that the

Question	Bidder Response/Explanation	
	Yes or No	
		customer may want to include. The inserting machine also verifies that the batch contains exactly the quantity of DL/ID's that were required in the order, without any gaps or duplicates, f) The envelopes are delivered to an external vendor for automated pre-sorting and postage. It is important to note that the personalization machine automatically keeps track of: • Cards produced, • Good cards, • Rejected cards and • Remake status The above automated tracking prevents the potential occurrence of events leading to the presence of missing or duplicate DL/ID's. The central servers prepare a list of cards to be produced twice a day unless there is a high priority request. The production site will connect to the network once an hour to check if there are pending job requests. Requests are processed by the production site as soon as possible. The production site reports back to the central servers with statuses: request received, request personalized, request has shipped or request rejected.

Question	Bidder Response/Explanation	
	Yes or No	
		Our processing time is same day for high priority requests and up to next day on normal priority requests. Shipping time is 1 day. As explained elsewhere we have 2 personalization sites, which are both active to ensure that the backup site is always tested and ready should a problem happen with the main personalization site. 4 days per week the personalization will be done by the main personalization site and 1 day per week it will be done by the backup site. This ensures that the backup site is always ready to go and could step in at a moment's notice. Should something happen to the main site, the backup site can pick up the slack and work 5 days per week for Vermont DMV jobs.
N. Are there automated and manual processes available for expediting distribution and providing special handling for DL/ID? If so explain how this works	**Yes**	Yes. The automated and manual processes are available for expediting distribution and providing special handling for DL/ID. As earlier mentioned that the envelopes are delivered to an external vendor for automated pre-sorting and postage. Our registration processes enable to mark an application as high priority. Such an application could in principle also carry a higher price for the customer. Such a high priority request is honored by the system throughout all the processing steps. It will always jump to the

Question	Bidder Response/Explanation	
	Yes or No	
		head of the queue of those who work on this application, be it approvals, and be it manufacturing. A supervisor could tag a request as high priority even after the initial processing, if there appeared a sudden need to speed up the production of the card. High priority card will jump to the head of the printing queue and will be shipped out quicker, ideally on the same day.
O. Is there an automated and manual processes available for stopping DL/ID from being produced and distributed - both before and after the transaction has been transmitted to the factory? If so explain how this works.	**Yes**	Yes. ABCorp has a standard operating procedure for "PULL and PURGE" DL/ID's, allowing for expedited delivery of cards (PULL) or retrieval of cards that have been already produced but need to be held due to a customer request (PURGE). There are two ways to cancel a request to print a card. The automatic way is to produce a "CANCEL CARD" transaction and send it to the manufacture factory. The manual option is to call the factory and talk to an operator who can access the production system directly, check the status of the card and potentially block it, either before production or at least before shipping. Both these options might miss a card especially if it is high priority.

Question	Bidder Response/Explanation	
	Yes or No	
P. Does the solution have auditing functionality that exists within the system? If so describe how the data can be retrieved and/or reported on.	**Yes**	Both the registration system and the personalization factories have full logging of all processes. For the information in the central database simple login as an administrator and query the logs for the specific interesting data. It could be one card or a whole day of logs. The logs of the production system exist, but are normally not exported to outside the production facility. It is possible to ask the personalization managers to query his audit logs and provide the results.

PART 3: FUNCTIONAL REQUIREMENTS

The table below lists the State's Functional Requirements. Indicate the "Availability" for each requirement for your proposed solution. Use the "Bidder Comments" column to provide any additional information or explanations.

A - Feature is available in the core ("out-of-the-box") solution.
D - Feature is currently under development (indicate anticipated date of availability in the Bidder comments column).
C - Feature is not available in the core solution, but can provided with customization.
N - Feature is not available.

Requirement Number	Functional Requirement Description	Availability
1	The Bidder shall describe the typical duration and process for the login process upon first boot and when switching between users. VT DMV's goal is to maximize efficiency and deter multiple users from sharing one (1) user session to minimize downtime.	**A**
Bidder Response	The process for switching from one user to another is the regular Windows switching process. Entry into the application is just a double click on a browser link. Typically this can take less than 15 seconds, unless there is need to download an update of the web application, since these updates are cached in connection to the user. Such updates are rare as the application is stable and there is little need to update it. Thus we can say switching from one user to another on a workstation is a process that typically takes the same time as a normal login into an account, and typically up to 30 seconds.	
2	The Bidder shall provide a list of search parameters available with the proposed system, for example: DL/ID number, First name, Last name, DOB, Zip Code etc. and should also include wildcard searches for partial data entry.	**A**
Bidder Response	Our query screen for the search can support all these parameters and will normally be adapted to contain the fields that interest the customer. When the search parameters are updated, so is the database indexing, in order to achieve quick searches. Following is a typical search screen.	

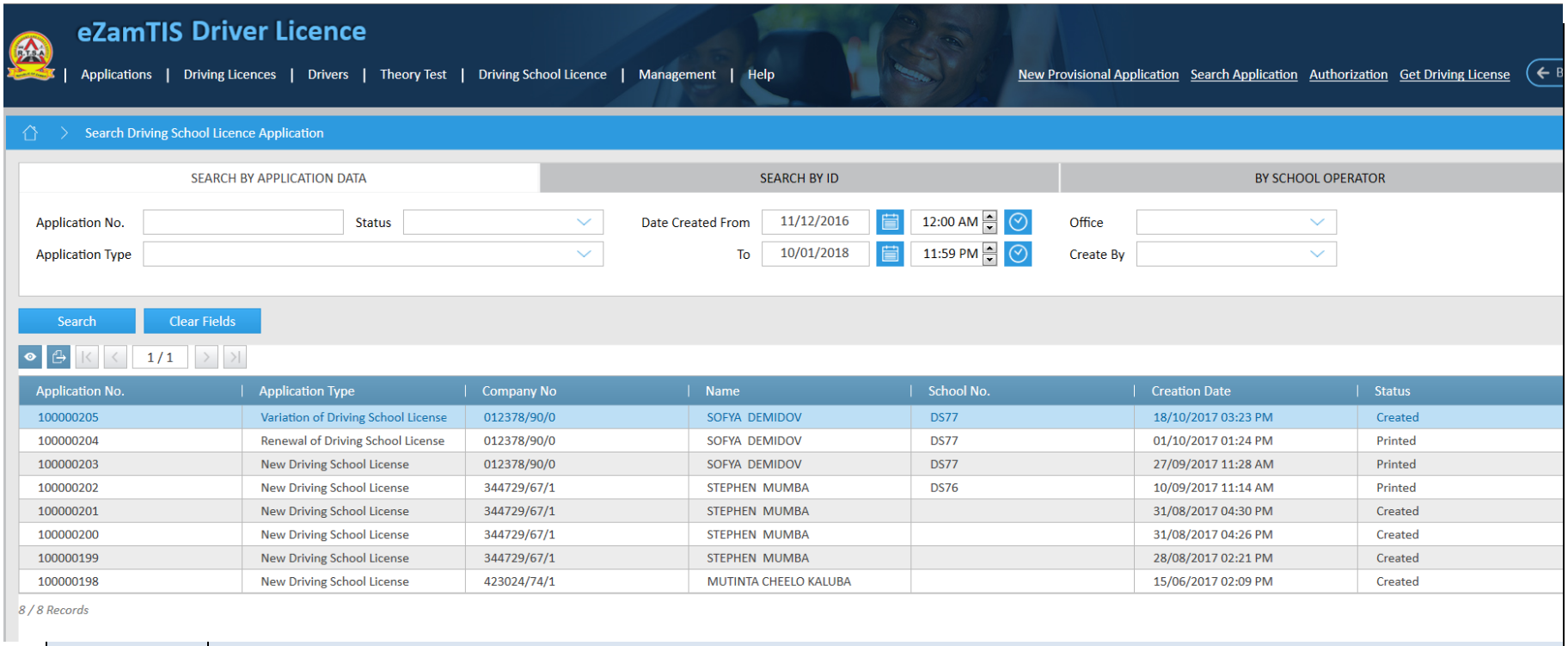


	Figure 15 – Typical Search Screen We can see that the search parameters can be related to the person (name, date of birth, ID number, gender, etc) or to the specific registration process, its status, the date rage for performing the registration, the operator who processed it and so on. We will customize this form and the database for Vermont DMV to include the required fields.	
3	The Bidder's solution shall provide both the ability for automated and manual flagging functionality. Flagging a record should trigger an automated email to the designated staff, preventing permanent card request from being sent to the central issuance facility until further review and approval by authorized users.	**A**
Bidder Response	• The DL/ID records will undergo our internal ISO 9001:2008 certified quality tests. Generally, a series of automatic tests are run on the data to qualify the record for production. If any of the tests fails (e.g: no name, invalid address, no DL record number, invalid record format, etc..) and the software detects any irregular information or missing information, it will flag the record as suspicious. The record will be flagged and lodged in a table highlighting the	

	non-produced credential order along with test failure status. An email is automatically sent to the designated staff. The operator is also notified and can contact his/her supervisor to decide whether a mistake has been made or whether the information is incomplete. • The operator can also manually flag a record (as Suspicious or …) even if the automatic tests do not display any warning or error. • In fact, the proposed software performs various checks on the incoming registration data by applying business rules as connected to each specific application type. • If any of the business rules fails, the application can be directed to an investigation desk. The investigation desk will check the reasons for the failed application and decides if the application could be enabled to continue. Reason for investigation might have to do with identity related problems during face recognition search. Manual flagging of an application can happen if the front desk clerk of the DMV suspects some problem and wants an additional check of the application. The clerk can mark the application for investigation. • Generally speaking, this possibility, while it is implemented, is not the recommended one. The front desk clerk, who is speaking to the applicant in person should be better able to ask questions of the applicant and clarify the problem, than a back office investigator that does not see and cannot speak to the applicant.	
4	The Bidder's solution shall provide the ability to display messages and check boxes for customers to make selections such as, Organ donation, voter registration (yes/no Q's).	**A**
Bidder Response	Our solution complies with the AAMVA DL/ID Card Design Standard for data elements. Including the following field / field length combinations: 1. Vehicle class / 6 2. Restriction codes / 12 3. Endorsement codes / 5 4. Expiration date / 8 5. Family Name / 40 6. First Name / 40 7. Middle Name / 40 8. Issue Date / 8 9. DOB / 8 10. Sex / 1 11. Eye Color / 3 12. Hair Color / 12 13. Race / 3 14. Place of Birth 15. Height / 6 16. Weight / 3 17. Organ donor / 1 18. Under 21 until / 8 19. Veteran indicator / 1 20. Street 1 / 35 21. Street 2 / 35 (optional) 22. City / 20 23. State / 2 24. Postal / 11 25. ID Number / 25 26. Country / 3 27. Voter Registration / 1	

	In addition, we can work with the Vermont DMV to add any additional fields needed to be presented to the customers as well as how to show the fields and receive the information (check boxes, drop downs, …). The signature pad will contain can display messages and check boxes for the customer to make selections. The exact content of these boxes will be defined with the customer.	
5	The Bidder's solution shall provide an option allowing employees to select "Unable to Sign" for those applicants who are unable/not required to provide a signature.	**A**
Bidder Response	The application screen will contain a flag "Unable to Sign" that will be used by the operator to mark that the current applicant is not required to sign as part of the process.	
6	The Bidder's solution shall allow for images to be exempt from FR checks (IE: When undercover DL/ID's are produced).	**A**
Bidder Response	The application screen will contain a flag for the operator to mark that the person is exempt from FR checks. Whether this field is open for all operators, or only some select supervisors will be defined during the requirement extraction phase of the project. In order to prevent abuses of system security we recommend to limit the access to this feature to more senior staff.	
7	The Bidder's solution shall initially enroll all existing legacy images for FR comparison prior to UAT.	**A**
Bidder Response	During our initial deployment of the system we will enroll all the existing legacy images into the new FR engine. This operation will happen before the system passes UAT. The initial loading operation is expected to take up to 14 days, which includes full 1:N checking of all images. After this process is performed we will load at the last moment only the additional images acquired during this period, which is expected to be a short operation (less than an hour). Since this is a full database search, we foresee the need for investigation in cases of unexpected biometric matches.	
8	The Bidder must confirm that they will migrate all existing customer historical data and images from our legacy solution into the system prior to testing and again before going into production.	**A**
Bidder Response	We will migrate all the existing customer historical data and images to the new system. This will happen before going live. The migration process will happen in a number of steps. We will prepare a migration process by mapping the existing data to the new system. We will write the migration	

	software and run it a number of times, with the explicit target of reducing the number of records that have migration errors, down to (almost) zero. When that happens, we are ready for the real migration run. This will be executed in the weekend of the system transition.	
9	The Bidder's solution must provide both standard and ad hoc reporting capabilities; Bidders shall provide sample reports as part of their proposal as well as describe capabilities for ad hoc reporting.	**A**
Bidder Response	The proposed solution will contain both built in standard reports and capability for ad-hoc reports. For the built-in report we use Crystal Reports version which is included in Microsoft Visual Studio development environment. For ad-hoc reporting we provide a license of SAP Crystal Reports IDE which includes the designer and report execution environment. This option is meant to be installed on the table of DMV IT staff or business analysts who will understand the data model of the new application and will design the new ad-hoc reports. We also provide an optional 4 day course for learning how to use Crystal Reports at a training facility in Vermont or at VT DMV's offices.	

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Creation Date	15/08/2017 0:36											
2	Report name:	DRIVER LICENCE RELATED EXAMINATIONS											
3	Dates Range:	01/05/2017-31/05/2017											
4		INSTRUCTORS PRACTICAL TEST				ORAL TEST FOR PROVISIONAL LICENSES				PRACTICAL DRIVING TESTS			
5	Date	No. PASSED	No. FAILED	TOTAL CAND.	VALUE K	No. PASSED	No. FAILED	TOTAL CAND.	VALUE K	No. PASSED	No. FAILED	TOTAL CAND.	VALUE K
6	02/05/2017					41		41	4354.2	45	1	46	8564.1
7	03/05/2017					22		22	2350.8	47	5	52	8121
8	04/05/2017					35		35	3267.3	61	9	70	13247.4
9	05/05/2017					19		19	1672.5	53	11	64	12208.2
10	08/05/2017					29		29	2773.8	33	2	35	6553.2
11	09/05/2017					20		20	2055	58	4	62	9853.5
12	10/05/2017					15		15	1361.1	64	5	69	11589.6
13	11/05/2017					14		14	1961.7	57	5	62	10480.2
14	12/05/2017					116		116	10900.5	62	4	66	11148.6
15	13/05/2017					218		218	22275.9	28		28	4012.5
16	14/05/2017					2		2	129.9				
17	15/05/2017					214	1	215	21009.3	37	2	39	7273.5
18	16/05/2017					364	2	366	26778.3	54	12	66	12275.4
19	17/05/2017					436		436	20897.1	76	2	78	11709.9
20	18/05/2017					346	1	347	17123.1	85	5	90	13053.6
21	19/05/2017					364	2	366	13620.9	72	9	81	10783.5
22	20/05/2017					60		60	2046.6	11		11	1239.9
23	22/05/2017					231		231	10050	41		41	5426.7
24	23/05/2017					469	1	470	15721.5	75	12	87	9760.2
25	24/05/2017					490		490	15931.8	77	4	81	9125.4
26	25/05/2017					1		1					
27	26/05/2017					452		452	15473.4	109	6	115	13712.7
28	27/05/2017					116	1	117	3394.5	32		32	2963.1
29	28/05/2017					2		2	278.1	1		1	78
30	29/05/2017					365	24	389	9255.6	54		54	5702.1
31	30/05/2017					356	10	366	10420.2	77	23	100	10569.3
32	31/05/2017					271	1	272	8109.9	97	16	113	12110.4
33	**TOTAL -**	**0**	**0**	**0**	**0**	**5068**	**43**	**5111**	**243213**	**1406**	**137**	**1543**	**221562**

Figure 16 – Sample report output image. Reports will sometimes take the form of an excel file.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Creation Date	15/08/2017 12:25											
2	Report name:	DRIVER LICENCE TRANSACTIONS											
3	Dates Range:	01/05/2017-31/05/2017											
4													
5													
6													
7		PROVISIONAL DL		PASS CERTIFICATE ISSUED		NEW DL ISSUED		DL RENEWAL		PSV DL RENEWAL		DUPLICATE CARDS	
8	Date	No. OF TRANS	Value(K)	No. OF TRANS	Value(K)	No. OF TRANS	Value(K)	No. OF TRANS	Value(K)	No. OF TRANS	Value(K)	No. OF TRANS	Value(K)
9	02-MAY-17	13	1349.4	86	13196.4	40	5196	2	278.1			28	129.9
10	03-MAY-17	7	726.6	69	9770.4	47	6105.3					6	519.6
11	04-MAY-17	27	2802.6	97	15138	55	7014.6					1	129.9
12	05-MAY-17	18	1868.4	71	11505.9	43	5585.7					2	129.9
13	08-MAY-17	21	2179.8	58	8755.8	31	4026.9	1				2	
14	09-MAY-17	13	1349.4	78	11388.9	57	7404.3	3	834.3			2	129.9
15	10-MAY-17	10	1038	79	12178.8	58	7534.2					2	
16	11-MAY-17	10	830.4	70	11480.7	53	6884.7	3	834.3			1	
17	12-MAY-17	297	30724.8	174	20713.5	64	8053.8	45	11402.1			9	259.8
18	13-MAY-17	48	4774.8	244	26184.6	29	3767.1	4	1112.4			1	129.9
19	14-MAY-17			2	129.9								
20	15-MAY-17	282	28648.8	250	27659.4	39	5066.1	179	49779.9	6	1668.6	386	5196
21	16-MAY-17	392	37471.8	413	36453	68	8703.3	228	62572.5	7	1946.7	436	9482.7
22	17-MAY-17	391	36537.6	492	30882.3	76	9612.6	167	45052.2	10	2781	511	7014.6
23	18-MAY-17	342	30102	426	29449.2	68	8833.2	148	40602.6	5	1390.5	490	8963.1
24	19-MAY-17	330	28960.2	427	22367.7	71	9222.9	145	39490.2	11	3059.1	546	7534.2
25	20-MAY-17	86	6850.8	71	3008.4	11	1428.9	40	10011.6	3	834.3	178	1558.8
26	21-MAY-17	27	2595										
27	22-MAY-17	234	21694.2	269	15476.7	44	5585.7	158	42549.3	62	16686	513	7404.3
28	23-MAY-17	471	37160.4	536	24104.1	67	8703.3	209	55620	90	24750.9	694	8053.8
29	24-MAY-17	446	36122.4	564	24173.7	68	8313.6	218	58122.9	93	25307.1	558	7534.2
30	25-MAY-17	2	207.6	1				1	278.1			2	129.9
31	26-MAY-17	405	36226.2	556	28562.4	102	12990	221	60069.6	84	23360.4	557	7014.6
32	27-MAY-17	78	6228	144	6253.8	31	4026.9	71	17242.2	41	10289.7	189	2857.8
33	28-MAY-17	18	1660.8	3	356.1	1	129.9	1	278.1			6	129.9
34	29-MAY-17	340	26988	414	14375.7	54	7014.6	233	63128.7	102	27810	860	9093
35	30-MAY-17	378	31243.8	428	18483.6	66	8183.7	185	47277	101	27810	588	6235.2
36	31-MAY-17	277	23355	360	17896.8	76	9872.4	91	23360.4	38	10289.7	242	3767.1
37	**TOTAL -**	**4963**	**439696.8**	**6382**	**439945.8**	**1319**	**169259.7**	**2353**	**629896.5**	**653**	**177984**	**6810**	**93398.1**

Figure 17 – Sample Report Output Image.

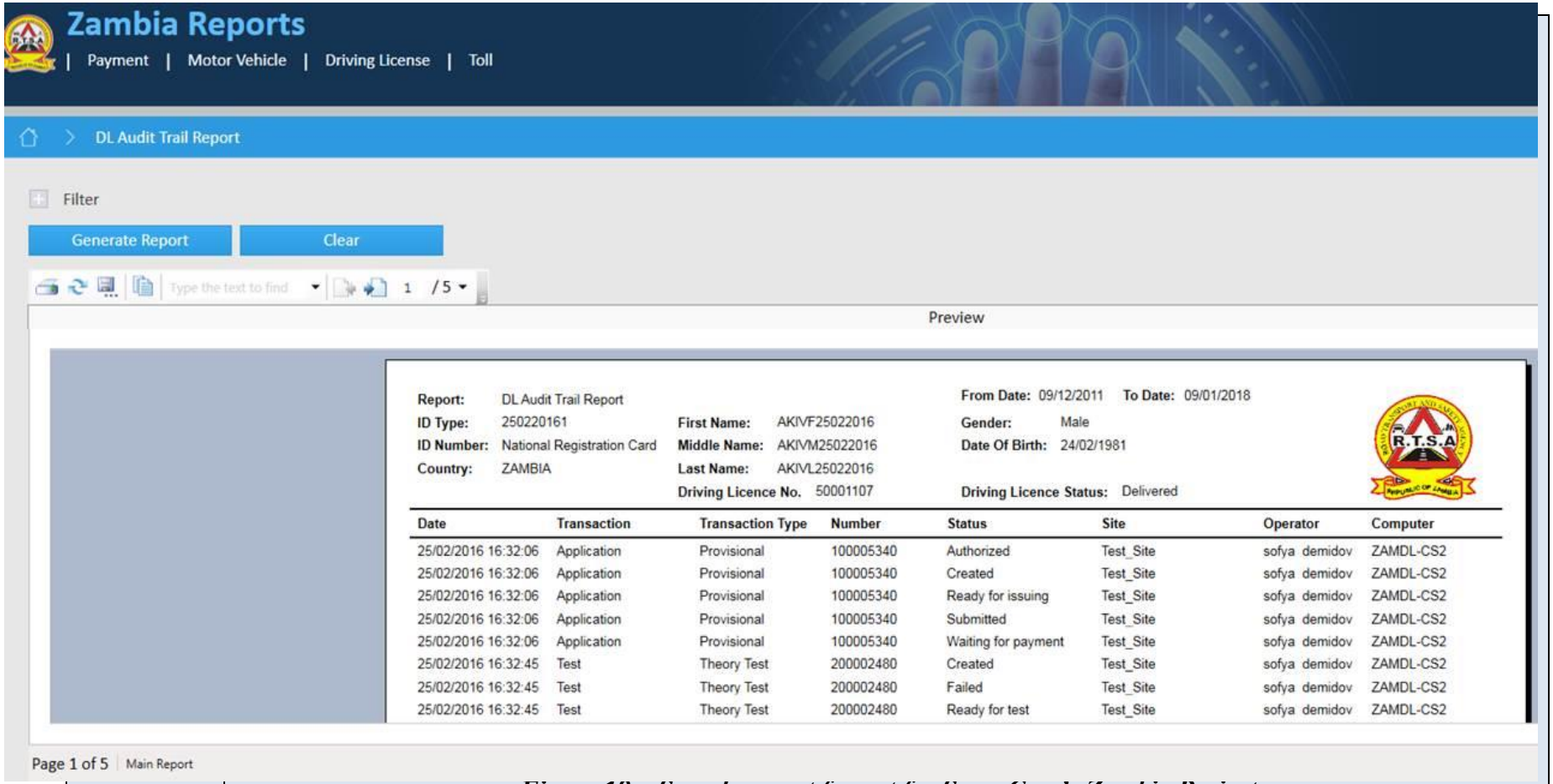


	Figure 18 – Sample report format for SuperCom's Zambia Project	
10	The Bidder's solution must have the capability to produce interim (or temporary) DL/IDs at the time and point of sale. Format to be agreed upon during design phase.	**A**
Bidder Response	Following registration and after having a valid entry in VM DMV database, a temporary Driver's License/ID will be issued in designated VM DMV offices. The Driver's License/ID will be temporary with agreed expiration date and will be printed on a paper with logos and layout predefined by VM DMV and the bidder. The provided solution will be able to print a temporary DL/ID which is a document printed with a color printer on a regular A4/Letter paper page. We can optionally provide custom secured paper	

	for printing these documents.	
11	The Bidder's solution shall print and ship cards from the central issuance facility no later than three (3) business days following transmission of DL/ID card data from VT DMV to the central issuance facility. • Shipped means transferred to the shipping provider, not transferred to a third-party mail processing contractor.	**A**
Bidder Response	Following receipt of data, SuperCom Team member, ABCorp, will process, produce and lodge the completed DL/ID's in the USPS the following business day (day 1) or (after 16 working hours) excluding weekends (Saturday and Sunday) and the official Vermont holidays. Finished production order is sent out of the Personalization Bureau daily through a secure internal transfer. Packages are then picked-up by the USPS from our secure shipping dock within 24 hours of production of the card and shipped USPS first class mail. SuperCom Team pre-sorts and verifies addresses in order to provide the lowest possible postage rate. Envelope is sealed and stamped with a USPS assigned indicia to receive the best possible postal discount. Because we have many bureau customers, we are able to leverage the volume for additional courier and postal discount. A report listing the consignee name/initials, zip code and USPS unique tracking number of each envelope with the new DL/ID card mailed out daily is generated and signed-off by the USPS personnel and our Card Production Security. The report can be available in real time. The daily consignment of cards to the USPS local team will be managed under a set of security requirements that are also applicable to financial credit cards we deliver daily via mail.	
12	The Bidder's solution shall use next day service for shipping cards that are not printed and shipped within three business days, at no additional cost.	**A**
Bidder Response	Our usual turnaround time as mentioned above is 1 day but we will make a next day delivery shipping at no additional cost to the State if the printing and shipping takes over 3 days for some unknown reason. For any inconsistencies in data files received, the SLAs will apply only from receipt of corrected data files.	
13	The Bidder's solution shall provide renewal capabilities via the internet.	**A**
Bidder Response	Our solution includes the option to receive a request for renewal from the existing portal, containing full data. Our software will process the request and create a request for issuance of a replacement card. Proper entries will be created for this "virtual application", and the corresponding new document. However if they need to renew their picture, they would need to go to one of the front offices:	

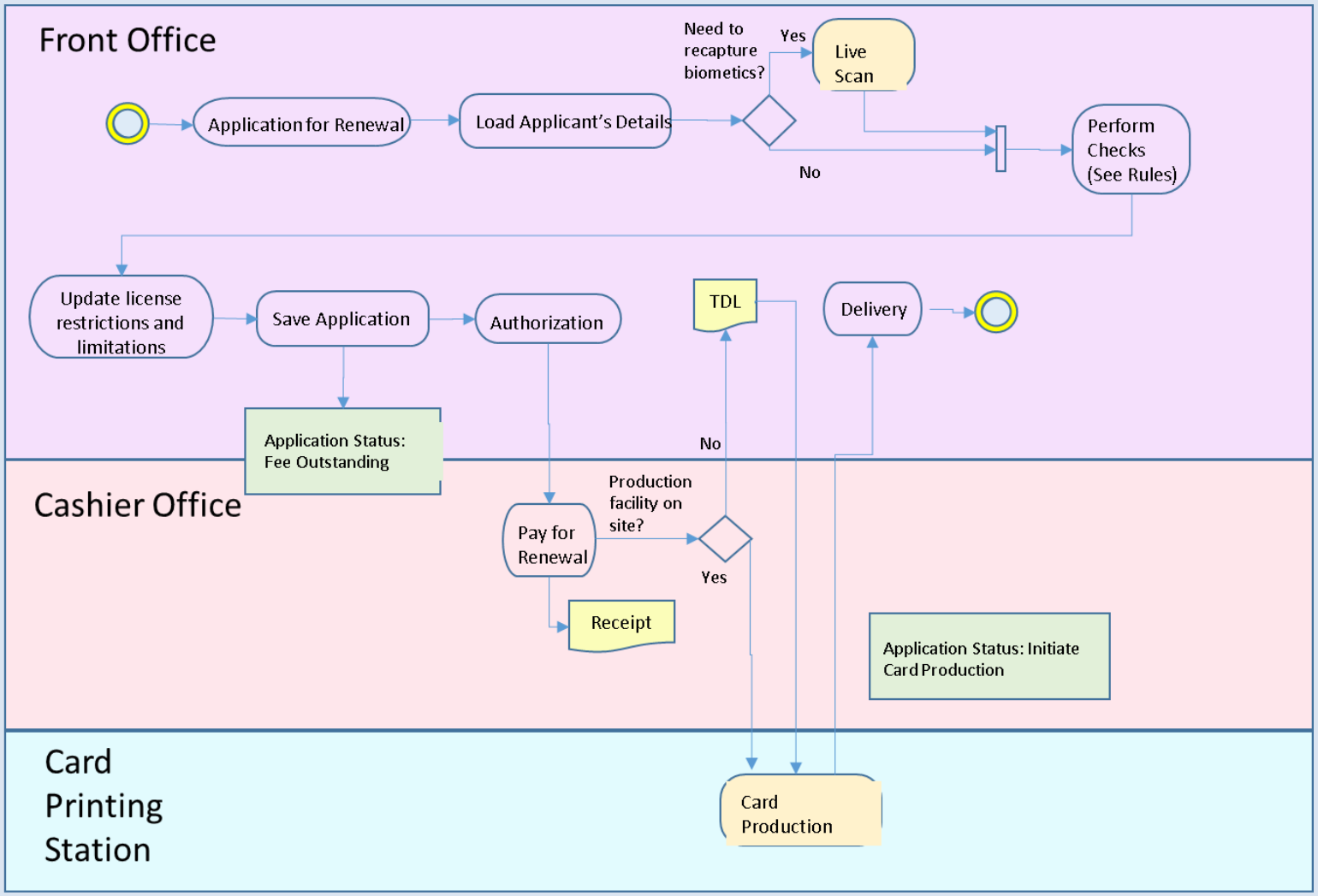


Figure 19 - Driving License Renewal - Process Diagram (example)

Registering Application for Renewal of Driving License

Purpose:

Handle request for renewal of a regular Driving License (done every 4 years)

Preconditions:

- The Applicant provides an online filled-in form (or walk-in at one of the centers) for a Renewal of Driving License.
- The Applicant has a renewable Driving License in the system.
- Medical certificate including eye test

Process:

Step	• Open new application • Update license restrictions and limitations • Capture biometrics (optional) - when expired • Validation (if biometrics were captured) - Applicant waits for validation
Location	Applicant fills form on line or if biometrics are expired, in person. Then Operator picks up from there.
Comments	

Result:

- New application for renewal of Driving License is recorded in the system.
- If Identity Validation is needed
  - The record is sent to Identity Validation (AFIS)
  - If in person, the Applicant is instructed to wait at the Office until Validation is completed

  Or
  - The flow continues to the authorization and license payment
- The Applicant is instructed to wait for authorization

	Rules: • The system requires a biometric capture if the person's biometrics expired • The system does not allow more than one active application for renewal for the Applicant • The system maintains an Applicant's current Driving License in the system • The system ensures the Applicant is not trying to renew his license sooner than expected • The system checks whether the Applicant is late in renewing a license • (The license can be renewed 3 months before and up to two weeks after its expiration date.) • The system confirms that the person's license is Active (not Suspended or Canceled) **Security**: • Only persons with a certain level of access are allowed to change any of the details • No changes of classes are allowed • Restriction updates are not done **Internal Interface:** • The Applicant's information is pulled from the system's database **Remarks:** • The starting date of the new license is the expiration of the last one • If the applicate is late for renewal (and not because of suspension), the application for renewal is marked accordingly and is charged with a different payment type (such as "late renewal") so it can potentially be set for a different (higher) fee.	
14	The Bidder's solution shall inform the user on the screen when a photo failure has occurred. The error message must identify the cause of the failure in clear and non-technical verbiage.	**A**
Bidder Response	The photo taking process contains clear on-screen indications when the captured image is not meeting the necessary	

	standards. See the illustrations below which clearly show the image and the marked features in Red, which do not meet ICAO / ISO standards. The two views are different balances in showing symbols and text or showing symbols only. The reason for the error flag is clearly explained: e.g. "Eyes not found or closed", "face not looking forward", "face is heavily tilted", "mouth is open", "not enough light on face", "background busy" and so on. The comment also includes a suggestion for fixing the problem: e.g. "ask applicant to look straight", "ask applicant to take off glasses", "be sure to use background screen", "Check room illumination", etc. Our software will also detect the position of the head and rotate the image as per standards (line connecting eye centers should be horizontal).

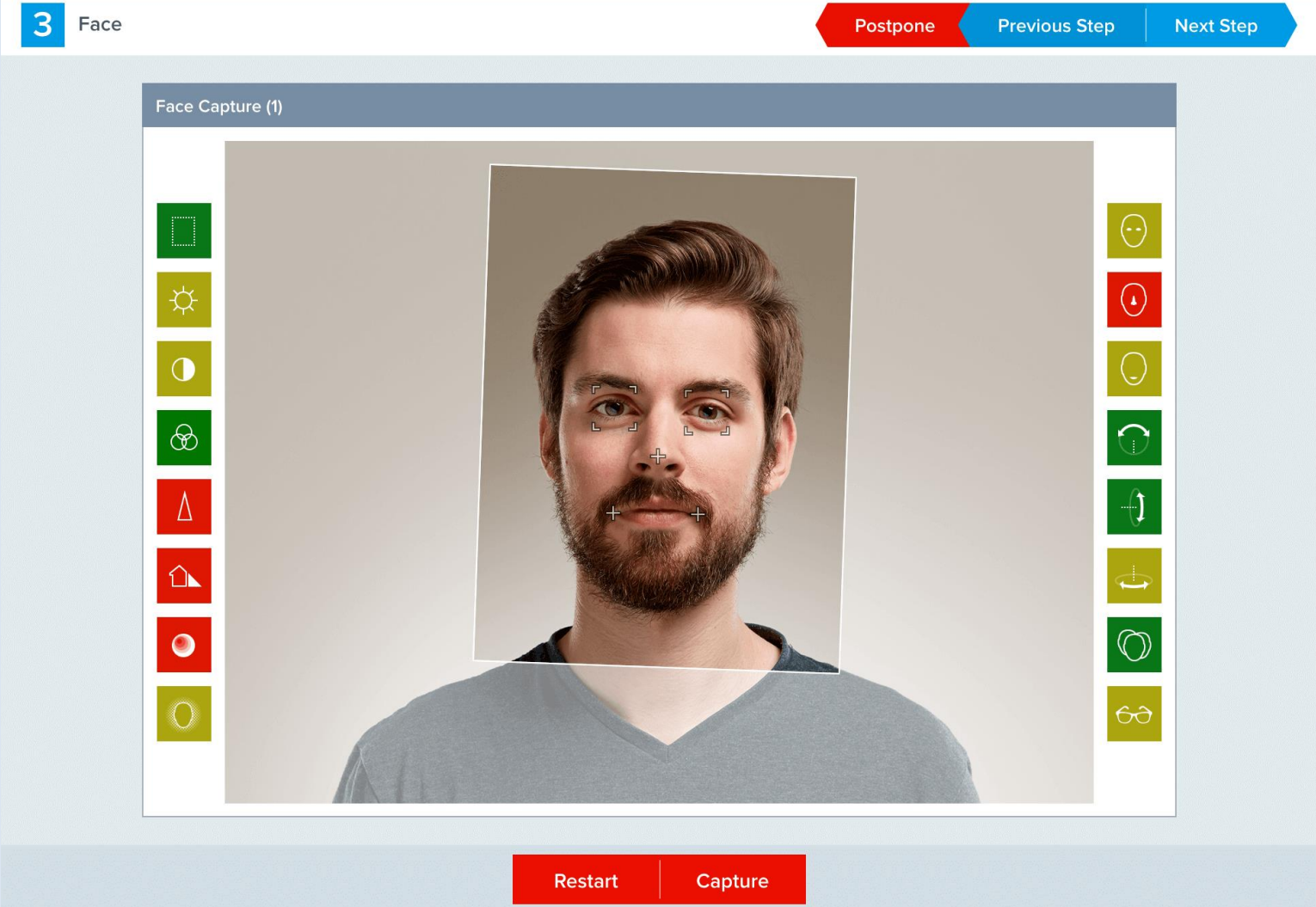


Figure 20 – Error Flag Sample 1. Features Not Meeting ICAO / ISO standards Shown in Red

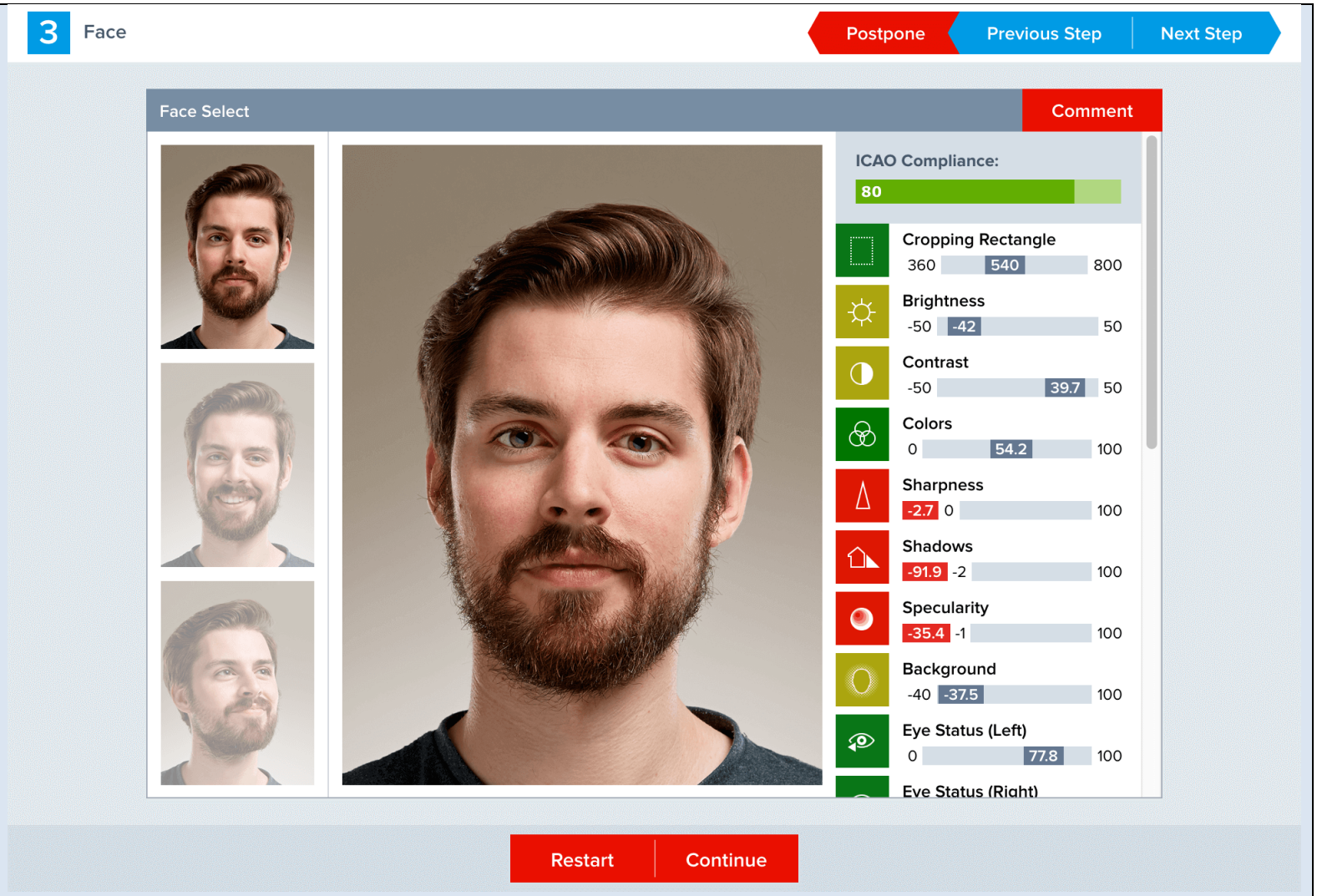


Figure 21 – Error Flag Sample 2. Features Not Meeting ICAO / ISO standards Shown in Red

15	The Bidder's solution shall provide a camera system that provides maximum automation, minimum user involvement and capture high quality digital images.	**A**
Bidder Response	Our iCAD image capture solution is based on a high resolution web camera with its own illumination. The software provides full automatic recognition of the face and capture so that it meets standards. See images in previous paragraph.	
16	The Bidder's solution must provide multiple gates as specified by the VT DMV and must be scalable when additional gates or interfaces are necessary.	**A**
Bidder Response	The proposed application uses business rules to determine if a customer can be registered to receive a driving license and whether he can actually receive it. In Magna business rules exist in two forms: • They can be coded as stored procedures in the database that check the data in the personal record, e.g if Person.Age < 16 return Error_Age_Error. Stored procedures in Oracle can be coded in PL/SQL or in Java • They can be coded as functions in Python outside the database. Both types of code are just as prone to contain bugs, and changing them should be done with proper, extensive testing. We will implement business rules based on the requirements extraction phase of the project. Our workflow management system can apply different business rules at each step of the process and these rules can change for different applications. If the customer wishes to implement more rules in the future, we can do so by adding new rules in the database and customizing the workflow in the database. The customer will also be trained to perform such tasks. We need to stress again the fact that workflow modifications and business rules modifications are equivalent to changes of code and should be thoroughly tested before being deployed.	
17	The Bidder's solution must allow users real-time access regarding the tracking of credential transactions that should include but not limited to: • System process being performed • Credentials produced • Status of credential transaction • Date shipped • Process problems or failures	**A**

	• Data transfer failure	
Bidder Response	The proposed system performs full tracking of all applications. This means that at any moment the status of an application is available and is explanatory. Additionally, since our logs represent the history of the application, a simple search of the log file will show us the history of the application, who handled it, the timetable of every action that happened and the reasons attached to decisions in the life cycle of the application. This life cycle includes all the operations performed during registration, approval, card personalization and card shipping. All these steps are continuously being update in Magna's central database.	

PART 4: NON- FUNCTIONAL REQUIREMENTS

The tables below list the State's Non-Functional Requirements. Indicate if your proposed solution complies in the "Comply" column.

Yes = the solution complies with the stated requirement as standard functionality with minimal configuration of base product.

No = the solution does not comply with the stated requirement. Or would require customization of the software. Customizations must be quoted separately

N/A = Not applicable to this offering

Describe how the requirement is met in the "Bidder Description of Compliance" column.

4.1 Hosting

ID #	Non-Functional Requirement Description	Comply	Vendor's Description of Compliance
H1	Any technical solution must be hosted in a data center.	**Yes**	Based on answers in the Q&A document we understand that DMV is willing to consider both hosting of the system on Vermont DMV premises and hosting on supplier's premises. *Q&A #14: RFP, Exhibit C, Part 7, Hosting. Does the State have a preference to onsite hosting or offsite hosting?* *Answer: The State requests that the Bidder put forth a cost-effective proposal that best meets the requirements set forth in this RFP including data security.* *Q&A #66: Excluding the centralized card production system backend components, what are the expectations for the State in term of hosting the backend-components for Primary and Disaster Recovery data centers? Should the vendor provide the hosting service, including network capacity or would the State provide rack space in its own datacenters, and in this case, would there be a charge associated with that?* *Answer: Bidder shall provide their solution that best fits the*

			needs of the State as outlined in the RFP. Our primary proposal is based on the assumption that Vermont DMV will host the 2 data centers (main data center and DR data center), and source the standard IT equipment in those data center, based on specifications that we provide. Since the central hardware elements of our solution are all standard, we appreciate that Vermont DMV might wish to own such a critical part of its IT systems. There are also financial advantages to DMV in providing their own hardware. For example, if the data center already has a backup library robot with the matching backup software. These could easily be used to backup the data of our new system. If the data center already has in place UPS and emergency power generation, these could be reused by the new system, thus saving expenses. We assume that DMV currently has a main data center and also a disaster recovery data center, and sufficient place there to host one rack of equipment that our system needs. Should DMV decide that it does not wish to go this way we can host the main servers of our solution or the backup data center or both, at a cost. We could also buy all the equipment instead of DMV. Pricing for this is being provided as an optional item.
H2	Any hosting provider must provide for back-up and disaster recovery models and plans as needed for the solution.	**Yes**	Our hosting environment, should the DMV decide to go for external hosting, provides for backup execution onto LTO6 tape.

			A disaster recovery model is also covered by deploying equipment at a separate DR data center and providing switch over.
H3	Any hosting provider will abide by ITIL best practices for change requests, incident management, problem management and service desk.	**Yes**	Our hosting environment, should the DMV decide to go for external hosting, abides by ITIL best practices for change requests, incident management, problem management, monitoring and service desk.

4.2 Application Solution

ID #	Non-Functional Requirement Description	Comply	Vendor's Description of Compliance
A1	Any solutions vendor must provide for the backup/recover, data retention and disaster recovery of a contracted/hosted application solution.	**Yes**	Based on answers in the Q&A document we understand that DMV is willing to consider both hosting of the system on Vermont DMV premises and hosting on supplier's premises. Our primary proposal is based on the assumption that Vermont DMV will host the 2 data centers (main data center and DR data center), and source the standard IT equipment in those data center, based on specifications that we provide. The configured solution includes backup/recovery elements, data retention and disaster recovery. Should DMV decide that it does not wish to be the host of these systems, we can host the main servers of our solution or the backup data center or both, at a cost. We could also buy all the equipment instead of DMV. Pricing for this is being provided as an optional item.
A2	Any solutions vendor must provide for application management and design standard of all technology platforms and environments for the application solution (Development, Staging, Productions, DR, etc.)	**Yes**	Our solution will have Development, Testing, Training and Production Environments. These same environments exist at the main site and at the DR site.
A3	Any solutions vendor must engage the State of Vermont using Service Level Agreements for system and application performance, incident reporting and maintenance.	**Yes**	SuperCom will conform with the SLA requested in this RFP for the system and application performance, incident reporting and maintenance. SuperCom, through its maintenance partner Simpleroute, will receive updates on system performance, incidents and service calls, and will ensure compliance with the agreed SLA.

ID #	Non-Functional Requirement Description	Comply	Vendor's Description of Compliance
A4	The State owns any data they enter, migrate, or transmit into the solution and the vendor shall allow the State to pull or copy this data at any time free of charge.	**Yes**	All the data of the system is fully owned by the State, and we as supplier make no claim to it. That data is always available to the State, through the normal access mechanisms, free of charge. This includes direct access to the database tables with the data dictionary supplied per A5. Security considerations, such as who gets to see what data, are entirely at the State's discretion and responsibility.
A5	As a contract deliverable, the vendor shall supply an up-to-date data dictionary that represents all data respective of the solution it will provide. The data dictionary must contain the following attributes: 1. The technology (RDBMS platform) that hosts the data source, i.e. Oracle, SQL Server, MySQL, DB2, etc. 2. The location where the data source is hosted 3. Thorough descriptions of each table in the data source 4. Thorough descriptions of each column within each table in the data source. In addition to business definitions, column descriptions must include the following detail: schema names; file group names (if applicable); data types; lengths; primary and foreign key constrains; applied formatting; applied calculations; applied aggregations; NULL-ability; default values.	**Yes**	These are standard deliverables of our system design and development processes.

4.3 Security

As a solution vendor, you must have documented and implemented security practices for the following and have a process to audit/monitor for adherence. Indicate "Yes" or "No" in the "Comply" column or "N/A" if the requirement is not applicable to this offering. Use the "Vendor Description of Applicable Security Processes" column to describe how you meet the requirement and the "Audit/Monitor" column to indicate how you monitor for compliance.

ID #	Non-Functional Requirement Description	Comply	Vendor's Description of Applicable Security Processes	Audit/Monitor Process
S1	Input validation	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S2	Output encoding	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S3	Authentication and password management	YES	Implemented by Windows	
S4	Session management	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP,

ID #	Non-Functional Requirement Description	Comply	Vendor's Description of Applicable Security Processes	Audit/Monitor Process
			security mechanisms, which follows OWASP guidelines.	OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S5	Access control	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S6	Cryptographic practices	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S7	Error handling and logging	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.

ID #	Non-Functional Requirement Description	Comply	Vendor's Description of Applicable Security Processes	Audit/Monitor Process
S8	Data protection from unauthorized use, modification, disclosure or destruction (accidental or intentional).	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S9	Communication security	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S10	System configuration	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S11	Database security	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM.

ID #	Non-Functional Requirement Description	Comply	Vendor's Description of Applicable Security Processes	Audit/Monitor Process
			OWASP guidelines.	For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S12	File management	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S13	Memory management	YES	Magna system development is done using a SSDLC process, involving secure design review for the system components and security mechanisms, which follows OWASP guidelines.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S14	Fraud detection	YES	The Magana system records all user activity, including successful and unsuccessful attempts, user management(creation, disable/enable). These logs are used to identify fraudulent activity in the system.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.

ID #	Non-Functional Requirement Description	Comply	Vendor's Description of Applicable Security Processes	Audit/Monitor Process
S15	General coding practices	YES	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S16	POA&M management	YES	SuperCom is ISO 27001 certified, and follows the standard's guidelines for risk management. Security gaps are priorities using risk management approach (ISO 27001) and handled according to the risk level.	Security audit based on code review, and penetration testing, to identify vulnerabilities, based on OWASP, OSSTMM. For each vulnerabilities, a risk is calculated and mitigated based on the risk level.
S17	Risk Assessment Practices including but not limited to vulnerability assessment and pen testing	YES	SuperCom is ISO 27001 certified, and follows the standard's guidelines for risk management.	ISO 27001 annual audit
S18	Incident response planning and testing	YES	SuperCom is ISO 27001 certified, and follows the standard's guidelines for risk management.	ISO 27001 annual audit
S19	System Security Plan delivery	YES	SuperCom is ISO 27001 certified, and follows the standard's guidelines for risk management.	ISO 27001 annual audit

4.4 Other Non-Functional Requirements

For each requirement listed, indicate if and how you comply or type "N/A" if it is not applicable to your offering.

Requirement Number	Non-Functional Requirement Description	Comply
1	Bidders shall propose a solution that has the ability to securely interface with the DMV's Enterprise Data Management system and customer, credential, and transaction data.	**Yes**
Bidder Response	Our solution shall interface to the DMV's Enterprise Data Management system using the REST interface it exposes via DreamFactory. We will use it to load existing driver data and to save the content of new applications received. The entire Magna application is written using web services and we are perfectly suited to interface to services exposed by using DreamFactory.	
2	Bidder shall propose a solution that has the ability to securely interface with external systems such as: Problem Driver Pointer System (PDPS), Systematic Alien Verification for Entitlements (SAVE), Commercial Driver's License Information System (CDLIS), Social Security Online Verification (SSOLV)	**Yes**
Bidder Response	According to the Q&A currently the DMV mainframe has connection to these systems. It is our intention to use the existing mainframe applications. It is our intention to connect to these applications using terminal emulation products. Our company has experience interfacing to mainframe computers via such terminal emulation products, ever since in one of our earliest projects (1991) we connected to Israel's Driver Licensing Authority's mainframe computers to access data needed for the Israeli driver license issuing project.	
3	The Bidder's proposed solution software shall support the current 64-bit Windows 10 operating system.	**Yes**
Bidder Response	Our solution supports 64-bit Windows 10 OS for the client stations of the system.	
4	The Bidder's issuance solution shall be compatible with Microsoft SQL Server and Windows Server 2016 R2.	**Yes**
Bidder Response	Magna's central application is developed using the Microsoft Visual Studio / C# and is meant to run on Windows servers having IIS. It is compatible with Windows Server 2012 R2 and also Windows Server 2016. On the database side Magna typically uses Oracle RDBMS, but it is compatible also with Microsoft SQL Server and can interface to it	

	when needed for data retrieval or update.	
5	The Bidder's solution shall provide Active Directory integration with Active Directory is 2012 R2 or higher.	**Yes**
Bidder Response	Magna is fully integrated with Active Directory, and indeed its default user authentication mode is via AD. Many of the security features expected from Magna are implemented by setting a correct security policy in AD for the user groups that various operators belong to.	
6	The Bidder's solution shall provide an architecture and design specification including a network diagram.	**Yes**
Bidder Response	The following is the system architecture of the proposed solution. For the architecture of the server farm see the next drawing. Beyond the explanation already provided for the architecture, we can say that our client stations connect to web servers running Windows Server with IIS & .NET. The server side of the Magna application resides on these IIS application servers. The database layer of Magna is implemented using Oracle RDBMS. Magna communicates to the Face Recognition Servers (FRS) using a web services interface. All client stations connect to the center using VPN channels in order to ensure full encryption of all the information that was collected from the driver. Firewalls at the entry to each site protect the systems from cyber-attacks. Web-application fire walls are used to protect the application servers. Internet clients may connect to the DMV portal to generate requests for DL / ID renewal.	

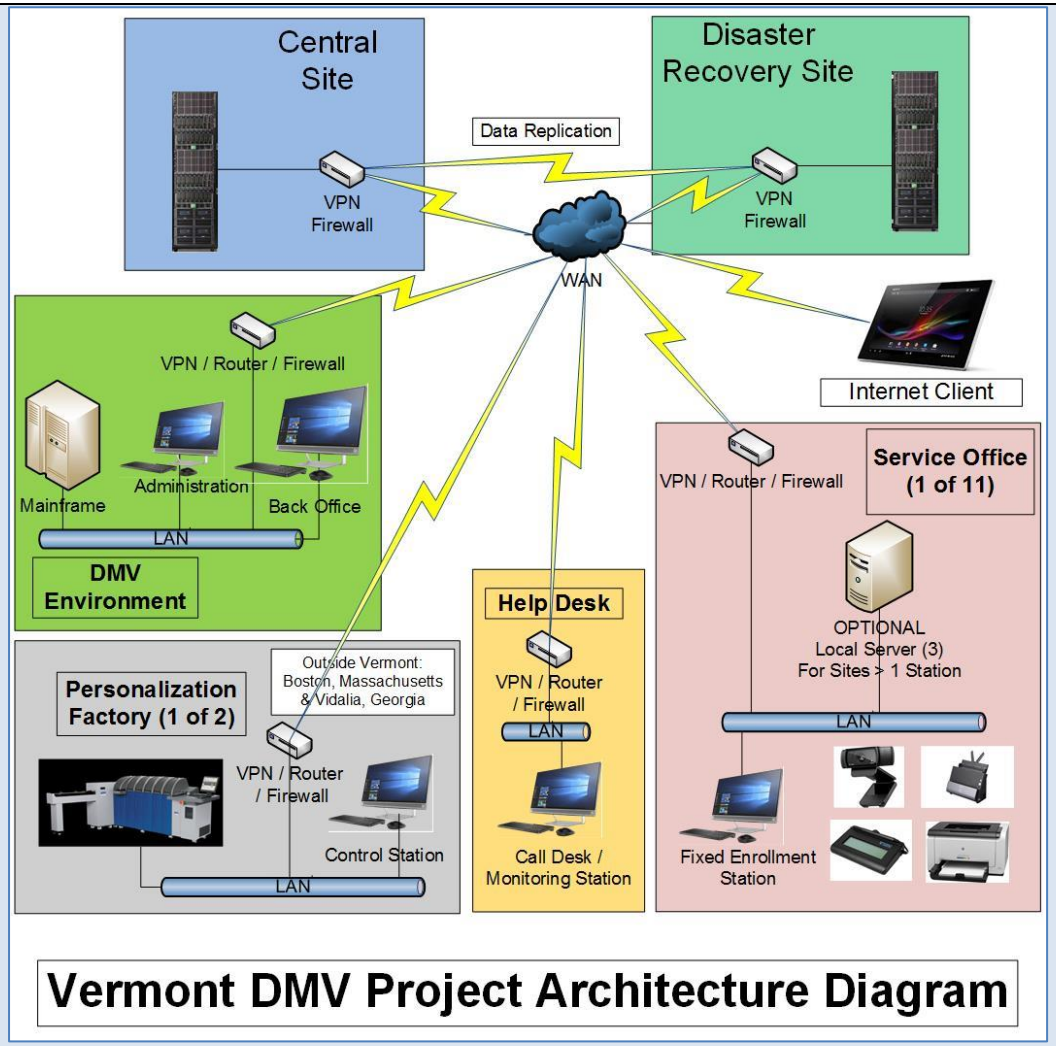


Figure 22 – Vermont DMV Project Architecture Diagram

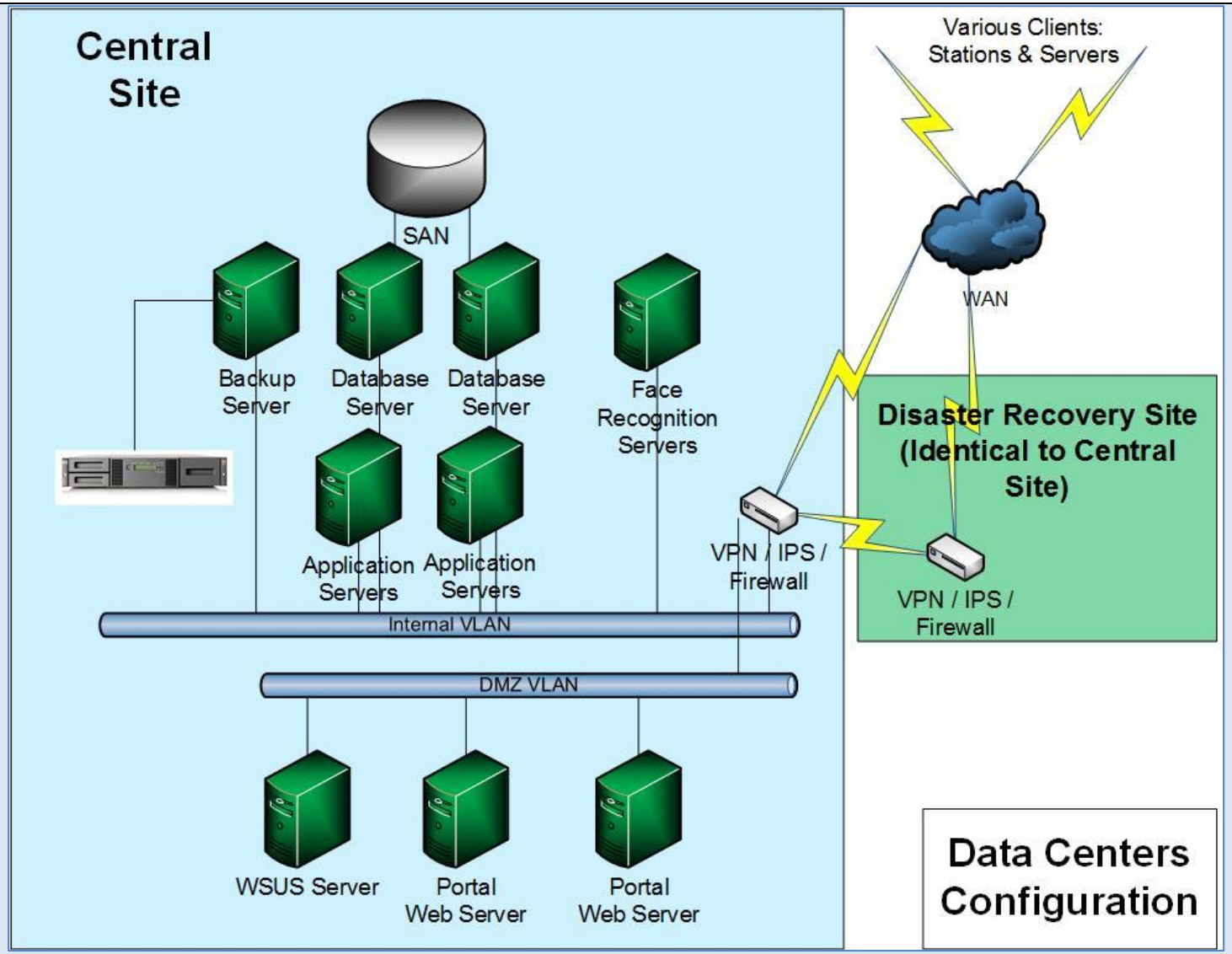


Figure 23 – Vermont DMV Project Data Centers Configuration

7	The Bidder's solution must be capable of supporting up to 300 concurrent users without any impact to system performance.	**Yes**
Bidder Response	Magna system are designed to support many hundreds of concurrent users. There is no actual limitation to the number of connected users, and similar Magna systems with 800 – 1000 users work perfectly. The system's performance is not impacted by the number of connected users, but by the number of requests coming from them. Using DMV statistics of registration we know that the daily number of registrations is less than 1,000 persons per day. Magna systems supporting 25,000 to 30,000 registrations per day are currently deployed, so that we expect no problem of any kind in a relatively small systems such as this one.	
8	The Bidder's shall list any PC requirements, including memory needed to access Bidder software.	**Yes**
Bidder Response	The typical client station for doing biometric capture will be a PC, with i5 CPU (2+ GHz), 8 GB RAM, 500 GB HD, 1GB NIC and 19" – 22" LCD/LED display. A station with 4GB RAM can also work, unless other applications are also used on it in parallel. We recommend having a 650W UPS if current supply is not stable.	
9	The Bidder's solution hardware shall be new, currently available, not refurbished, or obsolete at the time of installation and must be guaranteed for the life of the contract.	**Yes**
Bidder Response	As required, our offered solution hardware will be new, currently available, not refurbished, or obsolete at the time of installation and would be guaranteed for the life of the contract.	
10	The Bidder shall provide the End of Life Cycle for proposed hardware and software.	**Yes**
Bidder Response	SuperCom has an End of Life (EOL) policy which is applied when a hardware and software must be discontinued. Although a product lifetime may last more than 10 years, SuperCom's products have an expected lifetime, based on SuperCom's EOL announcement, of 3 years of "full support" and an additional 1 year of "limited support", or a total of 7 years from the service deployment, whichever comes later.	
11	Bidders are encouraged to present options that reduce the workstation footprint (the number of peripherals, cables, and required surface area for all components) while still effectively producing credentials and completing transactions.	**Yes**

Bidder Response	The components proposed by us for the biometric capture station include the following components: • SuperCom iCAD camera with illumination kit. • Canon DR-C225 document scanner. This model is a standing scanner that reduces the desktop footprint while providing excellent scanning performance – 20 pages per minute duplex scanning

- Topaz T-LBK-462-HSB-R signature pad with backlit LCD display for signature capture.

- Epson WORKFORCE PRO WF-5110DW (Color Inkjet printer) for printing temporary licenses and if needed application form replicas or receipts. One such printer can be easily shared by two stations.

12	The Bidder shall propose a hardware set-up that accommodates offices with varying layouts and configurations; especially offices with multiple workstations that share cameras, document scanners, and printers.	**Yes**
Bidder Response	Magna can share devices between workstations. It is possible for one workstation to communicate to the capture drivers of another workstation. The streaming of the live image of the person is not going to look on the second PC as good as it looks on the first PC because of the need to transfer a lot of data (a bit like the quality of video images being sent over instant messaging channels). This is possible but it not the solution recommended by us to our customers. Magna proposes a totally different system of cooperation in such a situation. If an office is too small to accommodate device on all workstations, Magna recommends separating the workstations into two profiles: • PCs without peripherals are text workstations • PCs with peripherals are biometric workstations The temporary DL / ID printer can always be shared between two neighboring stations. The typical situation in ID projects is that the first time that we meet a new person we want to perform biometric registration. All the other encounters with the person can happen on a text only station. For example, a person coming to the office to renew a license, or to add a new class of vehicle, can be processed at a text only station since no biometric data collection is needed. So we would have in the office one biometric station where processes would begin. Once the biometric capture is finished the process can finish at a text workstation (not having peripherals). Magna fully supports such processes which are suspended and then renewed. The convenience comes from the fact that one operator does not need to give instructions to a person sitting in front of another stations camera, which is cumbersome. While we can implement both solutions we hope to convince the DMV In the advantages of our solution to the problem of office space.	
13	The Bidder's solution shall include ongoing support and maintenance for all workstations (computers, peripherals, cables, and power supplies), travel time and expenses, and other routine support costs.	**Yes**

Bidder Response	Our solution includes ongoing support and maintenance for all the equipment provided by us, for the term of the contract. Local IT supplier Simpleroute will provide this service to the DMV. The SuperCom team member, Simpleroute, will support these items provided that any State hardware purchased per the bid requirements includes a hardware manufacturer's warranty. Simpleroute will troubleshoot these items and, if necessary, work with any applicable hardware vendors to ensure timely resolution of issues. SuperCom assumes that the State is including hardware warranty coverage for the hardware equipment which will be purchased by it, which are part of this project. Any hardware which will be provided by us as part of this bid, as well as software, will also be supported in the manner specified.	
14	The Bidder's Signature pad hardware shall not require batteries.	**Yes**
Bidder Response	Our signature pad, the Topaz T-LBK-462-HSB-R, does not contain internal batteries and is powered from the USB cable.	
15	The Bidder shall produce cards at a secure US based manufacturing facility. Provide location of primary and secondary facility for the Card Production Services	**Yes**
Bidder Response	• SuperCom Team member, ABCorp, will manufacture the new pre-printed card stock and execute the secure DL/ID card personalization, fulfillment and mailing to the requesting applicants. All the above processes will be performed "under one roof" at the secure Card Production and Personalization Bureau of ABCorp in Boston, Massachusetts. • If a catastrophic failure happens in the card manufacture and personalization facility of ABCorp, our plans include transferring all operations from ABCorp's' main facility in Boston to our other SuperCom Team member, PASP, who can immediately perform manufacturing, personalization and shipping without any delays in the process in their secure hot facility at Vidalia, Georgia. • At the same time, ABCorp will also keep a secure stock of blank cards for 2 months' worth of DL production outside their manufacture facility so that the issue of manufacturing blank cards is never a problem for the 2 months following such calamity. In the meantime, they can transfer the Personalization activity to Team member, PASP.	

16	The Bidder shall provide an overview of security procedures for protecting card integrity.	**Yes**
Bidder Response	Our certified ISO 9001:2008 Quality Assurance and Quality Control processes involving each team member of the System Integration, at the Card Manufacturing Facility and secure Card Personalization Vault will 100% handle the base card manufacturing and personalization activities to ensure that we meet the highest design integrity and durability requirements, fully compliant with AAMVA standards, including the current AAMVA DL/ID Card Design Standard, as well as the Real ID Act requirements and other industry emerging compliance standards. This is just as we have successfully done on both our current and past contracts including the RFID-enabled U.S. Passport Cards and Border Crossing Cards with US DOS. As a trusted manufacturer of critical identification cards and documents for corporations and governments around the globe, ABCorp offers sophisticated security features, data protection, and expertise to help its customers achieve their identification needs. Their identification products and services include paper and plastic documents such as ID cards and drivers' licenses, passports, facility access cards and more. ABCorp's options for identification and secure credentials include: • ID and DL cards stock manufacturing with a selection of counterfeit-resistant security features both printed and applied, including special patented and secure inks, guilloche and rainbow printing, micro printing, laser engraving, holograms, OVD's, see through elements, tactile features and more. • Instant issuance solutions, so that customer can choose to deliver high quality and secure identification cards from within their own facility. • Optional inclusion of capturing and utilizing biometric data, such as facial imaging and fingerprints, with cameras and scanners in any location. • Unique thermos rewrite film (TRW) that allows you to change the human readable data on a card up to 500 times to reflect the card holders' most current information. • A selection of substrates, production methods and first class industry expertise to ensure that customers' identification cards are durable and tamper and counterfeit resistant. • Industry leading personalization expertise for a wide range of plastic cards, including Polycarbonate and	

	Composite cards and paper documents as well as encoding, thermal imaging of barcode, human readable data, laser numbering, embossing and more. • Secure and scalable cloud based TSM (Trusted Service Manager) to manage data for smart cards. ABCorp's personalization bureau is certified by MasterCard and Visa and employs the most advanced physical and logical back-up methods.	
17	The Bidder shall provide a minimum of 15 on-site/in person trainings.	**Yes**
Bidder Response	SuperCom's offer include Training plan of a minimum of 15 on-site/in person. Our plan is to install equipment at a site and immediately follow that with a training session to the personnel on the use of the application. Although there are 11 sites we will plan for having extra sessions of training as requested here.	
18	The Bidder shall develop and implement a training plan that specifies the approach and steps to be taken by the Bidder to ensure that the knowledge, skills and abilities necessary to operate the System are transferred to VT DMV operations.	**Yes**

Bidder Response	To ensure optimum benefit and productivity from the implementation of project deliveries, SuperCom implements a structured and planned end-to-end training and communications solution. This solution enables each group to obtain the required knowledge and skills that will deliver business value, while maximizing solution capability and minimizing training time.
	SuperCom uses a blended approach providing sufficient training and support to enable all levels of users impacted by the new system to readily transfer their existing system skills and utilize the new System. The blended approach comprises of:
	• Face to face classroom training / Hands-on Training (in the form of Train the Trainer)
	• Context sensitive training materials and documentation
	• End-user communications:
	  ○ To assist users to prepare for effectively start using the new system,
	  ○ To provide users with just-in-time information, guidance, examples, and step-by-step instructions to improve job performance.
	In developing this training plan, SuperCom has drawn on previous successes in delivering training to large complex	

organizations. The blending of delivery modes enables benefits to be realized from across all available delivery modes. An appropriate blend enables the training experience to:

- Provide the right learning environment for different learning needs, presenting the more collaborative, participant-centered aspects in a classroom and providing the more individual elements in practical training.
- Provide the greatest possible degree of learning given the constraints of the work environment and budget.

Approach

Figure 24 - Training activities

SuperCom provides a specific training plan for each project. This plan describes the training requirements, roles and responsibilities, techniques and tools, procedures, schedules and detailed curriculum. The training plan is built by experienced specialists / instructors, who specialize in training.

SuperCom provides the training materials for the training sessions. Training activities will begin only after the Client has approved the Training Plan.

SuperCom supports the "Train the Trainers" training model. A train-the-trainer model enables experienced personnel to show a less-experienced instructor how to conduct the system training. A train-the-trainer method builds a pool of competent instructors who can train the material to other trainees. Instead of having just one trainer, the organization has multiple trainers teaching the same course at the same time. The SuperCom's trainers will "Train the Trainers" and these trainers will provide training to all end-users. The training is targeted to assimilate specific skills.

Upon completion of "Train the Trainers", it is expected that the trainers will be equipped with sufficient knowledge that will allow them to teach their respective colleagues with maximum efficiency.

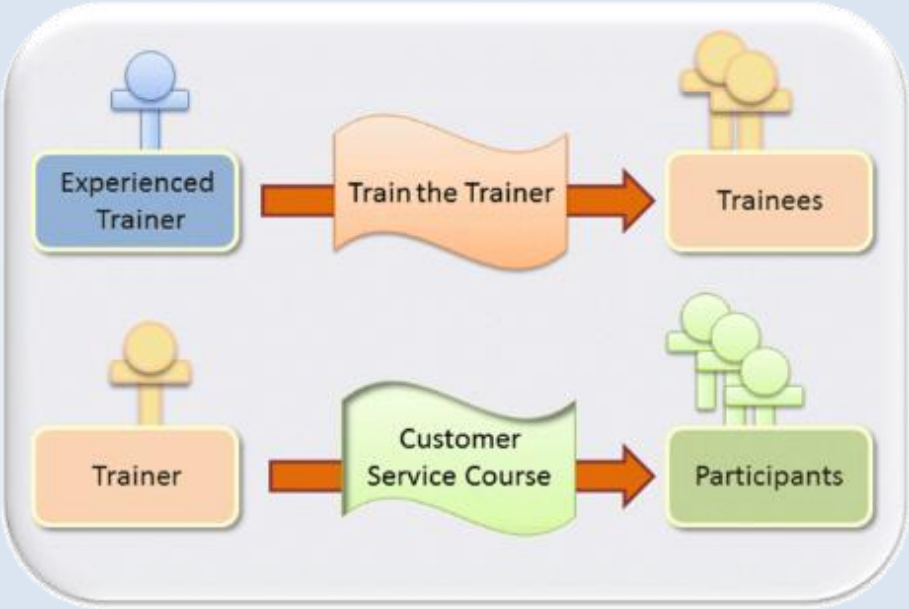


Figure 25 - Train the trainer approach

	Training Method The SuperCom's training courses are developed and conducted in accordance with well tested latest methods and include software and hardware studies. SuperCom will provide the training documentation in hard and soft copies. The training process consists of the following training methods: • Classroom / Instructor-Led Training • Hands-on Training The training program will support the following items: • Evaluation of Training • Certification upon Completion of the training program	
19	The Bidders shall provide training materials.	**Yes**
Bidder Response	Training documentation in hard and soft copies will be provided.	
20	The Bidder's solution must include all software patches and critical updates required to meet the state's functional and technical requirements above shall be included throughout the life of the contract at no additional cost, including any Bidder or third party software. All updates and patches shall be performed outside normal business hours.	**Yes**
Bidder Response	We commit to deploy throughout the life of the contract patches and updates to the application as needed. All such patches will be deployed outside office hours, and only after they have been tested and approved by DMV for distribution.	
21	The Bidder shall identify all anticipated or potential future software and hardware upgrades and describe their upgrade process, specifically addressing their deployment and installation process. The Bidder shall also identify any cost-sharing benefits or policies for upgrading.	**Yes**
Bidder Response	Typical upgrades in systems such as this one include keeping the system up-to-date with current drivers and code that was fixed to correct for any bugs in the application. Sometimes this include major updates in the OS as delivered by Microsoft. Since the application code is custom optimized for the application at hand, updates are needed when the process changes.	

	If and when SuperCom adds new features to its software that might benefit the customer, SuperCom will offer to update the application. Like always, extensive testing and maybe even some retraining of operators are needed before the new code can be deployed to production.	
22	Bidder shall be responsible for ensuring hardware and consumables are available to meet the requirements of this contract.	**Yes**
Bidder Response	SuperCom will ensure that hardware and consumables needed in the process according to the requirements of the contract are being available.	
23	The Bidder's system solution availability must be 24/7 with 99.9% uptime requirement, except for agreed upon maintenance window. Solution must provide real-time reporting and alerts of all interruptions in services and processes.	**Yes**
Bidder Response	The proposed solution has been engineered as a high availability system – no single component failure at the main site will stop the system. This includes servers, storage, network equipment (switches, firewalls, etc.). Additionally, we are providing a DR site that can take over from the main site in case of catastrophic failure of the main site. Our monitoring system provides real time alerts of interruptions in services and processes.	
24	The Bidder's solution shall be compliant with AAMVA standards (2016) see (Exhibit 1). Preferred security features include • UV fluorescent ink in security background printing • Tagged Ink • Phosphorescent Ink • Printing dynamic data elements using digital imaging technologies • Laminate, overlay or coating for surface printed data and portrait • PDF 417 Bar code (and MRZ on EDL) • Security background overlapping the portrait image area • Ghost image • Magnetic media fingerprinting • UV-A dull substrate material • Tamper evident card body • Embossed surface pattern • No CMYK colors and at least 2 special colors	**Yes**

	• Guilloche design • Micro printed text • Deliberate error into the design or microprint	
Bidder Response	Our SuperCom Team member, ABCorp, has successfully manufactured hundreds of millions DL/ID cards for over half of the US states and several Canadian provinces in compliance with AAMVA and US Federal Government Real ID Act. They proudly manufacture the RFID-enabled U.S. Passport Card/Border Crossing Card for the US Department of State. ABCorp's' certified ISO 9001:2008 Quality Assurance and Quality Control processes at the Boston Card Production and Card Personalization facility that involve each team member will handle 100% of the VT DL/EDL credential orders to ensure the highest industry level quality cards fully compliant with AAMVA/NIST/ICAO and other industry emerging standards as well as State of Vermont standards as defined in this RFP. The new Vermont DL/ID cards will be fully compliant with current AAMVA standards including the current DL/ID card design standard and will maintain compliance with the future emerging standards. Our compliance will cover all aspects of the card design and cards' physical security. It will also address DL/ID cards multiple levels security threats including cardholder's personalized data. Lastly, the current security procedures at our card production center are fully compliant with AAMVA standards and US DOS security standards. We proposed 4 options of card materials: 1. PVC card with color photo and protected with laminate on both sides. The card lifespan is about 3 years. 2. Teslin card with color photo and protected with laminate on both sides. The card life span is 7 years and one of most durable card materials in the market. The Teslin card is high resistance to flexes, cracking, high temperatures, chemical attacks and other physical attacks. 3. Composite card (PVC/PET) with color photo and protected with laminate on both sides. The card life span is 7 years and one of most durable card materials in the market. It is built as a combination of PVC and PET materials featuring high resistance to flexes, cracking, high temperatures, chemical attacks and other physical attacks which are characteristics of the PET material component and high flexibility coming from the PVC material component. 4. Polycarbonate card is one of the most durable card materials in the market with lifespan of more than 10 years.	

Our PC card is built without any coating between layers using "same material fusing" method that creates virtually an inseparable final card construction. The card is engineered with a smart combination of security features that overlap each other over different inner and outer layers as required in the current AAMVA standard.

The DL/ID and EDL/EID cards will be personalized using laser engraving technology which is one of the most secure technologies used to personalize an ID document. Laser engraving personalization fully protects card's security by permanently engraving the biographic, biometric and other dynamic data onto card's inner layer.

The table below described the proposed security features per card material and divided to card body and Personalization:

Table 3 – Proposed Security Features of Card Material

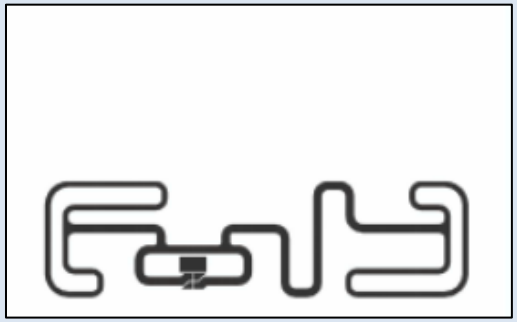
	PVC Card		Teslin Card		Composite card (PVC/PET)		Polycarbonate (PC) card	
Security Features	**Card body**	**Perso**	**Card Body**	**Perso**	**Card Body**	**Perso**	**Card Body**	**Perso**
• UV fluorescent ink in security background printing	√		√		√		√	
• Taggant Ink	√		√		√		√	
• Phosphorescent Ink	√		√		√		√	
• Printing dynamic data elements using digital imaging technologies		√		√		√		√
• Laminate, overlay or coating for surface printed data and portrait Not Required		√		√		√		**Not Required**
• PDF 417 Bar code (and MRZ on EDL)		√		√		√		√
• Security background over-lapping the portrait image area	√		√		√		√	
• Ghost image		√		√		√		√
• Magnetic media fingerprinting		√		√		√		√
• UV-A dull substrate material	√		√		√		√	
• Tamper evident card body	√		√		√		√	
• Embossed surface pattern		√		√		√		√
• No CMYK colors and at least 2 special colors	√		√		√		√	

• Guilloche design	√		√		√		√	
• Micro printed text	√		√		√		√	
• Deliberate error into the design or microprint	√		√		√		√	

***The security features relevant for DL/ID and EDL and EID cards.**

<u>EDL/EID cards</u>

Our Vermont EDL and EID cards will contain a RFID chip fully compliant with WHTI Technical Requirements. RFID functionality will be 100% (or on each and every card) tested and qualified as part of our QC process.



25	The Bidder's solution must be in compliance with federal requirements for EDL issuance, system shall incorporate address verification into the gated issuance process. Cards with invalid addresses shall be forwarded to DMV for investigation.	**Yes**
Bidder Response	VT DL/ID cards will undergo our internal ISO 9001:2008 certified quality tests. Generally, immediately following the biographic data arrival at the card production bureau, a series of automatic tests are run on the data to qualify the record for production. If any of the tests fails (e.g.: no name, invalid address, no DL record number, invalid record format, etc..) the record will be flagged and lodged in a table highlighting the non-produced credential order along with test failure status. This is then forwarded to DMV for investigation. Upon receipt of corrected data files, they are queued back into the production facility for delivery within required SLAs.	

26	The Bidder shall allocate **500 hours** per year for the purpose of system enhancements, changes to card formats etc. Unused time shall be rolled over into the following year and will expire at the end of the contract.	**Yes**
Bidder Response	Our price proposal includes allocation of 500 hours per year.	
27	The Bidder's solution shall include Dynamic Knowledge-based authentication as part of the EDL issuance process.	**Yes**
Bidder Response	As part of the initial registration of the applicant we will register the answers to a number of questions, which can later be used for identity authentication as part of knowledge-based authentication system: the applicant will have a choice of questions to use, e.g. what was the name of your first cat, what is your favorite color, best friend in kindergarten, mother's maiden name, etc. When the user later calls in he can prove his identity by demonstrating this specific knowledge.	
28	The Bidder's solution for Facial recognition software shall include: • 1:1 verification where the most recent photo taken is compared against other images stored for that specific • 1:N matching • Data storage • Data archiving • Ability to be turned off without negatively impacting operations of the other system components	**Yes**
Bidder Response	Our Facial Recognition software (FRS) powers a complete subsystem containing the functionality for running 1:1 identity verification, 1:N identification searches. The system consists of servers, storage for the images and is connected to Magna's backup hardware. The Magna logic for identity checking of new applicants will typically conduct and FRS search (1:N) to check the uniqueness of the new record, but this search can be blocked either for a specific person (undercover agents), or for the entire public. It is important to note that Magna has its own data store of images and the ABIS system has its own data store. Both are stored on the same SAN storage. We offer a Face recognition engine based on the biometric products of the company NeuroTechnology. The company is active in the biometric arena since 1990 and has major references for its products (partial list below): • Bangladesh Voter De-Duplication Project (80 Million voters de-duplicated through fingerprints and face ABIS).	

	• Indonesia Biometric Passport System (> 12 Million passports issued through fingerprints and face ABIS). • Venezuela Election System (19 Million people credentials issued through AFIS in different elections round and verified through our biometric software). • Dominican Republic National ID Number (>7 Million credentials issued through fingerprints and face ABIS). • Somaliland National ID Project (it uses fingerprints, face and iris multimodal ABIS). • El Salvador National Passport System (it uses AFIS system for issuance). • Sierra Leone Voting Registration System (2.7 Million voters records were de-duplicated using fingerprint and face ABIS). • Mexico local tax payment agency (SAT) (>3.5 Million tax payers credential issued using fingerprint, face and iris ABIS). • Bosnia and Herzegovina Biometric Passport and ID System (it uses combined credentials issued through AFIS). • Togo Voters Registration (3 Million Togolese voters registered through fingerprints and face ABIS). The proposed solution is based on MegaMatcher ABIS as main infrastructure for system administration, task managing (including prioritization), manual adjudication of suspected cases, etc. Only the aspects relating to facial recognition are relevant in this project. Other capabilities such as fingerprints and irises will not be available to Vermont DMV.

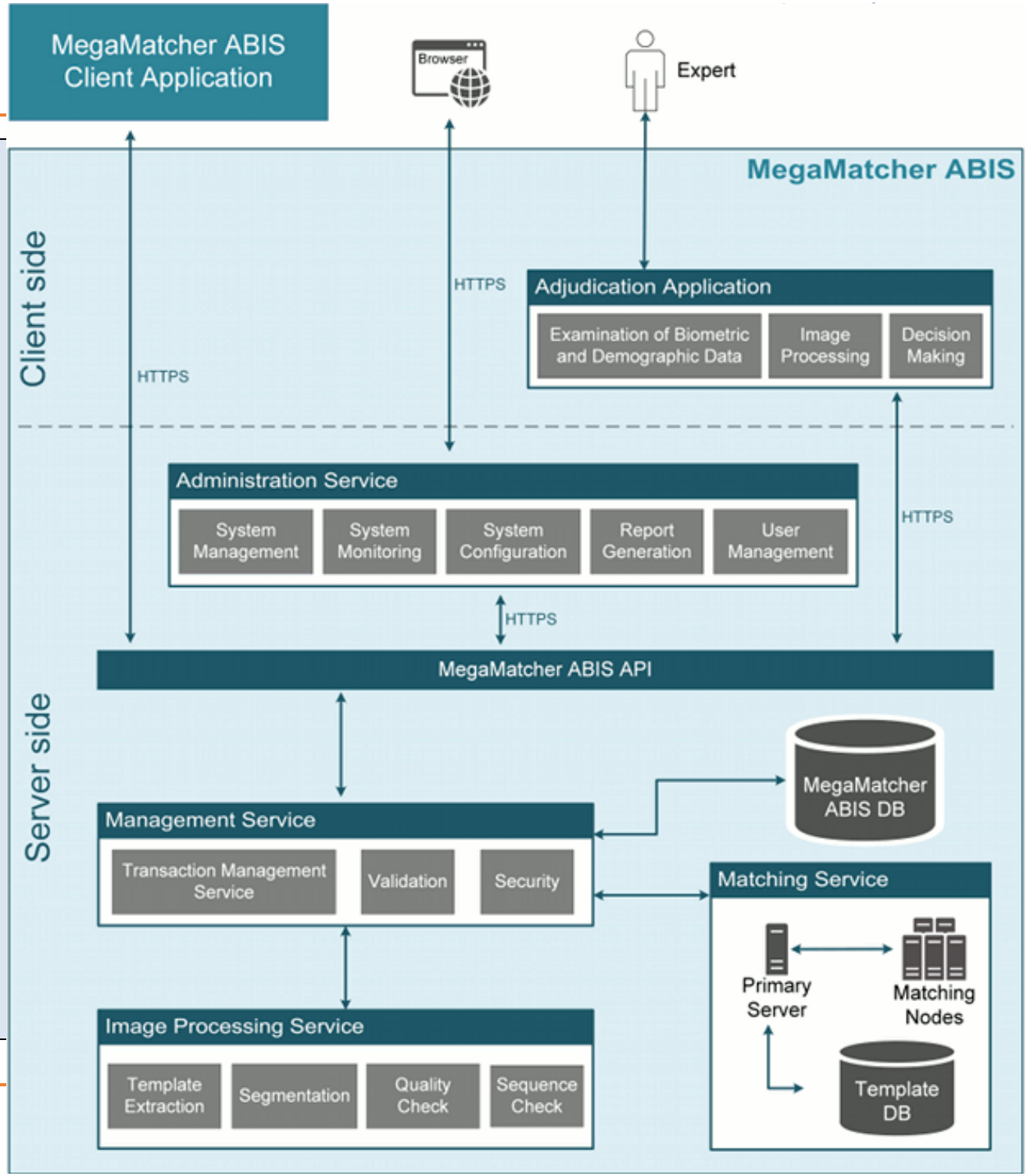


Figure 26 – MegaMatcher ABIS

	1. Management Service The Management Service is the core component of MegaMatcher ABIS. Requests for biometric services are executed via transaction mechanism and the unit is responsible for managing MegaMatcher ABIS transaction workflow. The Management Service splits a transaction into tasks and delegates them to multiple services for execution. In general, each request is being validated by the Management Service, then it is sent to the Image Processing Service for biometric template creation and to the Matching Service for biometric template matching. In case when transaction requires manual inspection, the Management Service will forward it to the Adjudication Application. These services are included with the unit: • Validation service, which ensures provided biometric data sufficiency to proceed with reliable identification or verification. • Security service, which ensures the authorized access to MegaMatcher ABIS. • Transaction Management Service for receiving, delegating and processing transactions in competitive manner. The Management Service is capable to verify an extracted biometric template against another template locally. **2. Image Processing Service** The Image Processing Service is based on MegaMatcher 10.0 biometric template extraction technology. This module is used for biometric data quality assessment and biometric data extraction from face images. These functions are performed by the Image Processing Service: • Quality check – images with faces are processed by proprietary and standard algorithms to determine their quality and suitability for further processing. • Feature extraction – biometric templates are created from the provided face images. **3. MegaMatcher ABIS API** MegaMatcher ABIS offers easy and flexible web services-based interface (SOAP and RESTful) for communication

	with MegaMatcher ABIS units, outside of MegaMatcher ABIS core, as well as external client applications. The web services cover the necessary aspects of required biometric services for biometric data storing, update, identification, verification and submission of matching results. **4. <u>Adjudication Application</u>** The Adjudication Application is designed for human experts, who examine questionable biometric matching results, which are forwarded by the Management Service, and take appropriate decisions. The questionable matching results, like non-matching templates or detected duplicate(s), are determined by defined restrictions in Administration Service. There are two groups of users named operators and supervisors. The primary role of operator is to examine the case and take appropriate decision. The supervisor may review/update/confirm decisions made by operators.

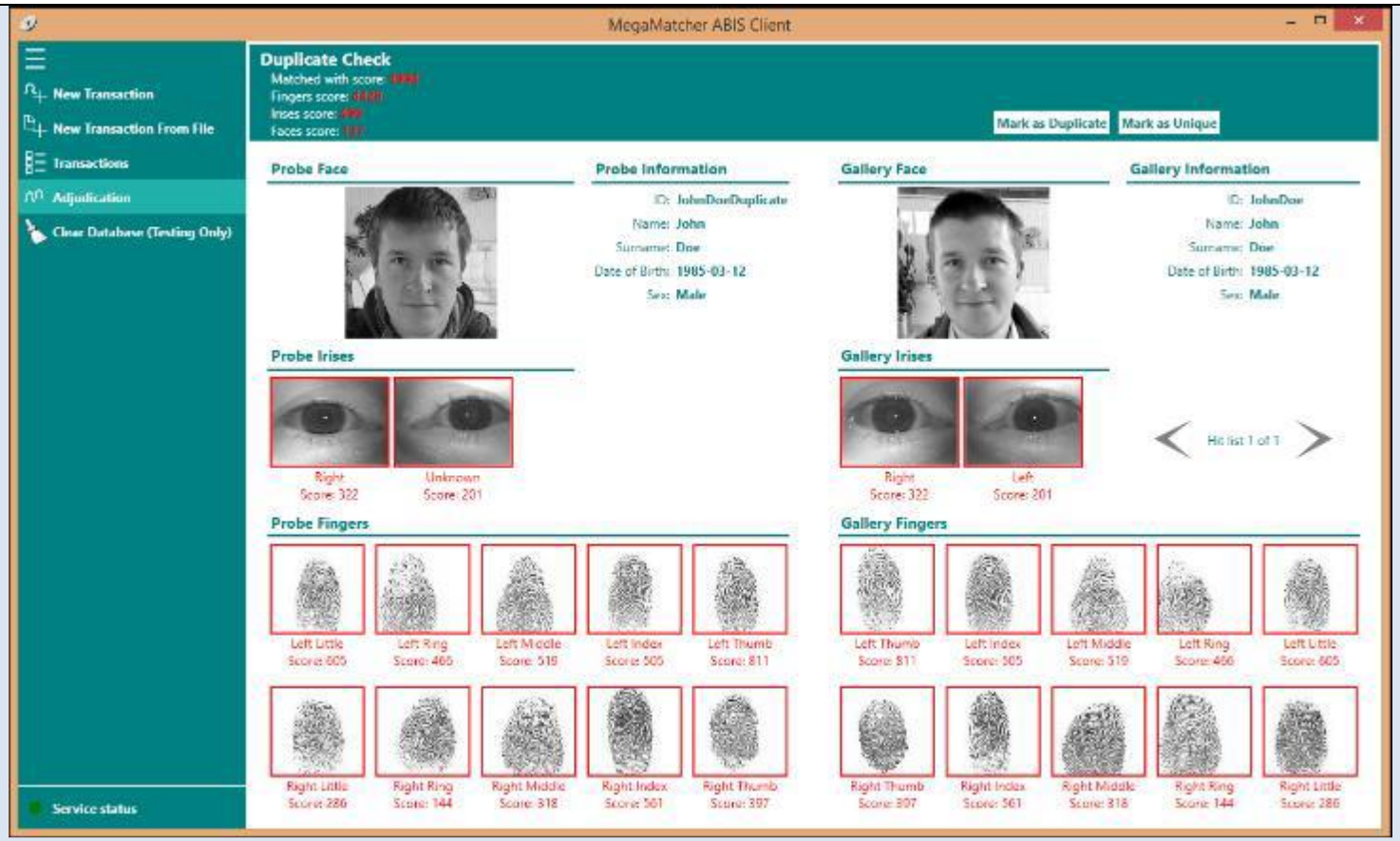


Figure 27 – MegaMatcher ABIS Client - Adjudication Application

The Adjudication Application provides visual tool for easy examination of given biometric data by providing detailed templates review:

- Face images are shown in side by side or overlapping view with the possibility to transform and enhance biometric images so that some aspects could be seen more clearly.

- Matching scores for each biometric modality.
- Matched data which is highlighted for easier inspection (such as matched minutiae are optionally connected by lines for visualization).

The Adjudication Application provides a possibility to generate examination reports in a predefined format. The Adjudication Application may run both as a stand-alone application and as a web based one.

5. <u>Administration Service</u>

The Administration Service is designed to manage and monitor MegaMatcher ABIS system using role-based access control.

The Administration Service consists of the following modules:

- System Management – provides ability to manage MegaMatcher ABIS system's state.
- System Monitoring – dedicated for visual MegaMatcher ABIS real-time execution monitoring.
- User Management – role-based user management to provide/restrict accessibility to different MegaMatcher ABIS modules.
- System Configuration – provides ability to define criteria for search engine (such as matching thresholds for identification and verification).
- Report Generation – daily and statistical reports are provided for full MegaMatcher ABIS actions inspection.

6. <u>MegaMatcher ABIS Client Application</u>

MegaMatcher ABIS Client is a stand-alone application ready to be used to demonstrate the key functionalities of MegaMatcher ABIS solution, like:

- Comprehensive multimodal enrollment
- Verification and identification processes
- Transaction and workflow management

In the Vermont DMV system this capture application will not be used for the day by day operations. The capture client will be a custom application knowledgeable of Vermont DMV application types and their data.

7. Matching Service

The Matching Service is responsible for storing biometric data in the Template Database and matching the received biometric data against the stored in the database. The service is based on MegaMatcher Accelerator 10.0 technology and is controlled by the Management Service.

MegaMatcher Accelerator Extended has the following technical capabilities:	Database limitation per server	Maximum matches per second per single server
Face	10 Million	100 Million faces per second

8. High Availability

MegaMatcher ABIS also includes high availability technology that ensures the continuity of operations, as showed in the following figure:

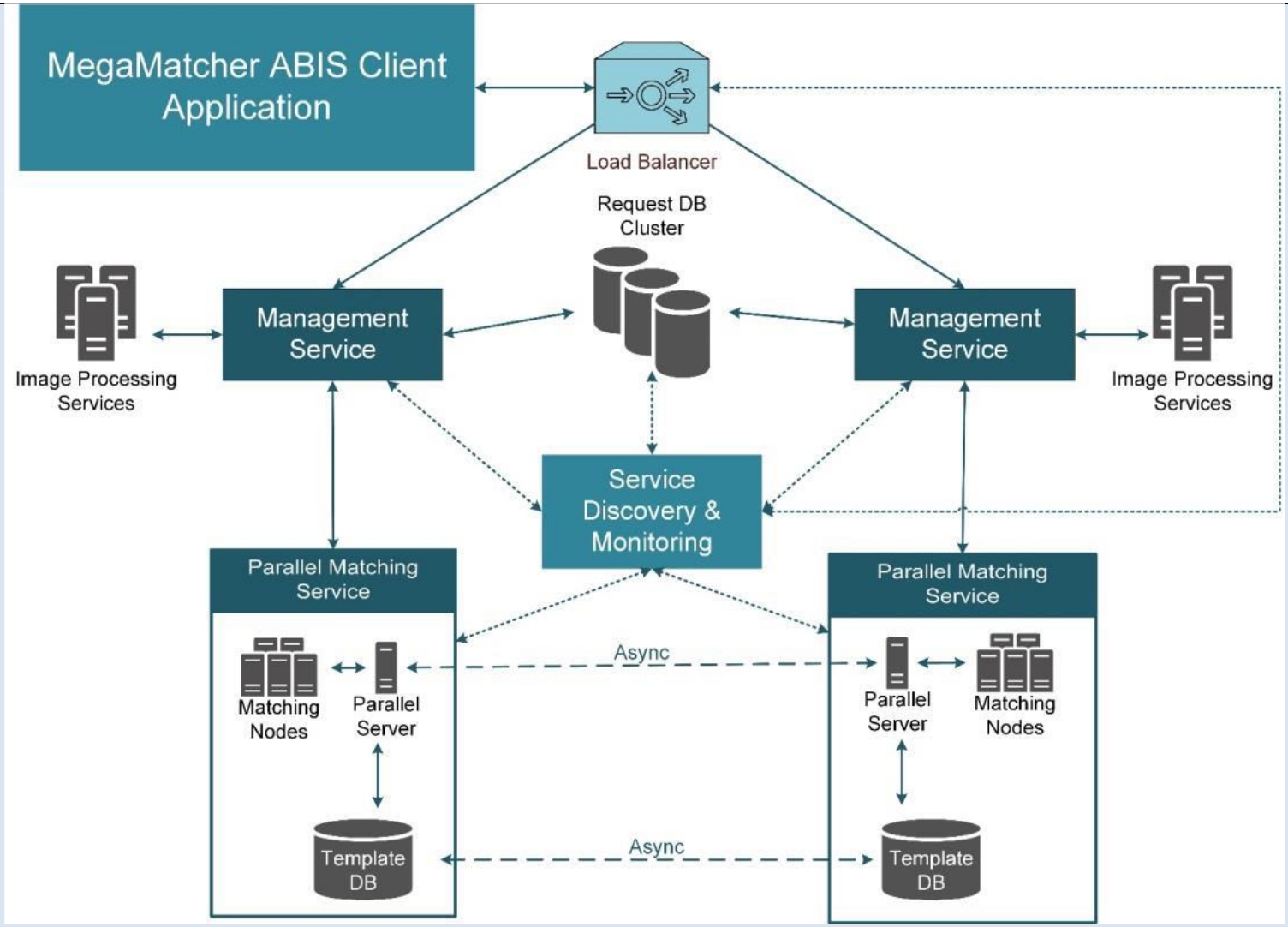


Figure 28 – High Availability Technology in MegaMatcher ABIS

Moreover MegaMatcher ABIS includes technology to ensure the consistency of concurrent transactions sent to the

	system, detecting and avoiding that the same data is not accidentally duplicated in the system even when sent within transactions processed in parallel. **9. <u>Accuracy</u>** In addition to the accuracy provided by every single biometric modality, as described in section 1.2 of this response, MegaMatcher Accelerator includes multi-biometric matching technology that is score level fusion based. In contrary to several multi-modal technologies proposed by other vendors, all the present biometric modalities are always matched in parallel during every matching task. In explicit there is no need to use techniques that prioritize one biometric modality like e.g. face matched first and later fingerprint, that would decrease the overall recognition accuracy. The provided matching results, whatever is the number and types of biometric modalities used for each single person, are expressed in logarithmic scale. A matching score indicates the probability, expressed as False Acceptance Rate, that two persons are or not are the same. Figure 29 on the next page is an example of matching score associated to correspondent FAR. Neurotechnology biometric engine is able to match automatically heterogeneous biometric data set belonging to two persons like for example one person with 2 fingerprints with unassigned position and face versus another person with 10 fingerprints with assigned position and 2 irises. The similarity result score will be represented still in the same range, making so easy to discriminate three cases: 1) The two persons are for sure the same one 2) The two persons are for sure not the same one 3) The case shall be send for manual examination to MegaMatcher ABIS Adjudication Module

FAR (false acceptance rate)	Matching threshold (score)
100 %	0
10 %	12
1 %	24
0.1 %	36
0.01 %	48
0.001 %	60
0.0001 %	72
0.00001 %	84
0.000001 %	96

Figure 29 – MegaMatcher ABIS FAR Threshold Score

It is also possible to decide, through MegaMatcher ABIS managing interface, which are the FAR values that discriminates the cases 1 - 2 - 3 above.

10. Hardware Requirements

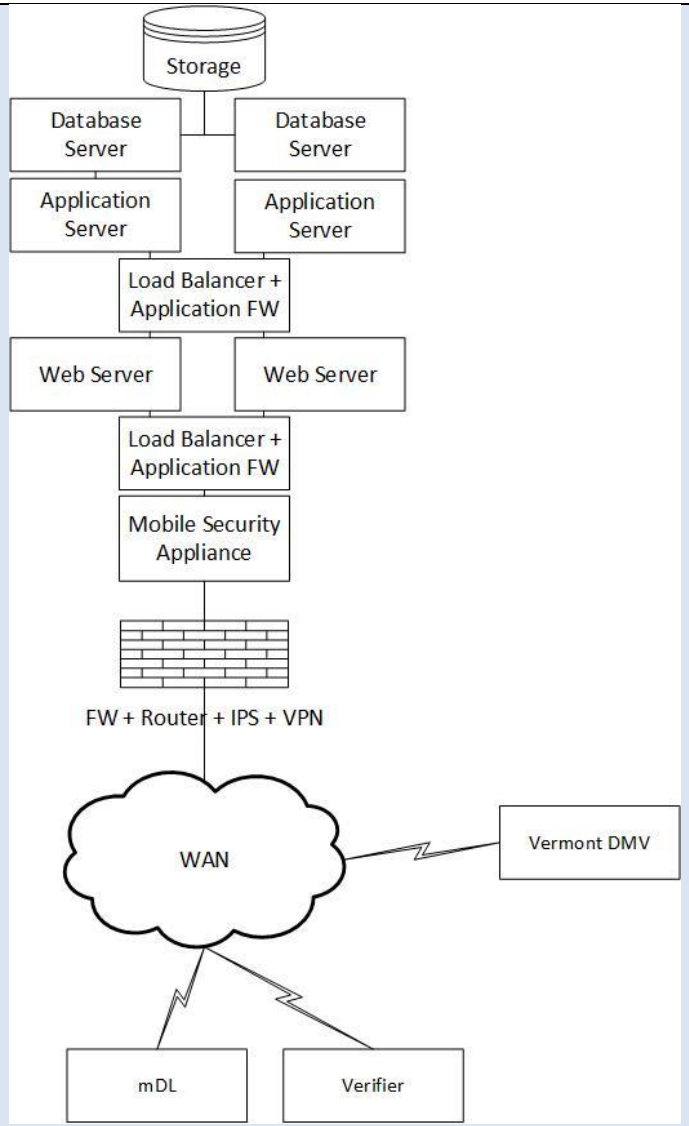
The number of physical servers required to install a configuration for 3 Million people inclusive of high availability system is 2 servers at the main site and 2 servers at the DR site, with the following minimal requirements:

HP DL360 Gen9 8SFF CTO Server:

- 2 x Intel Xeon E5-2680 v4 processor (14 cores, 35M cache, 2.4 GHz) or better;
- 64 GB RAM
- 6 x 300 GB HDD (SAS, 10,000 rpm); (hd size may change according to actual DB capacity)
- HP iLO Advanced lic;

	• HP Smart Array P440ar/2G FIO Controller; • HP 1U SFF Ball Bearing Rail Kit; • HP 500W FS Plat Ht Plg PwrSupply Kit x2. The 2 Servers are for Management Service & Matching Service & MegaMatcher and work in cluster configuration to ensure high availability.	
29	The VT DMV is interested in exploring the ability to integrate directly with State to State (S2S) to ensure compliance with Real ID requirements. Please explain how the Bidder solution shall meet these requirements.	**Yes**
Bidder Response	SuperCom shall develop a new module for interfacing the DMV's driver registry to the S2S system. The solution includes a new server (virtual or real) which will host new software having the S2S functionality. S2S includes 2 parts: 1. Vermont DMV can request information about an out-of-state driver. The incoming request (having request details, driver details and original state information) will be formatted and will be sent as a web-service call to AAMVA. 2. Vermont will deploy 2 new web services • One web-service called "Receive Response" will be called by AAMVA when there is an answer to a question previously asked by Vermont DMV (as described above). The web service returns this answer to the original asker for this information • One web service called "Accept Unsolicited Message" will be called by AAMVA whenever another state requires information about a Vermont driver. Based on the details of the required information the service will search for the driver information in the DMV mainframe. The formatted answer will be returned by calling the "Receive Response" service of the state that was interested in the Vermont driver After implementing the code for the new module, there will be an extensive testing session versus AAMVA to ensure that the solution fully complies with the specs that AAMVA developed.	

	Our initial estimate is that the entire process of creating and testing this new module will take about 1 year. Needless to say that there will be need to maintain production, testing and development environments of the hardware.	
30	The VT DMV is interest in exploring Mobile Driver's License. Please explain how the Bidder shall meet these requirements.	**Yes**
Bidder Response	SuperCom is currently developing an mDL solution based on the draft ISO 18013-5 standard for mDL. SuperCom's solution consist of 6 elements which are being developed in parallel: • Central mDL server farm and interface to Vermont DL (application, database and security servers and applications for mDL) • Mobile DL application for Android (for the driver) • Mobile DL application for iOS (for the driver) • Mobile reader application for Android (for the policeman) • Mobile reader application for iOS (for the policeman) • Fixed reader application for Windows clients Following is our Architecture for the mDL solution:	


Storage
Database Server
Database Server
Application Server
Application Server
Load Balancer + Application FW
Web Server
Web Server
Load Balancer + Application FW
Mobile Security Appliance
FW + Router + IPS + VPN
WAN
Vermont DMV
mDL
Verifier

Infrastructure

Safe Mobile is SuperCom's infrastructure platform for securing mobile devices, the applications running on them, and the data residing on them. Safe Mobile, brings a comprehensive, secure and well thought out solution for mDL issuance and usage.

For each segment we provide a library having functionality in a number of areas: the mobile trusted application, the central application, secure data connection, data verification and anti-tamper methods to protect applications and data (both static and in movement). These capabilities are delivered with a detailed SDK enabling the application developer to choose the functionality needed for his specific application.

In order to simplify Mobile application development, Safe Mobile offers a critical cyber security framework used on the client (through SDK) and backend components (through a gateway), registration services and certification authority. Our unique approach takes a holistic view of mobile application protection and is designed to protect the mobile application, the data transport layer and the backend server. The framework is completely transparent to the backend service while providing lean integration through the means of a simple API on the client.

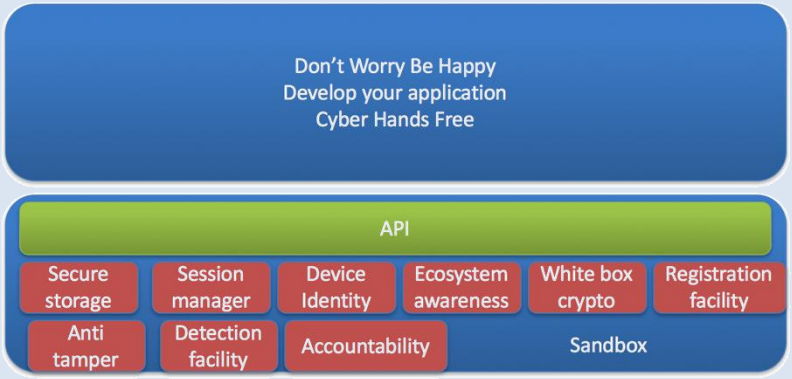


Figure 30 - Client architecture

SuperCom's backend services provide a set of API's designed to be integrated with the backend mobile server services.

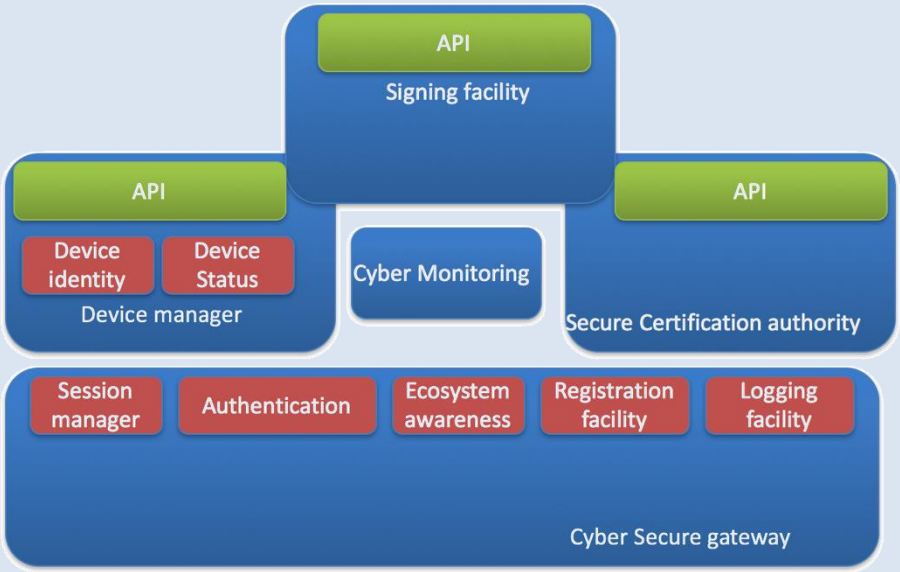


Figure 31 - Back server components

Mobile Application

SuperCom's solution consists of an application loaded by the license holder onto their mobile device (iOS or Android based). When the application is loaded it can connect to the mDL servers using a special token (string of characters) that was provided to the license holder in the form of a QR barcode while registering for mDL service. It is assumed that the DL system of the customer will feed the needed DL information of the applicant to the mDL servers when the applicant chooses to enroll for the mDL service.

The data is loaded using our highly secure framework which covers the mobile trusted application, the central application, secure data connection, data verification and anti-tamper methods to protect applications and data (both static and in movement).

Once a secure connection is established a full record set of the license data is transferred to the smartphone. The

	application uses this information together with the preset graphic background to display the same details as the front and back of the DL. The application will display cyclically the front of the DL card, the back of the DL card and a large size photo of the owner, based on the received data set. The mDL application is downloadable by every smartphone owner, but it will only work if specific conditions are met: • The device must not have been rooted / jailbroken. • The owner presents a token (a key string) that was given to him by the MVC in the process of applying for mDL in order to activate the mDL solution. Upon this first connection the device will undergo registration and "fingerprinting". Its profile will be maintained in the center in a secure fashion. We call this process "binding" of device and user to account. The mDL application will demand a password / PIN from the mDL owner to be active. The mDL application will also request permission of the driver to "publish" its data. The driver can use the application to submit requests of information update (like address) to the central DL system of the customer. If the request is processed and approved there, it will be percolated to the mDL system and from there to the mDL device. Updates are made through our data verification process, all data and application modules are signed. We do not recommend that such updates be performed inside the mDL system since the business logic for approving the update is part of the regular DL system. Based on user defined policy, any application uninstallation can trigger a full deletion of any user data. This deletion of data is full and includes secure deletion of any involved files and data erasure. We will keep in the central system record of the uninstalled device for audit purposes. When a new device is needed or major changes happen to the phone (such as a change of SIM) we will undergo a process of deactivating the old device and activation of the new device. This activation of the new device is a full process whereby the device is registered in the center, fingerprinted and then the relevant user data is downloaded to

	the device. This process is identical to the process that the old device had undergone when it originally came into use. **<u>Verification</u>** Verification of the card is done via a verifier device. The typical verifier will be a smartphone that has installed our "Verifier" application. We recommend that the verifier is online, as an online verification tool offers greater capabilities than an offline solution. In an offline mDL scenario, the verifier can only connect directly to the mDL. In this scenario the mDL application will show the document image, and will enable the verifier to read electronically (via 2D barcode) the DL number and a signed hash of the data found in the mDL document. This signed hash is identical to the SoD object of an ISO 18013 compliant electronic DL. The verifier can use the DL number to connect to the central mDL server and retrieve the authentic record of the driver. If the mDL is online (having a data connection) then the verifier reads a one-time password from the mDL screen and uses it to ask the mDL for the data record. The entire process is protected by our mobile security infrastructure, integrated both on the mobile device and the backend serving application. SafeMobile SDK supports NFC/Bluetooth payload encryption and authentication based on device certificate for authentication and AES 256 key for encryption, based on TLS 1.2. Both keys will be protected on the device using Whitebox Cryptography technology. License check process suggestion: 1. Officer will use a dedicated app powered by SafeMobile, will initiate a checker function. The function will be based on a listener using Bluetooth/NFC. 2. The officer will ask the citizen to activate the ID authentication function on his mobile application, which will require the user to enable Bluetooth or NFC from the mobile device. 3. The ID authentication function will initiate a connection from the citizen's mDL application.

	4. A connection initiation process will start, based on mutual authentication between the two devices using device certificates, encrypted with AES 256 based on TLS 1.2. 5. The citizen device will send the mobile driving license details signed and encrypted with the citizen device's private key. 6. The officer app will decrypt and validate the integrity of the ID using the citizen's public key. *note – both devices will be cached with a Certificate Revocation List (CRL) information and will check the certificate of the other device for authenticity. Verification can be done without touching the user's mobile device. Typically the mDL would be displayed on the user's device together with a representative barcode. The verifier can read the barcode from a convenient distance of 4 – 10 inches and use that information to access the mDL (on-line mDL scenario) or the central MVC database (off-line mLD scenario). If everything is off-line (including the verifier), and the verifier wants to see the actual images on the smart phone, this might be a small challenge when the officer is outside the car and the driver inside the car. Our product provides high level of visual and wireless secure connectivity using various media channels, protected by our mobile secure platform. SuperCom can enable wireless transmission between the mDL and the verifier over channels such as WiFi, NFC, or others, as available. **Central System** The mDL solution contains a central mDL server that receives up-to-date data from the main DL system of the customer: the central driver database. This copy will contain a select number of fields as established necessary for the verification function. Examples of fields that need not be shared: home address of driver, payments details, history of transactions with the MVC, etc. Data will be pushed by the DL system on a record by record basis, whenever an additional driver chooses to enroll to mDL. The central mDL server can be hosted by SuperCom on suitably secured infrastructure or as this RFP demands at an external hosting supplier.

	Cryptography The mDL solution utilizes heavy duty data encryption: AES 256 for symmetric encryption and RSA 2048 for asymmetric encryption. Fixed data blocks are signed with SHA-256 to prevent unauthorized changes. Additional protection can be detailed later on. SuperCom's SafeMobile SDK for mobile applications helps keep data encrypted and secure on the mDL. Additionally, all the channels communicating with the mDL are encrypted and authenticated. Encryption utilizes white box crypto foundation both on the mobile device and the backend application. White box cryptography is responsible for protecting keys and crypto functions life cycle usage on the mobile devices.	
31	The Bidder's System's error messages will be expressed in plain language, precisely indicate the problem, and constructively suggest a solution.	**Yes**
Bidder Response	Magna always provides error messages in a clear language, pointing to the next steps to be taken for finding a solution. The messages will be customized to the liking of the DMV during the design phase of the system.	
32	The Bidder's System will alert the User with information relevant to required next steps.	**Yes**
Bidder Response	Magna presents during the registration process a wizard-like status panel showing the user the success in process and presenting the next step of the process to be performed.	
33	The Bidder's System will provide drop down and list boxes for all key entry, and text entry will display existing values for selection (system based auto fill) (but specifically disallow User browser based autofill).	**Yes**
Bidder Response	Magna uses drop-down boxes and list boxes for all fields having a pre-defined dictionary of values. The data entry screen offer system based auto fill of such fields. Such autofill is disconnected from the browser.	
34	The Bidder's System will accommodate point and click selection and check box entry for all relevant data entries to ensure that the User does not have to enter textual data that may already be available to the Bidder's System.	**Yes**
Bidder Response	Magna will prefill application forms with information about the applicant that was retrieved from the mainframe database or Magna database.	
35	The Bidder's System will provide field level on-screen edits with limited User override capabilities.	**Yes**

Bidder Response	Even on such field that have been retrieved from the mainframe the user has limited rights to perform corrections on some fields.	
36	The Bidder's System will not show fields not accessible to a given User based on access rights, member consent, nor will the Bidder's System show fields not in use.	**Yes**
Bidder Response	Magna uses the user's rights and permissions to determine which menus, functional buttons and tabs of data will be displayed to the user. All the blocked information is blocked.	
37	The Bidder's System cursor will automatically advance to the next logical input field when the maximum allowed numbers of characters have been entered for the keyed field or when the User presses the "Enter" or "Tab" key.	**Yes**
Bidder Response	Magna recognizes fields having a fixed format (template) and will skip to the next field when the current field is complete, or when <tab> or <Enter> buttons have been pressed.	
38	The Bidder's System will provide validation checks at the time of each field entry as the default mechanism.	**Yes**
Bidder Response	Magna performs checks of the content of a field against its prescribed format as the user exists out of that field. Errors in format are noted and displayed to the user, together with putting a red band around the field for marking it as defective.	
39	The Bidder's System will identify invalid entries to the User as immediately as possible.	**Yes**
Bidder Response	Magna performs checks of the content of a field against its prescribed format as the user exists out of that field. Errors in format are noted and displayed to the user, together with putting a red band around the field for marking it as defective.	
40	The Bidder's System will be designed to include only the necessary information and functionality on screens and will be based on the User's access level and the User's configuration.	**Yes**
Bidder Response	Magna has a full system of roles and permissions. When a new user is defined in Magna, one or more roles are assigned to the user. Each role carries with it a set of permissions.	

	When a user log in to Magna, his permissions are calculated by Magna (the authorization phase), and accordingly Magna filters the display that will be presented to the user. Magna uses permissions to decide if specific menus, functional buttons, shortcuts and information tabs are visible or not for the user. The information is being pre-arranged into tabs according to permission profiles during the design phase. Users will not see information tabs that they are not permitted to see. There is a minimum of information, the basic identifying information that is visible to all users: Name, date of birth, gender, identifying document (ID card number or passport number), photo, and signature.	
41	The Bidder's System will provide templates for data entry with identified mandatory and optional data fields.	**Yes**
Bidder Response	All our data entry forms recognize the subject of mandatory fields (these can be text fields or graphic fields) and contain clear markings of all such fields to help the operator concentrate on those. Should the user try to submit a form missing mandatory information, the system will warn about the problem, mark the relevant fields that need to be completed before the form can be submitted. BTW, there is no problem to save such a form in its "not yet ready" form, it is just not submitted as a finished form.	
42	The Bidder's System will allow incomplete data sets to be saved for completion of the workflow at a later time.	**Yes**
Bidder Response	As we just explained in previous paragraph, Magna enables the user to save a partially completed form. Even if the process of data entry were to stop suddenly, it could be renewed from the last "save" point. The save operation does not check the compliance of the information to business rules, that is only done when a form is submitted.	
43	The Bidder's System will highlight and flag required and incomplete data fields.	**Yes**
Bidder Response	All our data entry forms recognize the subject of mandatory fields (these can be text fields or graphic fields) and contain clear markings of all such fields to help the operator concentrate on those. Should the user try to submit a form missing mandatory information, the system will warn about the problem, mark the relevant fields that need to be completed before the form can be submitted. BTW, there is no problem to save such a form in its "not yet ready" form, it is just not submitted as a finished form.	

44	The Bidder's System will allow for the request of or entry of data from external devices (e.g. tablets, signature pads).	**Yes**
Bidder Response	Magna's data capture software recognizes devices such as signature pads, cameras, document scanners and will accept entry of data from there. Our signature pad, for example, enables not only entry of signatures, but also marking of user choices in check boxes. Our software enables the operator to attach supporting documents to an application either by connecting to a scanner to scan said supporting documents, or by uploading a file containing the scanned information.	
45	The Bidder's System will maintain a record (e.g. audit trail) of all additions, changes and deletions made to data in the system. This should be readily searchable by user ID or member ID. This must include, but is not limited to: a) User ID of the person who made the change, b) date and time of the change, c) Physical, software/hardware and/or network location of the person while making the change, d) Information that was changed, e) Outcome of the event, f) Data before and after it was changed, and g) Which screens were accessed and used.	**Yes**
Bidder Response	Magna maintains full logs of all the operations made on the system. Each operation that changes the database is being logged together with the relevant data record, information about the operator, and workstation, and time / date stamp. This information is kept in database tables and is easily searchable. Magna considers the logs as the equivalent of system's history. You could select to view the history of a person (history of applications, of an application (history of changes and approvals of the application), of a document (the lifecycle of that document up until now). Magna also maintains logs of management operations, like additions of new users, assignment of roles, rights and permissions, investigation operations and decision, and such. Magna has a separate option to log also "passive" operation such as searches for data, display of information, browsing through logs and files.	
46	The Bidder's System will allow an authorized administrator to request the inclusion or exclusion of auditable events based on organizational policy & operating requirements/limits.	**Yes**
Bidder Response	Magna will enable an authorized administrator to select from a list the events that should be logged and those that should not. This operation in itself is a logged activity.	

47	The Bidder's System will be able to detect security-relevant events (as defined in NIST 800-53 moderate baseline, rev 4) that it mediates and generate audit records for them. At a minimum the events will include, but not be limited to: a) Start/stop b) User login/logout c) Session timeout d) Account lockout e) Member record created/viewed/updated/deleted f) Scheduling g) Query h) Order I) Node-authentication failure j) Signature created/validated k) Personally Identifiable Information (PII) export l) PII import m) Security administration events n) Backup and restore o) Audit Event Types listed in IRS 1075.	**Yes**
Bidder Response	The proposed system fully logs all user activity, and creates events accordingly including Security events for the proposed system. Infrastructure events – Operating system, Files, Database events will be logged according to the audit policy in the organization and the server hardening policy. Following are IRS 1075 events. These events are being tracked either by our application or by the operating system event logs. If the event is visible to Magna, then it will be available in the Magna logs. Some events, like login/logout to the operating system are only available through the OS event logs. 1. Log onto system 2. Log off of system 3. Change of password 4. All system administrator commands, while logged on as system administrator 5. Switching accounts or running privileged actions from another account, (e.g., Linux/Unix SU or Windows RUNAS) 6. Creation or modification of super-user groups 7. Subset of security administrator commands, while logged on in the security administrator role 8. Subset of system administrator commands, while logged on in the user role 9. Clearing of the audit log file 10. Startup and shutdown of audit functions	

	11. Use of identification and authentication mechanisms (e.g., user ID and password) 12. Change of file or user permissions or privileges (e.g., use of suid/guid, chown, su) 13. Remote access outside of the corporate network communication channels (e.g., modems, dedicated VPN) and all dial-in access to the system 14. Changes made to an application or database by a batch file 15. Application-critical record changes 16. Changes to database or application records, where the application has been bypassed to produce the change (via a file or other database utility) 17. All system and data interactions concerning FTI 18. Additional platform-specific events, as defined in SCSEMs located on the Office of Safeguards website	
48	The Bidder's System will provide authorized administrators with the capability to read all audit information from the audit records in the following two ways: 1) The Bidder's System will provide the audit records in a manner suitable for the User to interpret the information. The Bidder's System will provide the capability to generate reports based on ranges of System date and time that audit records were collected. 2) The Bidder's System will be able to export logs into text format in such a manner as to allow correlation based on time (e.g. Coordinated Universal Time [UTC] synchronization).	**Yes**
Bidder Response	Magna contains tools for presenting the systems logs to administrators for analysis. A properly permitted administrator can search information in the logs filtering by date/time, operator identity, site, involved driver. The resulting information can be browsed on screen, exported to a CSV, PDF file, or printed. The reporting tool Crystal Reports can be used to generate ad-hoc reports based on this data.	
49	The Bidder's System will be able to perform time synchronization using NTP/SNTP, and use this synchronized time in all security records of time.	**Yes**
Bidder Response	Synchronization of servers to NTP/SNTP is a standard function of Windows servers and clients and we will enable it accordingly.	

50	The Bidder's System will prohibit all Users read access to the audit records, except those Users that have been granted explicit read access.	**Yes**
Bidder Response	The access to the system logs will be limited as required, to application administrators, or application monitoring users.	
51	The Bidder's System will protect the stored audit records from unauthorized deletion.	**Yes**
Bidder Response	The audit records will be protected from unauthorized deletion. Only Database administrator will have write access to the logs in the DB. In addition, the logs tables will be backed up and recovered in case of an accidental deletion.	
52	The Bidder's System will prevent modifications to the audit records.	**Yes**
Bidder Response	The audit records will be protected from unauthorized access and modifications. Only Database administrator will have write access to the logs in the DB. In addition, the logs tables will be backed up and recovered in case of an accidental deletion or modification.	
53	The Bidder's System will be architected with no single point of failure, supporting a high-availability enterprise.	**Yes**
Bidder Response	The proposed architecture contains no single point of failure and is thus a high availability tool. Furthermore, even if the system fails over to the disaster recovery site, even that site is fully redundant and highly available. This includes clustering of application servers, database servers, RAID storage, duplicate switches and firewalls.	
54	The Bidder's System must be built so that there is a near linear relationship between each additional server added, and the additional load that can be accommodated (load vs. capacity added), up to specified limit.	**Yes**
Bidder Response	The .NET enterprise architecture enables addition of resources, both vertically and horizontally to enable applications to scale. The increase in performance is quite linear, as few resources are spent on managing the environment.	
55	The Bidder's System will use fully redundant network and hardware. Hardware components (such as processor and memory) should have built-in redundancy to allow a second component to take over in the event of a failure in the primary component. Similarly, redundant paths should also exist for networks.	**Yes**
Bidder Response	Indeed, as explained above this is our architecture that has full duplicity of components. See the diagram on the next page.	

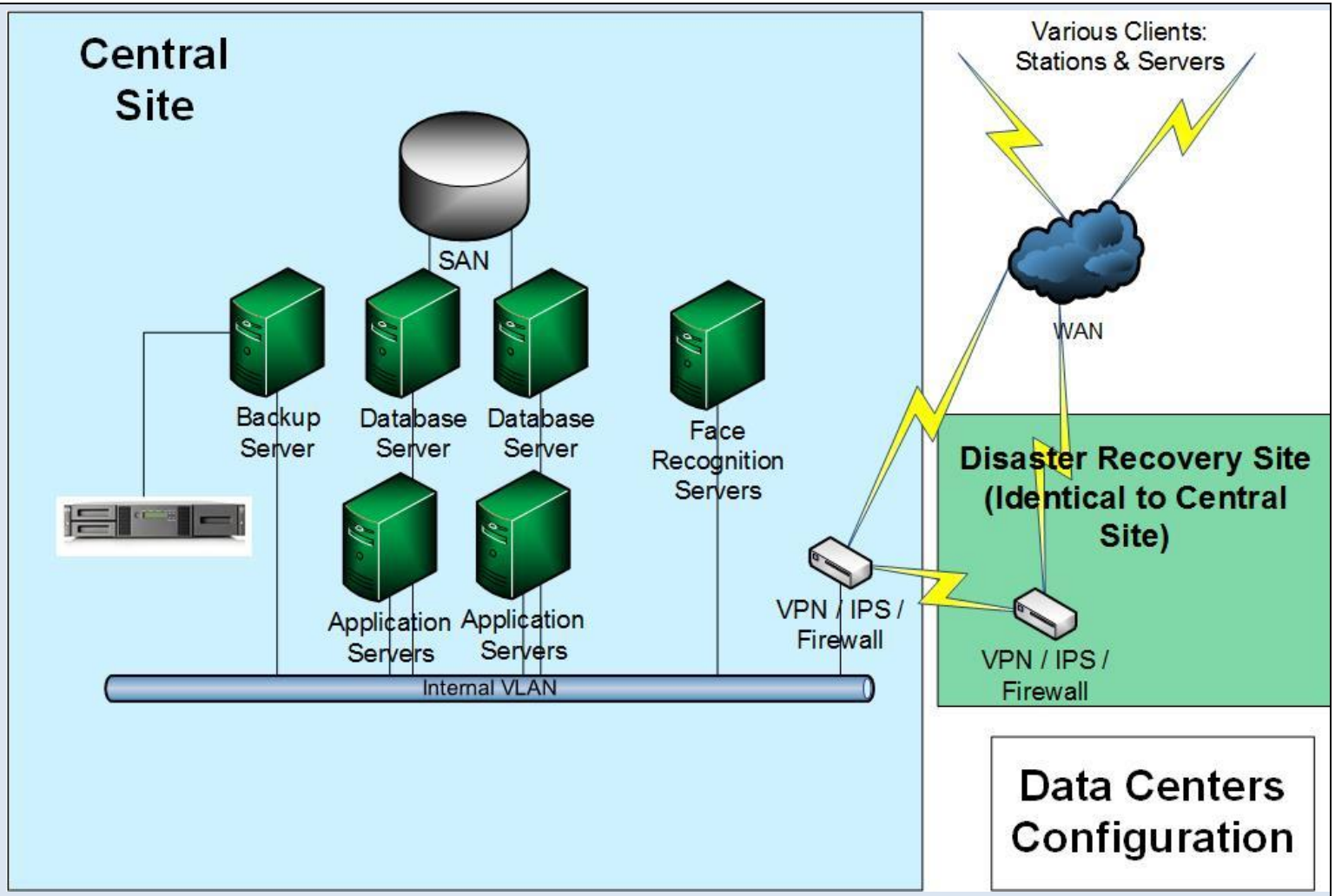


Figure 32 – SuperCom's Solution Architecture With Full Redundancy

	The face recognition servers are also supplied as a pair for clustering reasons, since a single server is also an overkill for the workload. While not shown in the above diagram, also the firewalls, switches, power supplies and other equipment are in duplicates. All equipment should be powered from dual separate sources: one backed by UPS and one directly from the power network.	
56	The Bidder's System will leverage virtualization to expedite disaster recovery. Virtualization enables system owners to quickly reconfigure system platforms without having to acquire additional hardware.	**Yes**
Bidder Response	Our disaster recovery strategy includes duplicate computing and communication resources, having a copy of the main database maintained to be a perfect replica. Log shipping ensures that the two database are no further away from each other than a redo log file. Log files are received to the DR Site and immediately applied to the standby database. If DMV prefers to acquire such DR servers as a last minute transaction, at a minimum the database must be replicated. The response time of bringing up such a server array and installing it depends on the hosting supplier and other factors. We recommend having a live DR environment, which can be tested and ready, and not a virtual one, but we are able to work with any such option.	
57	The Bidder's System will have the ability to support either a Production and hot (real time replication) disaster recovery design or a multi host site Production design that would allow one site to seamlessly be offline and the other site would maintain service without interruption.	**Yes**
Bidder Response	SuperCom's disaster recovery system will be switched on automatically if the main site fails. At each step of our disaster recovery process, SuperCom's customer care manager and Office of Information Technology (OIT) will provide update notifications to the PM. Figure 33 below depicts our disaster activation and recovery process flow, which is reflected in the Business Continuity Plan part of our Project Management Plan.	

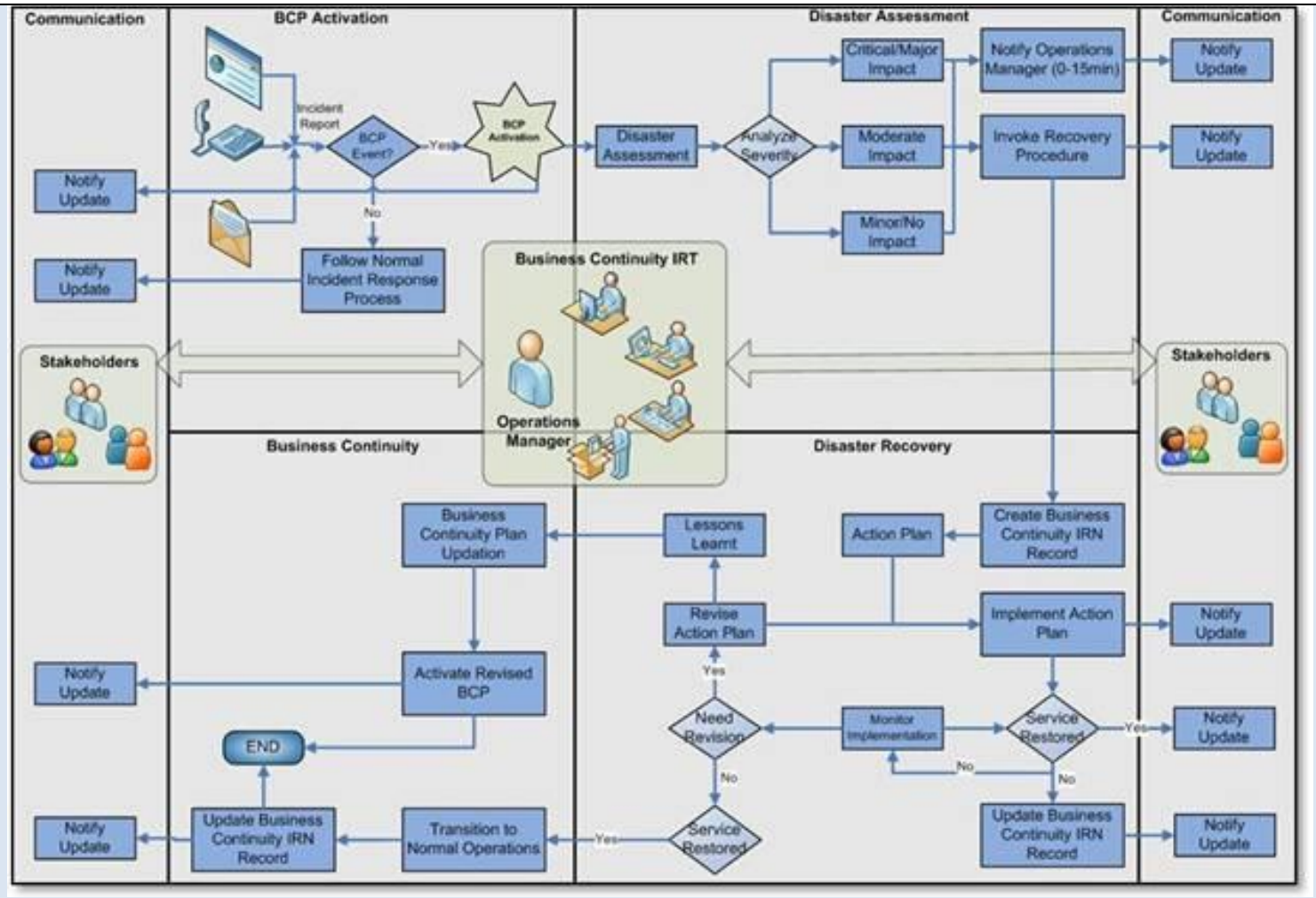


Figure 33 – Disaster Activation and Recovery Process Flow

In the event of any disaster in AB Corp's main facility in Boston, MA, we will use the secure hot facility of our other member, PASP in Vidalia, GA. At the same time, we will have time to shift production to AB Corp Card Production Center in Ontario, Canada. This facility has full capability and capacity for card stock manufacturing, fulfillment and

	mailing of the new VT DL/ID cards. AB Corp Canada produces secure ID's and Financial card credentials for North American government and private entities. AB Corp Canada facility is Level B Protected Canadian Government Security certified as well as ISO 9001-2008 certified.	
58	The Bidder's System will include a disaster recovery plan and provide contingency plans for State lookup capabilities and online collaboration in the event of a disaster.	**Yes**
Bidder Response	Understood and explained above.	
59	The Bidder's System will provide the ability to perform archival/incremental backups and the ability to perform open/closed database backups.	**Yes**
Bidder Response	The proposed system has a backup library and backup software, which has the capability to make full and incremental backups. The database will first be backed up to disk media in the backup server, and then from disk to tape. The advantage is that recovering from yesterday's database is as simple as restoring a file from disk, which is much faster than restoring from tape.	
60	The Bidder's System will provide tools for managing an environment that supports both high availability and disaster recovery.	**Yes**
Bidder Response	We will provide tools for managing the high availability environment: the VMware software has monitoring tools for managing the high availability. Disaster recovery management is also managed with tools which verify the distribution of data and application of updates.	
61	The Bidder's System will include the capability to maintain all data according to state defined records retention guidelines (i.e. record schedule). General schedules can be found at: http://vermont-archives.org/records/schedules/general/. Specific retention disposition orders can be found at: http://vermont-archives.org/records/schedules/orders/. In general, document retentions range from 3 to 10 years.	**Yes**
Bidder Response	Understood and accepted.	
62	The Bidder's System will include the capability to maintain all images and electronic documents according to state defined document retention guidelines (i.e. record schedule). General schedules can be found at: http://vermont-archives.org/records/schedules/general/. Specific retention disposition orders can be found at:	**Yes**

	http://vermont-archives.org/records/schedules/orders/. In general, document retentions range from 3 to 10 years.	
Bidder Response	Understood and accepted.	
63	All software developed and delivered by The Bidder must be free of viruses, malware, backdoors	**Yes**
Bidder Response	Understood and accepted.	
64	The service provider must resolve Severe (defined as those issues or defects which completely prevent users from processing drivers licenses/identification cards) requests within 4 clock hours.	**Yes**
Bidder Response	The SLA provided in Attachment 8 meets this requirement. Failover capabilities to the DR site will allow us to meet this requirement. Our bid includes monitoring services on servers and capture computers which will ensure timely response to critical outages and swift failover to DR hardware as necessary. These software pieces function not just to check system health or measure SLA but to provide immediate notice in the event of an outage so that remediation efforts can begin swiftly.	
65	The Bidder must resolve high priority defects within an average of 1 (one) days, but no more than a maximum of 3 (three) days.	**Yes**
Bidder Response	The SLA provided in Attachment 8 meets this requirement. These timelines are reasonable and attainable.	
66	The Bidder must resolve medium priority defects within an average of 4 (four) days, but no more than a maximum of 7 (seven) business days.	**Yes**
Bidder Response	The SLA provided in Attachment 8 meets this requirement. These timelines are reasonable and attainable.	
67	The Bidder must resolve low priority defects or request within an average of 10 (ten) days, but no more than a maximum of 14 (fourteen) days, unless mutually agreed upon.	**Yes**
Bidder Response	The SLA provided in Attachment 8 meets this requirement. These timelines are reasonable and attainable.	
68	The Bidders system shall be capable of integrating with active directory.	**Yes**

Bidder Response	Understood and accepted. Magna is integrated to AD in its default configuration.	
69	The Bidder's System will authenticate Users before allowing access to functionality requiring a login	**Yes**
Bidder Response	Magna implements a form of single sign on. User authentication is done by Windows at Ctrl-Alt-Del prompt. In the authorization step, Magna takes the current user's name and checks permissions for this user in Magna's central database.	
70	The Bidder's System will provide a mechanism to limit access to view/update information, based on User role, access rights, member consent, and program rules.	**Yes**
Bidder Response	Magna implements this. Based on user's assigned roles and permissions Magna will decide which menus, functional buttons, shortcuts and data tabs will be visible to the user. A user will not have the option to access such functionality as is outside his authorization.	
71	The Bidder's System's interfaces will secure and protect the data and the associated infrastructure from a confidentiality, integrity and availability perspective.	**Yes**
Bidder Response	Data confidentiality and integrity is protected in a number of ways: encryption of data on disk (Bitlocker), encryption of data found in movement (HTTPS protocol and PGP/GPG encryption of print jobs., encryption of channels (VPN), and encryption of Oracle client server channel.	
72	The Bidder's System will provide the functionality that provides reliability for applications, services or message flows: ' Load balancing ' High availability ' Fault tolerance ' Failover ' In-order delivery ' Transaction support ' Execution prioritization ' Message prioritization. Tests for High Availability and Failover must be completed prior to the release to UAT.	**Yes**
Bidder Response	All these features exist in Magna and will be deployed as part of the implemented system.	
73	The Bidder's System will have the ability to use standards-based communication protocols, such as TCP/IP, HTTP, HTTP/S and SMTP. 'Protocol bridging: The ability to convert between the protocol native to the messaging platform and other protocols, such as Remote Method Invocation (RMI), IIOP and .NET remoting.	**Yes**
Bidder	Magna has all these capabilities by virtue of the technologies that Windows and the .NET framework bring to the	

Response	table.	
74	The Bidder's System will seamlessly work with the technology and programs that act as glue, transforming among protocols, connecting to databases and linking pre-SOA Application Programming Interfaces (APIs) to the SOA backplane.	**Yes**
Bidder Response	Magna has been built from the ground up as a SOA application and it uses web-services everywhere in the system. When interfacing to older systems Magna can use more "classical" interfaces (APIs).	
75	The Bidder's System will comply with all applicable State security policies and adhere to all legal, statutory, and regulatory requirements, as determined by Vermont leadership. See also standards mentioned in State of Vermont IT Attachment D.	**Yes**
Bidder Response	Our System will comply with all applicable State security policies and adhere to all legal, statutory, and regulatory requirements, as determined by Vermont leadership.	
76	The Bidder's System will implement security controls in accordance with all Federal and State security policy and regulations.	**Yes**
Bidder Response	Agreed, understood and will comply.	
77	The Bidder will adhere to the principle of "Fail Safe" to ensure that a system in a failed state does not reveal any sensitive information or leave any access controls open for attacks.	**Yes**
Bidder Response	The system is developed according to OWASP guidelines, and tested periodically to identify security vulnerabilities. The system will be protected with several security layers to provide defense in depth, and protect from sensitive information disclosure or unauthorized access.	
78	The Bidder's System will maintain a level of security that is commensurate with the risk and magnitude of the harm that could result from the loss, misuse, disclosure, or modification of information.	**Yes**
Bidder Response	The system data will be classified and the security level will be applied accordingly.	
79	The Bidder's System will provide the ability to identify certain information as confidential (e.g. PII, PHI, etc.) and only make that accessible by appropriately authorized Users.	**Yes**

Bidder Response	During the design of the application view screens the PII and PHI information will be moved to separate data tabs. Magna will grant access to these tabs only under suitable permissions.	
80	The Bidder's System will restrict access to summarized information according to organizational policy, scope of practice, and jurisdictional law.	**Yes**
Bidder Response	Understood and accepted.	
81	The Bidder's System will provide the ability for authorized administrators to assign restrictions or privileges to Users or groups.	**Yes**
Bidder Response	Magna has a module for management of the role to permissions mapping, and for assigning users to specific roles. This module, user management, is available only to specially authorized administrators. The module produces log information about all operations of the user administrator.	
82	The Bidder's System will support removal of a User's privileges without deleting the User from the Bidder's System to ensure history of User's identity and actions.	**Yes**
Bidder Response	Magna will never erase a user from the database, only mark him as inactive. This is done exactly because of the reason mentioned here, so that historical log entries remain tied to a known user.	
83	The Bidder's System will provide the capability to monitor events on the information system, detect attacks, and provide identification of unauthorized use of the Bidder's System.	**Yes**
Bidder Response	Magna maintains records of all attempts to access one of its services without permission and also all successful calls to its services. Beyond blocking the request, Magna will log the details of the attempt for investigative purposes. Magna counts on the IPS component of the firewall to protect the system from external attacks. Any activity regarding user management such as user creation, inactivation, role assignment, etc. is being logged and can be used to analyze and detect malicious activity. The servers of the system will be hardened to collect user activity logs on the OS to identify unauthorized access attempts to important resources.	
84	The Bidder's System will provide the capability to identify and report on inappropriate access to information in the Bidder's System, based on User defined criteria.	**Yes**

Bidder Response	Magna's logs contain information about all user activities, both active (operation that change the database) and passive (read operations that do not modify data). Magna provides investigative tools in way of queries and reports and ad-hoc reports to investigate this data and look for unexpected events.	
85	The Bidder will provide third-party conducted penetration tests on production releases of the externally accessible web application as requested by the change control board entity. The reports shall be provided to the security officer upon request.	**Yes**
Bidder Response	Understood. Such penetration reviews will be performed on the portal we provide, since it is the only element accessible from the Internet. All other elements require a VPN connection and an internal user account.	
86	The Bidder will not transmit or store any Personally Identifiable Information (PII) using publicly available storage over the Internet or any wireless communication device, unless: 1) the PII is "de-identified" in accordance with 45 C.F.R § 164.514(b) (2); or 2) encrypted in accordance with applicable law, including the American Recovery and Reinvestment Act of 2009 and as required by policies and procedures established by VT Information Security Officer.	**Yes**
Bidder Response	PII will only be transmitted between system sites, using secure channels such as VPN site-2-site. Other PII provided by the citizens such as Social Security Number will be transmitted using encrypted TLS 1.2(or above) channel. All the data sent to the personalization sites will be encrypted and signed as a package before transmission, using PGP / GPG encryption.	
87	The Bidder will perform Security Impact Assessments prior to releasing solutions into production.	**Yes**
Bidder Response	The system will be assessed prior to releasing into production, based on NIST 800-115.	
88	The Bidder will ensure that all credentials are produced in a highly secure facility located within the Continental United States.	**Yes**
Bidder Response	SuperCom primary and secondary card production facilities certified and high security facilities and located within the Continental United States. Primary facility (less than 200 Miles from Montpelier, VT):	

	ABCorp 225 Rivermoor St. Boston, MA, USA Secondary facility (Located about 1100 miles from the Primary Site): Police & Sheriff's Press (PASP) 204 E. Third Street Vidalia, GA 30474	
89	The Bidder will ensure that all employees with access to the system, system components, State data, or responsible for the production of identification cards have undergone a background check.	**Yes**
Bidder Response	As part of Payment Card Industry compliance and according to Policy HMR-P-HBK-001, all staff working in ABCorp at a high security area (HAS), such as a government office, undergo an annual criminal and credit background check. Our current operation does comply with both the Notice and Final Rule from the Department of Homeland Security under the Real ID Act (currently 6CFR Part 37; Docket No. DHS-2006-0030). At ABCorp the pre-employment process consists of a background check and drug screening. The background check will include the following prior to hire: • Social security authorization; • E-verification; • Identification; • Personal information (name/address/alias/etc.); • Previous employment (7 years); • Criminal history (7 years); • Credit history; • Education verification if applicable, and • Drug screening We currently utilize a third party administrator, Automatic Data Processing (ADP) to conduct all pieces of the	

	background screen with exception to the drug screen. The drug screen is conducted by certified/approved medical facilities. Additionally, all employees with "secure clearance" undergo an annual criminal and credit check. We have been conducting pre-employment background checks on all employees for at least the past 15 years, and no employee is "grandfathered." All background checks are conducted in compliance with applicable state law and the Federal Fair Credit Reporting Act. Employees who are identified as key employees working on or close to the DOS contract must have Department of State Moderate Risk Public Trust (MRPT) Certificate. Currently, there are 80 ABCorp (Boston) employees with MRPT clearance. Additionally, there are 4 employees with pending clearance. All other employees undergo a standard pre-employment background check that consists of as mentioned earlier. Overall, SuperCom itself will ensure that all its employees which will be involved in the project (including its sub-contractors) and have access to the system, system components, State data, or responsible for the production of identification cards, will undergo a background check with positive results which will be kept throughout the contract period.	
90	Where available and agreed between the Bidder and the State, the Bidder will use State templates for project management deliverables.	**Yes**
Bidder Response	As required, where available and agreed between SuperCom and the State, SuperCom's assigned Project Manager will use State templates for project management deliverables.	
91	Contractor will work collaboratively with the State Project Manager to develop agreed upon project management deliverables; such as Project Management Plan, Communication Management Plan, Status reports).	**Yes**
Bidder Response	As required, SuperCom's Project Manager and other staff involved in the project will work collaboratively with the State Project Manager to develop agreed upon project management deliverables; such as Project Management Plan, Communication Management Plan, Status reports, etc.	
92	The Bidder will advise the State and Contractor management of progress in meeting goals and schedules contained in the work plans as well as any risks and issues during weekly progress meetings attended by the Bidder and the State. These may include walkthroughs of selected deliverables as requested by State staff.	**Yes**

Bidder Response	As required, and as described in our response to PART 5 (Question 1) Project Management Plan, SuperCom's assigned Project Manager, will advise the State and Contractor management of progress in meeting goals and schedules contained in the work plans as well as any risks and issues during weekly progress meetings attended by the Bidder and the State. We understand and accept that these may include walkthroughs of selected deliverables as requested by State staff.	
93	The Bidder will develop and provide written progress reports to the State Project Manager. Reports shall contain status meeting agenda items, Progress of each task/activity, Action items and decisions from the previous meeting. - Problems encountered, proposed resolutions, and projected completion dates for problem resolution. - Planned activities for the next two reporting periods. - Status of contractually defined deliverables, milestones, and walkthroughs scheduled in the project schedule. - Updating of information on a weekly basis in the State project and portfolio management tool. - Other information as needed (per Contractor or the State). Frequency of periodic reports can be adjusted during the course of project as agreed by the State and Contractor.	**Yes**
Bidder Response	As required, and as described in our response to PART 5 (Question 1) Project Management Plan, SuperCom's assigned Project Manager will develop and provide written progress reports to the State Project Manager. Reports shall contain status meeting agenda items, Progress of each task/activity, Action items and decisions from the previous meeting. - Problems encountered, proposed resolutions, and projected completion dates for problem resolution. - Planned activities for the next two reporting periods. - Status of contractually defined deliverables, milestones, and walkthroughs scheduled in the project schedule. - Updating of information on a weekly basis in the State project and portfolio management tool. - Other information as needed (per SuperCom or the State). We understand and accept that frequency of periodic reports can be adjusted during the course of project as will be agreed by the State and SuperCom.	
94	If the Bidder must substitute key staff during the project, The Bidder will submit to the State, in writing, the reason for the change and provide a completed staff experience reference form and resume for the substitute personnel. The State will either approve or reject the substitution.	**Yes**

Bidder Response	As required, if any member of the key staff of the project would have to be substituted during the project period, SuperCom will submit to the State, in writing, the reason for the required change and provide a completed staff experience reference form and resume for the substitute personnel. We understand that the State will either approve or reject the substitution.	
95	The Bidder will describe their approach regarding the project documentation repository. The Contractor is recommended to align with the State's document repository. In case the Contractor cannot, they must provide justification as to why their proposed repository works well in the best interests of the State.	**Yes**
Bidder Response	In most of its projects, SuperCom usually makes use of Microsoft SharePoint tool, for managing its project documentation. SharePoint is used as a secure place to store, organize, share, and access information from any device. The documentation can be accessed by using a web browser, such as Microsoft Edge, Internet Explorer, Chrome, or Firefox. SuperCom intends to use SharePoint for the Vermont DL/ID project as well, as the main project documentation repository. SuperCom will do its best to align with the State's document repository, as soon as we know what is used for it.	
96	The Bidder will develop a technical infrastructure document which describes all of the hardware, system software and tools necessary for each of the environments proposed.	**Yes**
Bidder Response	As required, SuperCom will develop a technical infrastructure document which will describe all of the supplied hardware, system software and tools which will be necessary for each of the environments proposed.	
97	The Bidder will provide a Change Management Plan. The Change Management plan will detail any differences in the approach to Change Management during the various phases of the project as well as the post implementation/operations phase of the contract.	**Yes**
Bidder Response	SuperCom's change management plan is to set forth the plans and procedures for monitoring and controlling changes to the project plans, project documents, deliverables and baselines. Once documents are approved and baselines are established, no changes will be permitted unless a request for change is processed in accordance with the procedures set forth in the plan. The following flow describe the Change Management process:	

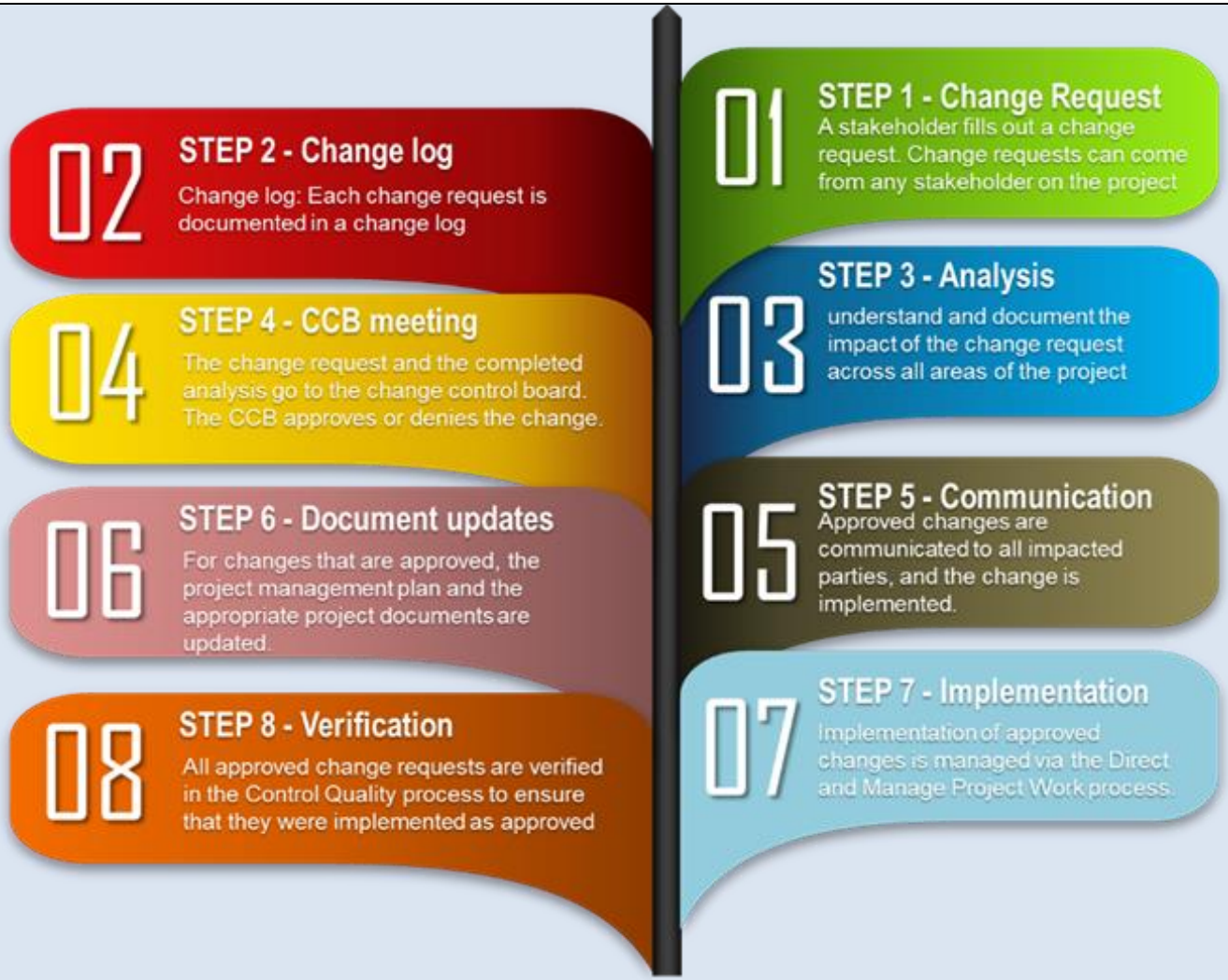


Figure 34 – Change Management Process

	The project manager will assume overall responsibility for change management. Other people which may assume change management responsibilities are: • Project Sponsor • Project Team Lead • Project Team Members • Change Control Board Member The following project's changes may be considered: • Budget change • Document change • Schedule change • Scope change • Personal change **Change Requests** All requests for change must be submitted in writing on the approved change request specific form. The following people may initiate changes to the project: • Project sponsor • Project manager • Project team members • Other project stakeholders All written requests for changes must be submitted to the project manager who will log and track each request and initiate SuperCom Change Control Board (CCB) process. SuperCom CCB - Members of the change control board will evaluate each written change request and decide whether it becomes approved, approved with modifications, rejected or deferred. Once a decision is reached, the change request is signed by an authorized member of the change control board and emailed to the project manager for planning revisions, communication and implementation.	

	When a change request is approved by the change control board, the project manager will track the approval on the change request log. The project manager will also ensure implementation of the change, as it was submitted and approved. Where implementation affects changes to the project management plan, the project manager will revise the plan and distribute notice of the revisions in accordance with the procedures set forth in the communication management plan.	
98	The Bidder will develop an environment configuration manual that describes the environment installation and configuration necessary for each of the environments.	**Yes**
Bidder Response	The training and knowledge transfer programs will cover in depth the necessary environment installation and configuration. The relevant documentation and manuals will be provided as part of the training.	
99	The Bidder will provide a data dictionary, data models, data flow models, process models and other related planning and design documents to the State.	**Yes**
Bidder Response	Understood and Accepted. These documents are included in the project deliverables documentation set.	
100	The Bidder will develop (in cooperation with the State) and execute a Knowledge Transfer and Training Plan that describes roles and responsibilities of the State and Contractor and the approach for bringing managers, end Users, and technical personnel to an appropriate level of understanding with The Bidder's System.	**Yes**
Bidder Response	In addition to our previous response for item #18, SuperCom will be glad to develop and execute (in cooperation with the State and once the project is awarded) a Knowledge Transfer and Training Plan.	
101	The Knowledge Transfer and Training Plan will address and describe, at a minimum: - Training goals/standards and the specific plan for training technical personnel and end Users. - Size of population and types of roles that need training - Strategy for providing training early in the project to allow the training goals to be implemented throughout the project life Phase. - Tasks, deliverables and resources necessary to complete the training effort and identify tools and documentation that will be necessary to support proposed effort. - Types of training, the specific courses and course materials, the training approach for both technical personnel and end Users, and how training effectiveness will be measured and addressed. - Deliverables to support initial and ongoing training including User manuals, System manuals, and on-line help and training materials for technical/non-technical	**Yes**

	personnel. - Knowledge Transfer to enable the State personnel to operate, maintain, configure and modify The Bidder's System including operation of the testing tools, supporting infrastructure, and security as agreed between the State and Contractor. - Metrics for tracking progress in achieving training and knowledge transfer objectives. - Reporting progress of training and knowledge transfer activities. - Additional training for technical staff on development, reporting and maintenance including processes and tools as needed.	
Bidder Response	a) SuperCom has a proven experience in implementing training solutions, including: needs analysis, definitions of certification programs and hi-level plans, integrating LMS (Learning Management System), developing and producing both classroom training materials and e-Learning modules. SuperCom will ensure that the following milestones & objectives of technology and know-how transfer (not limited to) will be achieved during the implementation of the project: • Training Plan – SuperCom will provide detailed plan to conduct training in phases for the system operators and technical team members, which will accompany the development and implementation phases. • Cultivate management capability of VT DMV's to take over the responsibility for the entire project, when the project would be handed over. • Enable VT DMV's to manage and operate the system independently. • Our training approach focuses on trainee performance-based objectives. At the beginning of each training session, the trainees will know exactly what is expected of them and how they will be tested. • Sessions will be structured to place the responsibility for learning directly on the trainee. Each lesson will be action-oriented to guide the learning process and demonstrate whether the lesson has been learned. The end result will be both observable and measurable; trainees will provide lesson evaluations, enabling SuperCom to continually refine and improve the training process. SuperCom's expert trainers carefully plan each session to include the following: • Clear, objective, measurable, observable, and reasonable criteria for the session that is communicated to the trainees • An explanation and a demonstration by the trainer • Active involvement by the participants	

- Access to an environment containing all the functionality of system
- The preparation of an evaluation tool for the actual performance of each trainee that can be objectively used by the trainer or the trainees themselves, to evaluate results
- A time frame for the training session

b) We offer wide varieties of training programs which can be customized and tailored according to VT DMV's specific requests and/or needs. The number of recommended audience per each course is up to 15 people. Typically, SuperCom's training courses are classifies according to the following pictures:

Figure 35 – SuperCom Training Courses' Classification

c) We will indeed base on training on the requirements of the State.

d) Training may be conducted using one of the following methods:
- classroom with projector
- e-Learning
- on site

Alternatively, our trainers may work with trainees directly at their workstations. All trainees should have adequate workspace to exercise and take notes. Training documentation will be provided.

e) The following table lists the group of courses available for this project.
Please note, this general list of courses will be customized after the project is awarded and during the project, according to the project specific needs. In addition, detailed Training Program document which include the entire courses agenda, will be provide after the project is awarded and its scope is final.

Table 4 – Training Courses Available for this Project

Group #	Course	Audience	Course Subjects and Objective
1	Orientation Basic Course	All	System Objectives, Management structure, communication procedures, project overview
2	System Architecture Design Concepts	VT DMV's IT Support Officers, operation Managers and Trainers	Trainees will understand the design of the system architecture, design of data, technological environment of the system and technical constraints, operational aspects, security features, etc.
3	Features of Sub Systems	VT DMV's IT Support Officers, operation Managers and Trainers	Trainees will understand functional, Available list of web services, external interfaces and technical features of the complete system to a detailed level
4	Enrollment and Registration	Operation Managers, Application Support	Trainees will know how to use Fixed station enrolment, Portable station enrolment, screening of registrants, the registration steps, registering biographic data, capturing

		Unit / Super Users End Users and Trainers	biometrics data, off line modes, validation/supervisor authorization, managing exceptions, documents and cards delivery/issuance, managing transactional and management reports
5	Documents and Cards issuing	Application Support Unit / Super Users And End Users	Trainees will know how to issue the cards and documents, Documents and Cards Quality assurance, packing, delivery, managing transactional and management reports, Troubleshooting Content, problem prone areas, actions to be taken, diagnosing problems, auditing logs.

We validate the effectiveness of the training provided through the use of controlled test exercises and instructor evaluator forms at the conclusion of each course, which are reviewed for each trainee and scored to ascertain the effectiveness of the training session presented. Feedback from the courses (to include summary reports on instructor evaluator forms and training exercises) will be provided to the Trainer and his/her backup(s). Therefore, assessment will be continual, and the Trainer will collaborate with SuperCom's project managers to determine appropriate intervals in which to implement any modifications within the training program.

Training agenda - Sample (3 Days)

Day 1: 9am start

- AM – Introduction to the SuperCom solution
- AM – System Objectives, Management structure, communication procedures, project overview
- PM – In depth IT and applications A to Z

Day 2: 9am start

- AM – Biometric Systems overview.
- PM – Registrations, Validations, QA, Operations – at registration sites & on the job location

Day 3: 9am start

- AM – IT support Engineers, Help Desk Operators, Field maintenance Technicians / Frontal – Class & at sites
- PM – wrap up

	f) Training materials such as User manuals, System manuals will be provided in hardcopy and softcopy format. g) After training, the VT DMV's staff will be able to operate, configure and maintain all elements of the system. h) Metric are tracked for progress i) Progress may be reported on j) Additional training will be priced and discussed after the project is awarded.	
102	The Bidder will submit all training packages to the State for review and acceptance at least seven (7) calendar days prior to the beginning of scheduled training.	**Yes**
Bidder Response	All training packages and materials will be submitted as requested.	
103	The Bidder will provide all training materials developed for The Bidder's System to the State. Those materials will become the property of the State and may be modified and duplicated by the State.	**Yes**
Bidder Response	Agreed, understood and will comply.	
104	The Bidder will provide electronic copies of all training materials in a format that can be easily accessed, updated and printed by State staff using software for which the State owns licenses, prior to deployment onto the staging platform. This includes but not limited to CDs/DVDs, and online.	**Yes**
Bidder Response	Agreed, understood and will comply.	
105	The Bidder will assist the State with testing and release preparation in the pre-production environment.	**Yes**
Bidder Response	SuperCom will assist the State with the testing and preparation of materials for release (executables, database scripts, installation scripts, release notes, etc.) in the pre-production environment, or as it might be called the Testing/Staging environment.	
106	The Bidder must produce and execute an Implementation Support Plan.	**Yes**
Bidder Response	The proposed Implementation Support Plan goes in line with the entire Project Implementation Plan, as described in Attachment #4 - Proposed list of project phases, tasks, and an implementation time-line, in which there is a time line for the all sites installations.	

	We would be doing a training as part of turning up at each location of the project. <u>Post Implementation Training</u> SimpleRoute will turn up locations one at a time per the attached Project Plan. As the new solution is installed at each location, SimpleRoute will also conduct an on-site training with staff members to get them comfortable with running the new platform. The on-site trainings during the Go Live period will include a review of documentation and training material from SuperCom as well as hands on instruction that will cover both use of the newly implemented solution as well as instructions for contacting the Help Desk for assistance.	
107	The Bidder must provide support staffing information such as the proposed number, ratios, duration, and roles/responsibilities for on-going support (as identified in previously submitted implementation approach and plan).	**Yes**
Bidder Response	SuperCom team member, Simpleroute, plans to carry the following employees by the time of solution implementation: Level 1 Technicians: 4 Level 2 Technicians: 2 Level 3 Technicians: 2 Simpleroute's Level 1 technicians make up our Help Desk staff and are our first line of defense for client issues. Simpleroute's Level 2 technicians provide higher level support services and implementation services. Level 2 technicians may also assist in Help Desk support. Simpleroute's Level 3 technicians provide platform design, configuration, monitoring design and security services. Level 3 technicians may also assist in Help Desk support. Off-hours alerts and pages will be monitored by staff on a rotating basis with an escalation tree for issues.	
108	The bidder shall work with the State of Vermont (SOV) to develop security and infrastructure to ensure SOV is complying with the Interconnection Security Agreement (ISA) required by Department of Homeland Security (DHS).	
Bidder Response	Agreed, understood and will comply. This is a standard procedure in national projects, to cooperate with state authorities on infrastructure and project security.	

4.5 Data Compliance

Contractors and their solutions must adhere to applicable State and Federal standards, policies, and laws based on the type of data that will be stored, accessed, transmitted and/or controlled by the solution. If the "Type of Data" column is checked below, respond "Yes" or "No" in the "Comply" column and provide an explanation on how you comply in the "Bidder's Description of Compliance" column.

Type of Data	Applicable State & Federal Standards, Policies, and Laws	Comply	Bidder's Description of Compliance
☐ Publicly available information	▪ NIST 800-171		
☒ Confidential Personally Identifiable Information (PII)	▪ State law on Notification of Security Breaches ▪ State Law on Social Security Number Protection ▪ State law on the Protection of Personal Information ▪ National Institute of Standards & Technology: NIST SP 800-53 Revision 4 "Moderate" risk controls ▪ Privacy Act of 1974, 5 U.S.C. 552a.	**Yes**	SuperCom will ensure that the delivered solution meets these requirements, and will perform a system review to ensure compliance with these requirements / standards.
☐ Payment Card Information	▪ Payment Card Industry Data Security Standard (PCI DSS) v 3.2		
☐ State Financial Data	• Annual SSAE 16 SOC 2 Type 2 audit		
☐ Federal Tax Information	▪ Internal Revenue Service Tax Information Security Guidelines for Federal, State and Local Agencies: IRS Pub 1075 ▪		
☐ Personal Health Information (PHI)	▪ Health Insurance Portability and Accountability Act of 1996: HIPAA ▪ The Health Information Technology for Economic and Clinical Health Act HITECH ▪ Code of Federal Regulations 45 CFR 95.621		

Type of Data	Applicable State & Federal Standards, Policies, and Laws	Comply	Bidder's Description of Compliance
☐ Affordable Care Act Personally Identifiable Information (PII)	▪ Internal Revenue Service Tax Information Security Guidelines for Federal, State and Local Agencies: IRS Pub 1075 ▪ Minimum Acceptable Risk Standards for Exchanges MARS-E 2.0		
☐ Medicaid Information	▪ Medicaid Information Technology Architecture MITA3.0 ▪ Code of Federal Regulations 45 CFR 95.621		
☐ Prescription Information	▪ State law on the Confidentiality of Prescription Information		
☐ Student Education Data	▪ Family Educational Rights and Privacy Act: FERPA		
☒ Personal Information from Motor Vehicle Records	▪ Driver's Privacy Protection Act ("DPPA") 18 U.S.C. Chapter 123, §§ 2721 – 2725	**Yes**	SuperCom will ensure that the delivered solution meets these requirements, and will perform a system review to ensure compliance with these requirements / standards.
☐ Criminal Records	▪ Criminal Justice Information Security Policy: CJIS		

PART 5: IMPLEMENTATION/PROJECT MANAGEMENT APPROACH

1. Describe the approach you would recommend for project managing this engagement.

Project Management Plan – Methodology and Approach

The Project Management Plan (PMP) is the directive that specifies the instructions for the management of the Vermont DL/ID project. It describes the project management policies, organization, methods and procedures.

The PMP is designed as a work document, reflecting the contractual commitments of the project, while applying SuperCom's processes and procedures. As such, this PMP section defines in broad terms all the management activities and tasks to be undertaken by the project key personnel and other project stakeholders, as part of the Vermont DL/ID project.

The project management process includes: Initiating, planning, executing and monitoring. SuperCom has been successful in ensuring standards, quality, and continuity in the projects where we were the Prime contractor. By using prescribed processes defined in each phase of the project, SuperCom's project managers are able to manage and respond to all of the requirements from proposal development through project transition. When the final terms are agreed upon, the PMP will be available to all personnel involved in this Project.

Figure 36 – SuperCom's Project Management Process

The PMP's structure reflects the company's project management methodology.

37 on the next page shows ten of the PMP knowledge areas.

Figure 37 - PMP Knowledge Areas

It is the responsibility of those in management positions in the project to read, comprehend and implement all policies and directions included in the PMP.

Applicable Documents

- Contractual Documents
- Applicable Standards and Procedures
- Technical Documents and CDRLs
- Management Documents and Reports

PMP Configuration Control

The PMP shall be considered a maintained, configuration-controlled document. It shall be updated according to the configuration control procedures, defined in the company's configuration management policy. Each updated revision shall be distributed to all relevant key personnel. A PMP update shall be initiated performed and published, should any of the following events occur:

- Any change in the organization structure, processes, tools and/or methods described in this PMP
- Any request for amendment made by the Customer and accepted by the Company with the objective of Project optimization
- Any time the contractual documents are being updated, and such an update affects the PMP

The project manager ensures the assimilation of the PMP directives throughout the project's life span. This PMP and the project manager executing it, are derived from the following SuperCom's project management procedures:

- Manage the project so as to meet all its deliveries on time, and preferably ahead of schedule
- Maintain and develop partnership relations with the customer
- Manage the project so as to meet all its cost objectives
- Implement the project lifecycle processes in compliance with the company project life cycle
- Maintain project quality, as derived from the project's contractual requirements
- Initiate and maintain a risk identification and reduction process, implemented as early as possible, as a leading means to achieve project goals in terms of schedule, budget, performance and quality

Responsibilities

SuperCom Responsibilities

SuperCom will perform the following activities:

- Project management for all project life cycle.
- Requirement extractions
- Design: detailed design of the system. The design will apply to all of the SuperCom system components
- Procurement: Provide the systems and subsystems components (Equipment and Software) to be installed as agreed on the Bill of Quantities
- Deployment, Implementation: Installation, integration and testing the systems and subsystems components (Equipment, Network and Software) at customer environment

- Tests: design and perform project acceptance procedures – SAT
- Training: train the Customer's specialists to operate and maintain the system as agreed on the Bill of Quantities
- 5 year warranty for all materials and software supplied by SuperCom

Detailed Responsibilities

SuperCom will be responsible for the following activities and work packages including all related costs incurred from these work packages as describe in this document

- Nominate a senior manager to serve as SuperCom point of contact (POC) to coordinate with the customer's project management onsite
- Have the appropriate manpower to support the deliverables under this document
- Locally manage the project
- Manage project schedules and procedures to implement the project on time as defined in this document
- Coordinate all project work packages and schedules with the customer's project manager so as to monitor the progress and ensure compliance by participating in project meetings and providing reports as required
- Participate in Project Reviews and meetings as required
- Participate in Periodic Meetings
- Provide Periodic Progress Report
- Present the Risk Management for the project implementation during the kick off meeting. This will include the identified risks, their severity and their mitigation plans
- Hire subcontractors to implement parts of the project as needed
- The customer shall treat SuperCom sub contractors as SuperCom employees
- The communication required to manage the project, such as software applications, documentations, emails, letters, etc., will be in the English language

Work Packages

Project Management

SuperCom's project management program ensures that the solutions we design and deliver meet the specific operational and compliance requirements of our customers on an on-going basis. While supporting each customer with a tailored project management program, we strive to create a long-term, mutually beneficial relationship with our customer.

Our project management program includes:

- Project initiation
- Requirements extraction
- Design
- Procurement
- System development, Integration and Testing
- Deployment
- On-going professional services
- Maintenance & support plans

Project Initiation

In the initiating and planning phase, SuperCom will work with the customer to establish standards, expectations and desired outcome and project structure. This phase includes the project kick-Off, Project management team assignment, extraction of preliminary specifications for sites & human resources. At this phase SuperCom will review the contract and project scope, prepare the project management plan, prepare the quality management plan, update the organization structure including the roles and responsibilities, prepare the communication plan, review risks and prepare contingencies, review subcontractor's statement of work, review and approve all plans.

The project PMP includes the following activities:

- Prepare the project management plan
- Prepare the quality management plan

- Prepare the communication plan
- Prepare the stakeholders plan
- Prepare the risks management plan.
- Prepare the purchase plan, including subcontractors statement of work
- Prepare the organization structure including the roles and responsibilities
- Review and approve all Plans

Requirements Extraction

This phase includes both Requirements extraction for all project aspects, as well as the Business process reengineering. Both activities end with reviews, and require the client's approval.

In the requirement extraction phase, all requirements of the project will be examined, collected and processed. SuperCom's expert team of system and business process analysts will analyze the current state of the system and the requirements of the new one. The team will work with State of Vermont staff, established as a technical working group to develop a System Requirements Document (SRD) that defines the scope and borders of the system to be implemented. The System Requirements Document will include the system's content and performance requirements. After receiving the MMD's written approval for the document, the team will be ready for the system design.

Business Process Re-engineering

The Business Process Re-engineering (BPR) is the analysis and redesign of workflow within and between organizations.

BPR is sometimes used to lower costs and increase quality of service. The following list describes the reengineering principles used to streamline the work process and improve the time management quality, and cost:

- Organize around outcomes, not tasks
- Identify all the processes in the organization and prioritize them in order of redesign urgency
- Integrate information processing work into the real work that produces the information
- Treat geographically dispersed resources as though they were centralized
- Link parallel activities in the workflow instead of just integrating their results

- Put the decision point where the work is performed, and build control into the process
- Capture information once and at the source

Change management, which involves all human & social-related changes and cultural adjustment techniques needed by management to facilitate the newly-designed processes and structures into working practice, is a component of any BPR. Revision of reward systems, communication, empowerment, people involvement, training and education, creating a culture for change, and stimulating receptivity of the organization to change are the most important factors related to making changes in management and culture.

The following list describes some of the major keys to successful BPR implementation

- Revising reward and motivation systems
- Effective communication
- Human involvement
- Training and education
- Creating an effective culture for organizational change
- Stimulating the organization's receptiveness to change
- Committed and strong leadership
- Management of risk
- An adequate job integration approach
- Effective BPR teams
- Appropriate job definitions and allocation of responsibilities
- Effective process redesign
- Adequate alignment of IT infrastructure and BPR strategy
- Building an effective IT infrastructure

Following the definition of the processes in the system, a system design is conducted for all system components. The system design includes the system architecture design and system functional design. Once this phase is approved, a design review is conducted with the client. The client approval is required to proceed to the next phases.

System Architecture Design Document

A system architecture design document includes the design of the system architecture, design of data, technological environment of the system and technical restrictions, deployment view, operational view, security view and technology selection. A Finalized Bill of Quantity will be also prepared.

SuperCom will provide planning and will establish infrastructure components for the system that include building, power, network, security and access control etc. (Under Client responsibility).

Functional Design Document

A functional design document includes the functional specs, ERD, data base structures, entities, attributes, logical specifications, events, system workflows, Graphical User Interface, external system interfaces, data migration processes, system reports and more.

The system development phase starts after the design document is approved. Then the development team can focus on the development of all system components.

Procurement

This task includes purchasing all the equipment's for the project: systems and subsystems components (Equipment and Software) as defined in the Bill of Quantities:

- SuperCom provides the equipment and software required for the project according to the Bill of Quantity specifications
- SuperCom will supply the software applications required for the project, according to the contract conditions of delivery

Purchasing of LLI's and other equipment and software will be evaluated according to the schedule management plan, as well.

System Development, Integration and Testing

The system build / development phase will start after the approval of the design document by the customer. The development team will be focused on the development of all system components

Installation & Integration & Testing - first Site (ATP)

At this stage the entire central site infrastructure is complete, the server farm is established, and the central system is installed, Pre-

implementation training for ICT personnel is performed.

One site is chosen for the pilot operation of the first site where the stations are installed. Pre-implementation training for operators is performed at this stage.

After installation and training, the integration and testing is performed, including the Acceptance Test Plan.

Data Transition before Starting First Site Operation

Data transition procedures are performed before starting the first site operation

First site operation - Implementation & Training

During the first site implementation, On-site training is performed for end users (Trainers, Management, ICT team, Operators etc.) and after a period of time, the system is updated as per the first site operation/Pilot Feedback. Once the pilot is complete the system is ready for deployment at other sites.

System Deployment

Deployment of the system, site by site, countrywide (and overseas if required) includes on-site training and support.

SuperCom will be responsible for the required installation work of all project systems and subsystem components, as defined in the project BOQ. The installation work will be in conformance to the approved work plans and in accordance with the specifications and installation manuals. The Works will be performed in full compliance with all procedures, regulations and laws as will be required by the customer and subject to provision of the above by the customer at ARO.

The following is a high-level list of infrastructure to be installed by SuperCom in support of the systems and subsystem components:

- Installation of all systems including software and equipment as required.
- IT equipment, for example, computers, printers, servers, wiring and cabling of all networking and server devices on the racks.
- Installation of SW application on workstation and servers (such as systems Applications, operating systems (OS), databases (DB), and so on).
- Network elements, for example, switches, routers, aggregators, and racks
- A list of Support and Test Equipment STE necessary to perform the installation and integration tasks as defined in this

SOW. SuperCom will submit the list of STE prior to start of installation

- Perform all configuration, adjustment, integration and testing as required to properly operating the project proposed systems, such as work to be done on the subsystems.
- Prepare a plan of corrective actions to fix defects if such will be detected during the testing according to the SAT documentation. When the customer approves the plan, SuperCom will perform repeated relevant testing after corrective actions of the new SW application version
- Coordinate and supervise the installation work as required under this SOW. SuperCom will coordinate its work plan with the customer to perform the CFE work. Periodic Project meetings review (PMR) will be held for all project activities and SuperCom project manager will report the project status
- Prepare a detailed work plan for the installation, coordinated with the project implementation Plan, and present it for customer approval. The work plan will be updated weekly by SuperCom during the entire project lifecycle, and will be presented on a periodic PMR. Any agreed upon changes in the schedule or work plan will be valid and replace any previous signed agreement
- Define an excel document as a reporting template to follow up the status of the complete materials Installation. The customer shall approve the Excel before first installation starts, at the PDR stage
- Provide a test document for customer review and approval, defining the set of test procedures to conduct verifications
- Perform the agreed upon tests to verify that system is properly installed and all units are properly functioning
- The customer will approve acceptance of each site upon the agreed tests
- Documentation - All installation documentation will be provided in its final state in electronic format and in English (provided that such documentation is supplied by the equipment and SW manufacturer)
- Installation of all the required quantities as defined in the detailed BOM (appendix of the contract)
- Prepare Sites & Offices Infrastructure: Main, DRC
- At this stage the entire central site infrastructure is completed, ready for installation
- The Shipment of Goods, Customs release, delivery to sites and processing the shipment of the purchased BOM is performed

Maintenance & Support

The Warranty and Maintenance Period starts once the Acceptance test of each sub-system is complete and the sub-system becomes operational separately. The maintenance team is responsible for all maintenance activities and support of the system at this period

Customer Responsibilities

The following tasks are expected to be within the customer responsibility, to enable the success of the project implementation.

It is the customer's responsibility to provide the following:

- All technical information required by SuperCom before implementation. Information such as answers regarding technical issues, updated documents and specs on time defined by the SuperCom project manager
- Updates, at least 3 months in advance for any version or configuration update that is planned by the service provider in the switch or Network that may affect our system, throughout the project life cycle
- Participate in the site surveys
- Communication of security requirements for the installation activities and communicate them to SuperCom's project manager
- Provide activities to help resolve any issues that may arise during the installation, throughout the installation and integration
- Approval of submitted documents within the pre-determined time frame
- Updates of any schedule delays
- Site access - the customer should provide site access approval to SuperCom professionals' team during both the design phase and the integration and implementation phase
- Assignment of operational experts (operators, system manager and IT experts) that have the required skills as will be defined by SuperCom
- Training:
    - To provide a classroom setting for the training courses. The lecturers will use both whiteboards and projectors to present

the course material

- To provide permissions to use the actual system that was installed in the project site by the participants for Hands-on exercises training

Customer's Site Preparation Responsibilities

SuperCom assumes that the project sites will be equipped according to the Site Preparation Guide (SPG – to be provided after project award) document. This will include the following:

- The availability of a suitable floor space for the additional equipment including Power UPS and Air-condition as stated in the SPG. Those will be available based on the relevant MS described above
- The Customer will advise SuperCom on time about any change that might affect the site preparation (such as Infrastructure work, site relocation, freeze dates, etc…)
- The availability of communication links and communication equipment between sites

Customer Furnished Equipment

The following list describes deliverables per project stage that will be required from the MMD:

- If needed, civil works will be performed by the customer
- Permits to work during day and night at all sites
- Warranty and Maintenance for the customer furnished equipment
- Manpower for system, operational and technical training
- Provide the required data and approvals/permits that are required for the interfaces to external systems and databases
- Support for warrantees based on remote support model. It is assumed that SuperCom will have remote access to the system to enable remote troubleshooting

Project Scope Management

The Project Management Plan derives from the Project Deliverables and due dates for this project. Components related to design,

development, integration, test, acceptance, training, documentation, quality assurance, configuration and management, are incorporated in the Project Management plan.

Processes and major events are within the project's life, and therefore, are part of the project plan:

- Project kick-off meeting
- System requirements validation
- Interface requirements capture and configurations
- High Level Design Review (HLD)
- Detailed Design Review (DD)
- System and subsystem installation and configuration
- Training
- Testing (unit test, CIT, SIT, OAT, UAT)
- Integrated logistics support (ILS)
- Go-live (field operations)

Scope Management Policy

The signed contract, the Statement of Work, and our proposal response formally authorize the scope of work. Scope planning and definition begin early at the very beginning of the process and continue with each new phase and project component. At the beginning of the project, SuperCom together with the MMD will finalize the project schedule/work plan presented in the proposal.

An effective scope management is a critical project management process that contributes significantly to the overall project success.

Scope management includes the following activities:

- Collect requirements
- Define Scope
- Create WBS
- Validate Scope

- Control Scope

The scope of the project is defined by the breakdown of the processes as listed in the work breakdown chart.

The work breakdown structure defines all efforts, tasks and work packages, which together form the Project and this chart is used to achieve the following objectives:

- Enable Project planning by disassembling the efforts into manageable work packages
- Serve as cost estimating tool for each work package, later aggregated to the Project level
- Serve as skeleton for the detailed work planning process
- Enable coherence of all Project technical documentation and management activities
- Enable assigning of responsibility to each work package
- Serve as data collection structure [reporting per work package]
- Promote "common language" for all Project communication efforts

The work breakdown structure shall be a controlled & maintained document (WBS), so that any decisions resulting in approved changes to the scope of the Project or in re-allocation of the Project's work packages shall be reflected in a formally updated version of the WBS.

The updated WBS will be included in an updated version of the PMP document, and distributed in accordance with the PMP.

Changing Management Procedures

Both Internal Change Requests [ICR] and Customer-initiated Requests for Change [RFC] will be initiated and processed in accordance with the MMD's formal change management processes.

Project Organization

An important component of the project management is the Integrated Project Team [IPT]. The IPT consists of members who are professional in their functional area and who cooperate to meet the project goals and objectives.

Project Organizational Structure

Vermont DL/ID SYSTEM

SuperCom Team – Project Organizational Structure

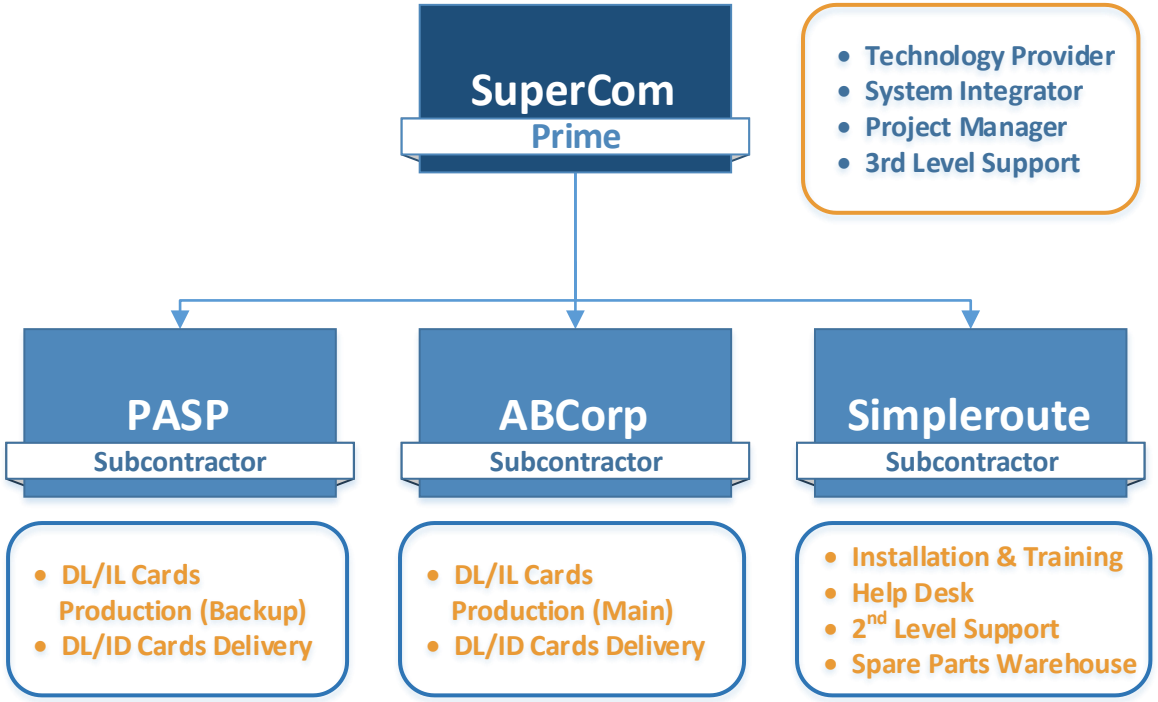


Figure 38 – SuperCom Team Project Organization Chart

Project Key Personnel Team

Following is the proposed Project Key Personnel Team. It includes the candidates from SuperCom (Prime contractor) and from all its sub-contractors.

SuperCom:

#	Candidate	Role in Company	Planned Role in Project
1	Robert Peters	Consultant	Project Manager
2	Jason Gilbert	Vice President of Sales, Public Sector Solutions	Account Manager
3	Frank A. Braman	Braman Consulting, Manager	Deputy Project Manager Specifically Responsible for Level 3 Support
4	Gerry Geva	Senior Projects Manager	Corporate Project Manager
5	Talia Ozeri	Senior S/W Designer	System Analyst
6	Igor Merling	CTO	System Architect
7	Arkady Tachman	S/W Group Manager	S/W Development - Team manager
8	Yehoshua Krochmale	Senior DBA	Project DBA
9	Dudu Lev	Documents Engineering Manager	Documents Production Expert
10	Ad Attias	Project Manager & Information Security Consultant	Security Expert
11	Yoel Vaknin	Customer Support Manager	Corporate Maintenance & Support Manager
12	Akiv Solomon	QA Team Manager	Project QA & Testing Manager

ABCorp:

#	Candidate	Role in Company	Planned Role in Project
1	Fernando Aleman	Director of Secure Bureau Operations	DL/ID Cards Personalization – Project Manager – Primary Facility
2	Jorge Ojeda	Creative Director	Secure Credentials Design Manager
3	Gregoire Maes	COO	Cards Production – Project Manager – Primary Facility

Simpleroute:

#	Candidate	Role in Company	Planned Role in Project
1	Mateo Tudon	Consultant	Project Manager for Technical Support Help Desk
2	Corey Marrier	Level 1 Technical Support	Field Technician Help Desk
3	Charles Bucchioni	Level 3 Platform Engineer	Platform Engineer Help Desk
4	Brett Johnson	President	Backup Project Manager
5	Joseph John Andrzejewski	Produce support	Dispatch Help Desk
6	Daniel W. Safford	Systems Administrator	Help Desk

PASP:

#	Candidate	Role in Company	Planned Role in Project
1	Madeleine Raiford-Holland	VP, ACE-P	Project Manager
2	Elaine Poole	Fulfillment Manager	Card Production Service Bureau Manager
3	Frank Raiford	President & CEO	Overall responsibility for the secondary cards production facility

Schedule Management Guidelines and Tools

The Project's schedule management process is based on SuperCom's schedule management methodology. The schedule management platform for the project is Microsoft Project 2010.

Schedule Control

Throughout the project execution, a continuous control process with weekly control cycles will be maintained, as follows:

- The weekly work plans, managed in MS Project environment, will be updated every week, prior to the Weekly IPT status meeting.
- The project manager will update the work plan and will coordinate shifts in the schedule of any task or milestone. The IPT meeting will discuss unsolvable schedule conflicts.

Cost Management

Cost management is a continuous process, beginning with project initiation and continuing through the final delivery and continued support. The project manager is responsible for the implementation of cost management activities.

Cost is the most up-to-date approved version of the project's cost estimation. The cost is generated and approved at an early stage of the project, and maintained thereafter on an on-going basis.

Cost Management Guidelines and Tools

The project cost planning process is based on three sub-processes:

- BOM planning per project sites
- Labor and subcontractor activities
- Other expenses

The combination of the above processes builds up the cost for the project.

Risk Management Policy

Risk Management (RM) is a continuous process, beginning with the project initiation and continuing through the final delivery and continued support. The project manager bears the responsibility for the implementation of all risk management activities.

The project manager will conduct risk management procedures throughout the lifecycle of the project, based on the RM guidelines presented below.

Risk identification and analysis and set up of mitigation plans will be conducted at an early stage of the project, risk monitoring and control will be conducted on a monthly basis.

The project's risk management process will be based on the MMD risk management methodology. The risk management process will be led the project integrated project team and other participants.

Figure 39 on the next page depicts the risk management process phases.

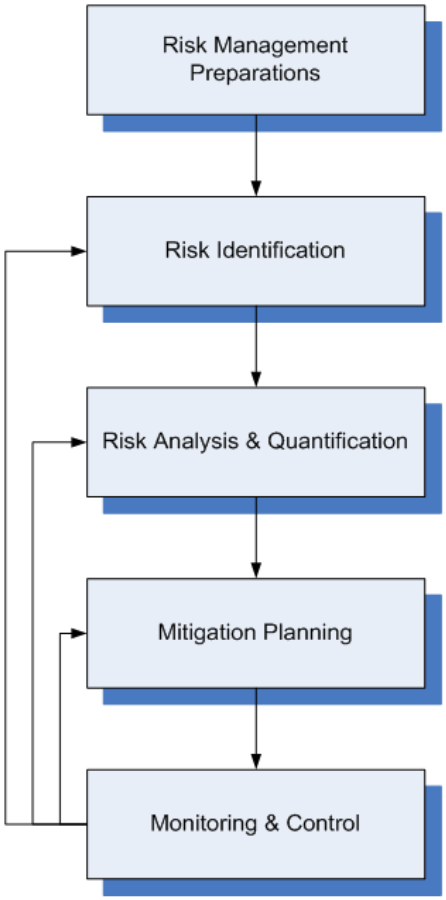


Figure 39 - SuperCom Risk Management Process

Risk Management Preparations are a series of activities aimed at setting up the project's risk management infrastructures, for example, setting up of the risk management database, calibration of project's risk evaluation tables, and allocating project team members to the risk management teams. The risk management preparations are the responsibility of the project manager, with the planning engineer's assistance

Risk Identification: The risk identification process is achieved through the participation of all of the projects' key personnel in a session

that covers systematic mapping of potential risks and their influence on performance, cost and schedule. During this phase, all candidate risk items are listed for further analysis.

Risk Analysis, Qualitative and Quantitative: The risk analysis process starts with refining the risk descriptions. All risks are reviewed and assessed. Each risk is assessed on probability and impact estimations. The estimations entails giving each parameter a percentage value. This quantification process produces the Risk Factor (RF), which combined the effects of the probability factor and the highest of the Impact factors. The result of this phase is a prioritized Risk Register.

	Risk Priority Matrix			
	Overall Impact			
Probability		High	Medium	Low
	High	High	High	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low

Figure 40 – SuperCom's Risk Priority Matrix

Mitigation Planning: assigns each risk to a "Risk Owner," who is responsible for developing a course of action in accordance with the specific risk magnitude. Once approved, the risk mitigation plans will be incorporated into the project's work plans and monitored as part of the project.

Monitoring and Control: Risks are monitored on a monthly basis. Each risk mitigation plan's effectiveness is assessed, and if required, risk parameters and risk factors are updated. If necessary, new risks are added.

Risk Management Guidelines

The following are the project manager's risk management guidelines to serve as the basis for the project's risk management activities:

- Risk Management is a systematic approach which includes identification, quantification, mitigation and ongoing monitoring of risks

- All potential risks should be identified at the earliest opportunity, thoroughly understood, assessed and mitigated, while clearly communicating the risk status
- All stakeholders are to be encouraged to identify potential risk elements
- Risk mitigation activities must be implanted into the Project's work plans
- Risk monitoring and control is an integral part of the Project's control cycle
- A Risk Register is to be established and maintained for the ongoing documentation and tracking of risks, and shall serve as a management tool to ensure the successful execution of the project. The register shall display all identified risks, and for each risk – its severity, mitigation plans and actual status.

Risk Management Tools

Our risk management procedures use a number of practical tools to effectively and efficiently implement the risk management approach discussed in the previous sections of this document. Our assessment of the project is that a special-purpose automated risk modeling tool is not required. We believe that simpler tools based on office productivity software will suffice. This approach should also simplify our information exchange with the project members. The tools include:

- Risk Assessment Worksheet
- Risk Form
- Risk Log
- Risk Analysis Form
- Risk Register
- Project management tools – e.g., the Requirements Traceability Matrix (RTM), the Project Schedule, and Procedures for Risk Management (PRM)

Project Risks

The following are the identified risks in the DLICS project. This identification is preliminary and will be revised in the project initiation; added mitigation plan and managed closely.

Subject	Description	Preliminary mitigation	Preliminary impact [H/M/L]
Integration with Vermont State existing systems	Development and the interface & integration with it might affect project timeline; scope & quality. Item is pending on external inputs to the project.	Follow the work process of requirements->Design->development->testing; to minimize the risk, based on SuperCom vast experience in leading such interfaces	M
Migration Period	While the 2 systems are working in parallel, the project might face an issue of space, manpower, and training.	Work closely with the Vermont DL/ID project manager to minimize the effect during this period	L

Project Control

Project Control Cycle

The project Control Cycle process is a continuous process with periodic cycles.

Each control cycle includes data collection, data analysis, status assessment, preparation of a status report/presentation and a status meeting.

The project control is conducted separately in each of the management areas, as detailed in the preceding chapters (schedule control, budget control, procurement), so the control results and outputs are produced as control reports.

The project control process encompasses the integrated project team all project stakeholders, including contractors and subcontractors, internal and external.

Figure 41 shows various communication activities:

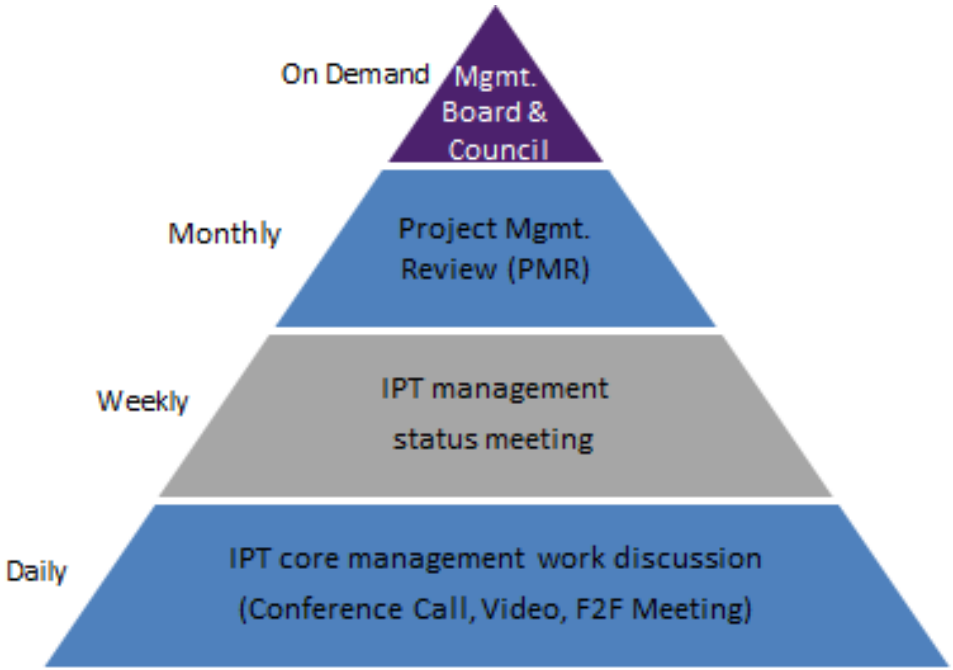


Figure 41 - Communication Activities

Action Item Management

The control process for the project includes the management of Action Items (AIs) generated in the project's formal meetings.

Minutes of Meeting (MOM) are prepared in real time during the meetings. The MOMs include the assignment of action items to meeting participants and other project managers. Each action item will include an action item owner (responsible for the action item execution), and a due date.

Each action item owner is responsible for promptly updating the action item's database with the status of the action item.

The project manager is responsible for managing and controlling open action items and for issuing actionable reports (overdue action items, action items due in the next week, and so on).

Communication Plan

The Communication Plan specifies the variety of communication channels to be implemented as part of the project. These channels include written reports and meetings.

Reports

Status and progress reports are an essential component of the project's communication plan. Some of the reports serve as basis for the Status and Progress Meetings.

Table 5 lists all cyclic status reports to be issued as part of the project:

Table 5 - Communication Plan Reports

#	Name	Submitted By	Submitted To	Submittal Date	Purpose	Content
1	Weekly Project Report (email)	Project Manager	Customer	Every week	Overall Project status	• Project Status [Executive Summary] • Last Week's Activities Status • Next Week's Planned Activities
2	BI weekly Project Report	Project Manager	Program Manager	First week of each month	Overall Project status	• Project Status [Executive Summary] • Major Achievements • Last Week Activities Status • Next Month's Planned Activities • Risks and Mitigation Plans' Status • Monthly Budget Report [Actual vs. Planned Analysis, Revenue Recognition] • Open Issues • Managerial attention required

#	Name	Submitted By	Submitted To	Submittal Date	Purpose	Content
3	Monthly Project Report	Project Manager	Customer	Second week of each month	Overall Project status	• Project Status [Executive Summary] • Major Achievements • Major Milestones • Last Month's Activities • Next Month's Planned Activities • Risks and Mitigation Plans' Status • Open Issues • Customer attention required

Meetings and Reviews

Status and Progress Meetings and Reviews are an essential component of the project's communication plan. Some of the meetings use the corresponding status reports as the meeting's skeleton.

The basic agenda of each of the cyclic meetings and reviews is listed in Table 6 on the next page. The meeting owner is entitled to add ad hoc topics to the agenda and will notify the meeting participants as much in advance as possible.

The basic list of participants of each of the cyclic meetings and reviews is specified below. The meeting owner is entitled to invite ad hoc participants to the meeting and notify the meeting participants as much in advance as possible.

The meeting owner is responsible for issuing the minutes of the meeting and updating the action item database no later than 2 days after the meeting.

Table 6 lists all cyclic meetings and reviews to be conducted as part of the project:

Table 6 - Communication Plan Meetings

Meeting Name	Owner	Participants	Schedule	Agenda
IPT communication	PM	Project's IPT forum + ad-hoc participants as may be needed	Daily – as necessary	Ongoing project issues
Weekly IPT core management status meeting	PM	Project's IPT forum + ad-hoc participants as may be needed	Every Week	As per Weekly Project Report
Weekly Customer and IPT core management status meeting	PM	Customer POC and project's IPT forum	Every Week	As per Weekly Project Report
Project Management Review [PMR]	Delivery Manager	Delivery Manager, Program Manager, PM	Second week of every month	As per PMR report

Procurement and Subcontracting Management

In order to enable full control over the project's budget and timeline, all Purchase Orders (POs) for both goods and services, issued to suppliers and subcontractors, will be issued by the project, through SuperCom's supply chain.

Selection and ongoing management of suppliers and subcontractors will be the joint responsibility of SuperCom and the Supply Chain department.

The project manager will approve every purchase request issued within the project. Our Product Lifecycle Management (PLM) will be responsible for processing purchase requests and for monitoring and expediting the procurement process.

Procurement Process

Figure 42 - shows the procurement process, specifying the flow of responsibility between the different units involved in the process:

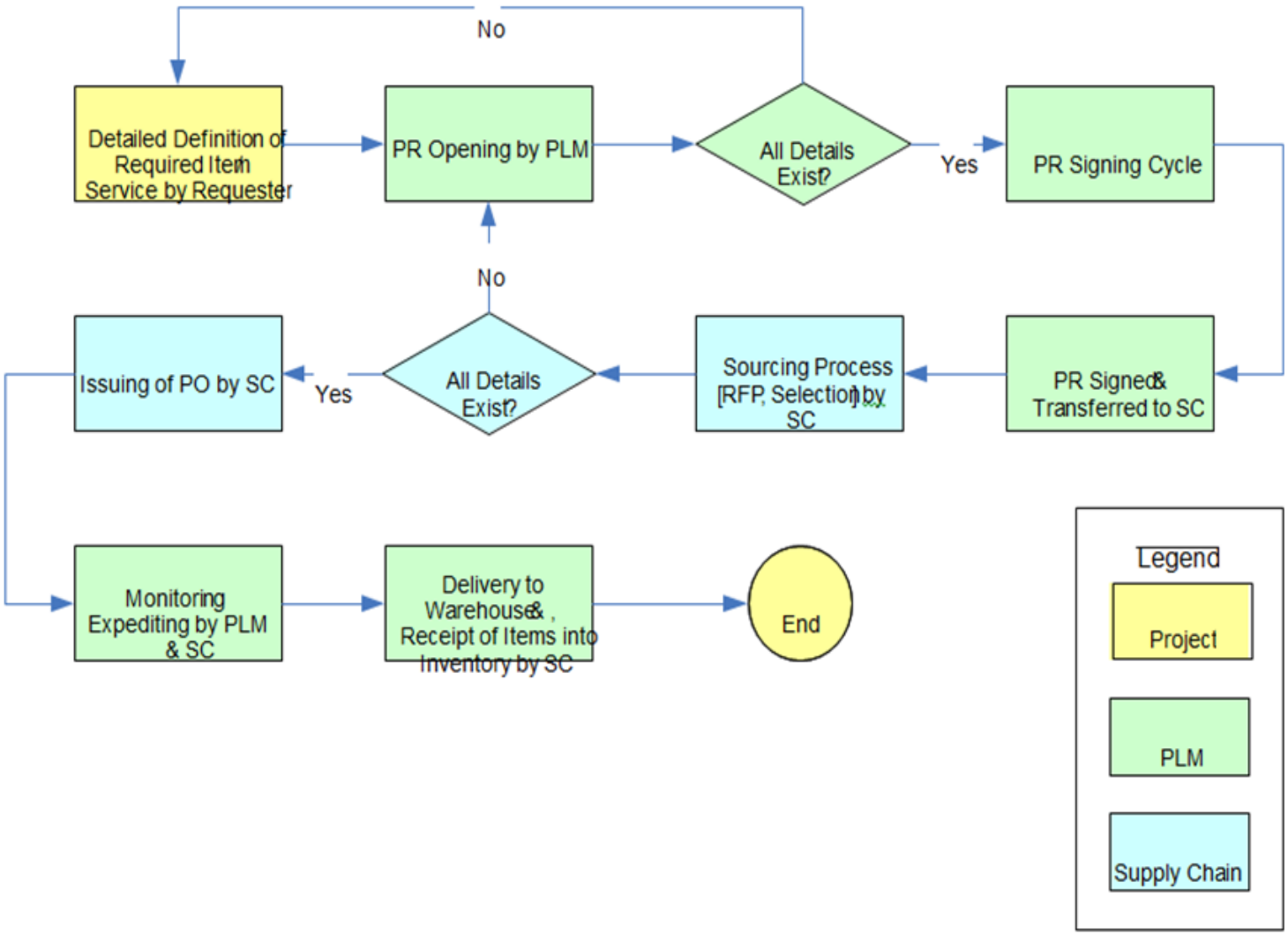


Figure 42 - SuperCom Procurement Process

Design and Engineering Management

The project dictates the top-level flow of activities, and focuses on the various tasks and reviews comprising the end-to-end engineering and implementation process.

On a day-to-day level of the engineering design and Testing and Integration (T&I) phases, a more detailed description of the work process is required to improve the coordination and synchronization of the various design and engineering entities involved in the process, and to ensure an integrative, effective and efficient solution.

A Design and Engineering Management Plan (DEMP) and a Master Integration and Test plan (MITP) will be prepared and approved by the project. The DEMP will specify the organizational modes and management processes that will be implemented in the project and the methods that will be used to realize the design and engineering requirements and tasks.

The MITP plan will specify the methodology, methods and plan to integrate and test the system.

System Engineering and Technical Management

Technical management and system engineering of the project will be responsible for overall system design, system development and implementation, system test and integration and system performance.

The SuperCom team and its sub-contractors, will design, coordinate and supervise the high quality completion of each of the system's components. The SuperCom team will also supervise and approve the sub-systems supplied by the sub-contractors.

The project plans will include the following:

- Design, testing and proofing of each of the sub-systems
- Defining the system testing process
- FAT tests for each sub-system
    - Testing the interfaces between sub-system and the performance.
    - Overall system technical performance tests
    - Overall system operational performance test
- SAT tests

Integrated Logistic Support Management

The prime objective of the Integrated Logistic Support (ILS) program is to ensure that logistic elements are properly integrated to achieve maximum economic and effective support to the project.

The ILS elements are given the necessary priority by the program management team early enough to enhance their support throughout the defined operational phase of the system.

The proposed ILS includes the following items:

- Warranty
- Logistic services
- Knowledge Transfer and Training
- Documentation
- Spare Parts

2. Provide a list of the standard project management deliverables that you would normally produce for this type of engagement.

Following are our recommended project management deliverables:

#	Name	Submitted By	Submitted To	Submittal Date	Purpose	Content
1	Weekly Project Report (email)	Project Manager	Customer	Every week	Overall Project status	• Project Status [Executive Summary] • Last Week's Activities Status • Next Week's Planned Activities
2	BI weekly Project Report	Project Manager	Program Manager	First week of each month	Overall Project status	• Project Status [Executive Summary] • Major Achievements • Last Week Activities Status • Next Month's Planned Activities • Risks and Mitigation Plans' Status • Monthly Budget Report [Actual vs. Planned Analysis, Revenue Recognition] • Open Issues • Managerial attention required
3	Monthly Project Report	Project Manager	Customer	Second week of each month	Overall Project status	• Project Status [Executive Summary] • Major Achievements • Major Milestones • Last Month's Activities • Next Month's Planned Activities • Risks and Mitigation Plans' Status • Open Issues • Customer attention required

In addition, these are additional deliverables:

- Project management plan
- Quality management plan
- Communication plan
- Risks management plan
- Purchase plan, including subcontractors statement of work
- Detailed organizational structure including the roles and responsibilities

3. **Provide a proposed list of project phases, tasks, and an implementation time-line. Label this Attachment #4.**

Please see Attachment 4.

4. What types of difficulties have other clients experienced with implementation of the proposed solution?

Most of the difficulties we have experienced with our clients are about two main issues:

(i) The readiness of the sites in which we have to install our system, which in most cases are under the responsibility of the client/government – which we found that were not ready on the planned time; and

(ii) Interfaces to external/legacy systems of the client or of other stake holders – where we experienced some difficulties either in their readiness for integration on the planned time, or some difficulties in a solid definition of the interface protocol.

5. Describe the experience and qualifications of the Project Manager you would offer as the resource for this engagement. **Provide a copy of their resume and label it Attachment #5.**

Please see Attachment 5.

PART 6: TECHNICAL SERVICES

1. Describe the technical services included in your proposal (e.g., business analysis, configuration, testing, implementation, etc.).

The following technical services are included in our proposal:

- Business Requirements Extraction & Analysis
- Build Detail Project Management Plan
- SW and HW High Level Design
- SW and HW Detailed Design (Software and architecture)
- Detailed Cards Graphics Design
- Data Migration
- All related Reports (e.g. development, testing, implementation and Support and Maintenance)
- System Integration
- Interfaces Testing's
- ATP Process
- Implementation Plan
- Training Plan
- Project Management Plan

2. Provide a list of the standard deliverables for the technical services described above.

The following items will be delivered as part of the project implementation:

A. 17 Camera Stations peripherals which include the following:

- 17 x Web Camera
- 17 x Signature Pad
- 17 x Secure Documents (certificates/sticker) Color Printer
- 17 x Scanner
- 17 x Contactless Smart Card Reader (for EDLs)

It is assumed the all standard IT hardware such as servers, PC, switches, etc. as well as an appropriate furniture's and facilities, will be provided by VT DMV

B. Driver's License/ID as per BOM. Assumes estimated quantities of documents as per RFP.

Beyond the deliverable equipment and cards mentioned in items A and B above, our services, mentioned in question 1 above, will produce written documents as detailed below

C. Detailed Project Management Plan

D. Project Requirements Document

E. Top Level Design

   a. Application Screens

   b. Main Entities Data Schema

   c. Uses Cases

   d. Interfaces

   e. Card graphics design sketches & security features for all card types

F. System architecture diagrams

G. Process workflow diagrams

H. ERD

I. Data Migration Process Description & Design

J. Data Migration Plan

K. Detailed card graphics and security features break down page

L. ATP procedure document

M. End-user documentation

N. Administrator documentation

O. Technical documentation:

   a. Installation manual

   b. Technician's manual

c. Troubleshooting manual

d. Deployment diagram

e. Network diagram

P. Disaster recovery plan

3. Provide a description of the roles/services/tasks the State will be expected to cover as part of this engagement. Describe any additional roles/services/tasks that are optional, but would be beneficial for the State to provide.

The following tasks are expected to be within the customer responsibility, to allow the success of the project implementation:

Customer General Responsibilities

It is the customer's responsibility to provide the following:

- To provide all technical information required by SuperCom before implementation. Information such as answers regarding technical issues, updated documents and specs on time defined by the SuperCom project manager. Same for keeping SuperCom updated, at least 3 month in advance for any version or configuration update that is planned by the service provider in the switch or Network that may affect our system, throughout the project life cycle.
- Participate in the site surveys.
- The Customer to communicate its security requirements for the installation activities and communicate them to SuperCom's Project Manager.
- The Customer project manager and assigned engineers should be present throughout the installation and integration activities to help resolve any issues that may arise during the installation activities.
- Approval of submitted documents within the time frame that will be defined in the Kick Off Meeting (KOM).
- If a milestone or a milestone's prerequisite to be furnished by Customer is not completed on time, this may delay the completion of this and the following milestones. Customer and SuperCom will jointly update the delayed schedule accordingly.
- Site access - the customer should provide site access approval to SuperCom professionals' team during both the design phase and the integration and implementation phase.
- To assign operational experts (operators, system manager and IT experts) that have the required skills as will be defined by SuperCom.

- Training:
  - To provide classrooms setting for the training courses. The lecturers will use both whiteboards and projectors to present the course material.
  - To provide permissions to use the actual system that was installed in the project site by the participants for Hands-on exercises training.

Customer's Site Preparation Responsibilities

SuperCom assumes that the project sites will be equipped. This will include the following:

- The availability of a suitable floor space for the additional equipment including Power UPS and Air-condition as stated in the SPG. Those will be available based on the relevant milestone (MS) described above.
- The Customer will advise SuperCom on time about any change that might affect the site preparation (such as Infrastructure work, site relocation, freeze dates, etc.)
- The availability of communication links and communication equipment between sites

VT DMV Miscellaneous (If Applicable)

- Civil works will be performed by the customer.
- Permits to work during day and night at all sites.
- Warranty and Maintenance for the VT DMV equipment, will be under the responsibility of VT DMV.
- Manpower for system, operational and technical training.
- VT DMV will provide the required data and approvals/permits that are required for the interfaces to external systems and databases.
- Support for Warranty is based on remote support model. It is assumed that SuperCom will have remote access to the system to enable remote troubleshooting

4. Describe your typical conversion plan to convert data from existing systems to your proposed solution (if applicable).

SuperCom's Magna SOA architecture allows the system to integrate / perform a data migration in a secure and reliable way. During the design phase the external DB structure will be learned and analyzed, and a mapping will be established between the existing data and the data needed in the new registry.

Generally speaking, SuperCom divides the data migration process into two parts: Massive Data Transfer (MDT) and Single Record Transfer (SRT).

Massive Data Transfer is the process where all the data in an existing database is exported to a common format (like CSV or XML) and then imported into Magna. This process will be executed once, just before the Magna system starts being used. Needless to say that in the development period this transfer process will be repeatedly tested and refined in "dry runs" in order to reach a status where all the data can be exported and imported without runtime errors or data inconsistencies.

Some examples of database where MDT will be performed are:

- The existing digital records of persons / drivers
- The existing database of driver photos
- The existing digital record of issued cards

For the Massive Data Transfer there is no need to discuss online / offline scenarios. Since all the data will be transferred in one go, it can be assumed that at the moment of the transfer the systems were connected to each other via LAN / WAN. Actually, if the databases to be transferred are very large (let's say over 20-30 GB), the transfer could be executed on a media like external hard disk instead of network. External hard disks of even 2 TB are very small, cheap, reliable and convenient to use. This can save a long wait time of transfer over WAN, if the WAN is not very fast.

Single Record Transfer is the process where a record has been added or modified in the external system and the content of this single record is exported (to CSV or XML) for import into Magna. In the case where external systems continue to live after Magna has become active we will to use Single Record Transfer. In actuality there is no need to import records into Magna one by one, as they happen, and a periodic batch process running once an hour or once a day is sufficient to keep Magna up-to-date.

Depending on the exact data migration scenario that will be devised and agreed with the customer, there may be no need for SRT operations.

Some examples of databases where SRT will be performed are:

- Station working with old system, still not upgraded when the transition was made, but continuing to provide service to drivers.

A basic requirement of such programs is to check all incoming data for logical consistency. Good records are imported, bad records will be moved to special errors tables in order to be later handled in a manual fashion.

All the routines (programs, web services) for both Massive Data Transfer and for Single Record Transfer will be developed by SuperCom based on the system's requirements and design.

During the system's Acceptance Test Procedure (ATP) we will show how legacy data and new data are both used correctly in all the options of scenarios like the one described above. During the design of the system, a full list of all the various registration scenarios, using both old and new data, will be prepared and included in the system's ATP.

5. Describe **and attach your typical Implementation Plan (label it Attachment #6)**, which shall include planning for the transition to maintenance and operations.

   Please see Attachment 6.

6. Describe the experience and qualifications of the technical resources proposed for this engagement. **Provide their resume(s) and label them Attachment #7.**

   Please see Attachment 7.

7. Describe the training that is included in your proposal.

The following table lists the group of courses available for this project.
Please note, this general list of courses will be customized after the project is awarded and during the project, according to the project specific needs. Detailed Training Program document which include the entire courses agenda, will be provide after the project is awarded and its scope is final.

Table 7 – Group of Courses for the Vermont DMV Project

Group #	Course	Audience	Course Subjects and Objective	Total course Duration
1	Orientation Basic Course	All	System Objectives, Management structure, communication procedures, project overview	6 Hrs.
2	System Architecture Design Concepts	VT DMV's IT Support Officers, operation Managers and Trainers	Trainees will understand the design of the system architecture, design of data, technological environment of the system and technical constraints, operational aspects, security features, etc.	8 Hrs.
3	Features of Sub Systems	VT DMV's IT Support Officers, operation Managers and Trainers	Trainees will understand functional, Available list of web services, external interfaces and technical features of the complete system to a detailed level	8 Hrs.
4	Enrollment and Registration	Operation Managers, Application Support Unit / Super Users End Users and Trainers	Trainees will know how to use Fixed station enrolment, Portable station enrolment, screening of registrants, the registration steps, registering biographic data, capturing biometrics data, off line modes, validation/supervisor authorization, managing exceptions, documents and cards delivery/issuance, managing transactional and management reports	8 Hrs.
5	Documents and Cards issuing	Application Support Unit / Super Users And End Users	Trainees will know how to issue the cards and documents, Documents and Cards Quality assurance, packing, delivery, managing transactional and management reports, Troubleshooting Content, problem prone areas, actions to be taken, diagnosing problems, auditing logs	8 Hrs.

Expected Outcome

We validate the effectiveness of the training provided through the use of controlled test exercises and instructor evaluator forms at the conclusion of each course, which are reviewed for each trainee and scored to ascertain the effectiveness of the training session presented. Feedback from the courses (to include summary reports on instructor evaluator forms and training exercises) will be provided

to the Trainer and his/her backup(s). Therefore, assessment will be continual, and the Trainer will collaborate with SuperCom's project managers to determine appropriate intervals in which to implement any modifications within the training program.

Outcome Measurement and Evaluation:

- The evaluation ensures the training's continuing ability to produce qualified employees. This enables the training developer to adjust the training as necessary
- Every course will be evaluated by its trainees by a training summary
- In addition, every trainee will be evaluated individually, and his evaluation will be delivered to the required supervisors

Skills Transfer Plan (Localization of skills)

Technology transfer activities will be conducted in parallel to the project implementation and deployment phases, thus providing an opportunity for the VT DMV's personnel to participate in the IT system development life cycle from its inception through its maturity phases.

SuperCom's training courses are developed and conducted in accordance with well tested and the latest methods and includes software and hardware studies. SuperCom will provide the training documentation in hard and soft copies, for all trainees.

The VT DMV's personnel will participate during the Application System Analysis and Design stage of the Project Detailed Design phase and with continued involvement with SuperCom's local project staff and R&D teams. In doing so, the Project IT staff will acquire experience and insight into the design process and architecture of a complex IT project, and the contractor's team will enjoy and benefit from the close cooperation with The Project Office's representatives.

The VT DMV's IT Team will be able to observe and participate in the development stages of the project, and integrate skilled personnel in the application development teams. The pre-requisites of skills and experience will be determined on the basis of the structure of SuperCom's development teams.

SuperCom will transfer all the necessary skills and technologies to the VT DMV's personal by implementing training programs, as described below, to ensure prompt and secure response to any issues that may occur during the entire project.

After training, the VT DMV's staff will be able to operate, configure and maintain all elements of the system.

8. Describe the system, administrator, and/or user documentation that is included in your proposal.

The system would be provided with the following documentation:

- Training Materials – For the Registration staff, and for the central Facial Recognition System, and Datacenter staff
- End-User/System Operators documentation, including:
  - Operator and Supervisor User Manuals
  - Operator and general maintenance service of the system – For Level 1 of Support (System Administrators)
  - Hardware and special equipment general upkeep
  - Preventive maintenance instructions
- Technical Reference and Service Manuals for all equipment delivered (AS-IS)
- Technical Reference and Service Manuals for all application software delivered
- System General Description – For Managers (Change Management)

PART 7: MAINTENANCE AND SUPPORT SERVICES

1. Provide answers to the questions below regarding your company's Maintenance and Support Services:

Questions	Bidder Response
Service: Customer Phone &/or Email Support	
What is the method for contacting technical support?	All support issues require a ticket for tracking purposes. Tickets may be e-mailed in or called in. Emergency issues not detected through monitoring require phone calls as tickets are only monitoring during Help Desk business hours.
What are the hours of operation for support?	Standard hours of operation are 8am-5pm excluding Simpleroute published holidays.
What is the turnaround time for responses?	Turnaround time depends on severity. Please defer to the SLA noted in Attachment 8 for information regarding how we categorize issues and for the SLA timetables requested as part of this RFP. SLA notwithstanding, we target the below response rates: Critical: 1-hour High: 2-hour Medium: 4-hour Low: 8-hour
What is the escalation process for support issues?	Simpleroute's Help Desk will spend 1-2 hours working on issues before they are raised to our Level 2/Level 3 technicians which comprise our NOC team. This team will review the ticket and determine the appropriate action. Critical issues involving site-wide or multi-side issues are escalated immediately to senior staff.
Who comprises the support team and what are their qualifications?	Our support team is comprised of the below individuals. Should the bid on this RFP be won, Simpleroute would be hiring an additional Level 1 technician to aid in Help Desk requests. **Matthew Harrison, Level 1 Support Intern** Matthew has worked at Simpleroute since April 2017. While relatively new to our field, Matthew has

Questions	Bidder Response
	gained significant support experience working with us and assists in help desk support. He is currently fulfilling a BS in Computer Science and Innovation and is a talented programmer. His coding skills enable him to look at system software issues through a unique lens which aids in software troubleshooting. Matthew is currently part time in his intern capacity although by the time a contract is awarded, Matthew will either have graduated and be full-time or have been replaced by a full-time Level 1 technician. **Corey Marrier Level 1 Support Technician** Corey joined Simpleroute in November of 2015. Prior to this, he worked at a St Albans based Managed Service Provider for 3 years providing similar services. Corey is Allworx certified and provides Help Desk services for end-users. Corey has 6 years of technical experience providing some form of technical support services and several more years of customer service experience. **Joseph Andrzejewski Level 1 Dispatch** Joe joined Simpleroute in November of 2017. Prior to joining Simpleroute, Joe has accumulated decades of technical experience. He previously worked 9-years providing data processing and IT services for a local printer, 5-years providing data support for 3000+ grocery stores and 8-years as a technical support manager amongst other smaller positions. Joe provides Dispatch services to ensure timely ticket response and Help Desk services when not dispatching. **Daniel Safford Level 2 System Administrator** Daniel joined Simpleroute in November 2015 originally as a Help Desk Intern. He quickly rose through our ranks due to a high technical skillset and was recently upgraded to a Level 2 System Administrator. Daniel is set to go full-time with Simpleroute post-graduation from Champlain College in April. His previous work history was providing Unix Administration for DCS of Shortsville, NY and IT Administration for MSI in Morrisville, VT. Dan is a Microsoft Certified Professional and also holds certifications for CompTIA, A+, Network+, Cloud Essentials, RHCSA, CCNA, RHCD and ITILv3. **Mateo Tudon Level 2 Technical Consultant** Mateo joined Simpleroute in January of 2015. He previously worked 3 years as a Technical Lead at a

Questions	Bidder Response
	Manhattan based MSP. His work history includes a 1-year contract position at Microsoft, 2-years as a Network Specialist at a computer repair company amongst other technical roles. Having survived technical support in downtown Manhattan during Hurricane Irene, Mateo has significant hands on experience in disaster planning and execution as he was in Manhattan at the time and spent significant time thereafter aiding in disaster recovery planning efforts with businesses caught off-guard. Mateo provides implementation planning and services and is instrumental in Simpleroute's project implementation process. Mateo is a Microsoft Certified Professional and obtained his MCDST in 2011. **Charles Bucchioni Level 3 Platform Engineer** Charles joined Simpleroute in September of 2015 as our Platform Engineer. He previously worked for 2 years at a St Albans based Managed Service Provider and is a Microsoft Certified Professional. Charles has had several other IT positions including IT Administrator at two small firms over the course of 2-years. Charles also served for 3-years in the US Department of Defense under the 94F – Computer/Detection Systems Repairer. **Brett Johnson Level 3 President** Brett founded Simpleroute in 2009 and went full-time with it in 2010. His prior work history includes 9-years as a System Administrator, 3-years as a Technical Consultant and 1-year providing software support services at large network monitoring software companies. Brett is a Microsoft Certified Professional and graduated summa cum laude from Northeastern University with a BS in Computer Science. He was previously Microsoft SQL 2005 and Microsoft Dynamics 10 Install certified. Today, Brett manages and handles all operations at Simpleroute.
Define your response resolution metrics and how you capture and report them.	Simpleroute uses Professional Services Automation software (Kaseya BMS) for ticketing. BMS, like most PSA software, is capable of tracking ticket metrics such a response time and resolution time and carries ticket status information through the ticket lifecycle. Simpleroute also uses monitoring software (Kaseya VSA and Kaseya Traverse) for monitoring systems and network. These tools allow us to track system health/performance and receive notification of failures immediately. VSA performs workstation/server and light network monitoring. Traverse

Questions	Bidder Response
	performs network device monitoring and service delivery monitoring. Simpleroute uses a reporting product (BrightGauge) for generating reports from this data which would ultimately be used to determine SLA hits/misses.
Service: Incident/Security Breach Notification and Process	
Describe your identification and notification process for security breaches.	Once a security breach has been identified in the system, we issue an immediate notification to the security officer of Vermont DMV, and to SuperCom Security Event Reaction Team.
Service: Data Management	
Describe how data is stored, retained and backed-up (including frequency).	All information in Magna is stored in the central database. The database is being continuously replicated from the main datacenter to the DR datacenter (using real-time "redo log shipping"). The information found in the database is being backed up to magnetic media (LTO6 tapes) daily. Once a week the backup will be a full backup. The daily backup will be a differential backup. The backup process exports data from the database to a disk media, and from there to tape. The advantage of the process is that recovery data will be available on hard disk, without need to restore from tape. One copy of the LTO6 tape media will be taken out periodically.
Service: Hosting	
Describe the hosting service and associated service levels.	Based on answers in the Q&A document we understand that DMV is willing to consider both hosting of the system on Vermont DMV premises and hosting on supplier's premises. *Q&A #14: RFP, Exhibit C, Part 7, Hosting. Does the State have a preference to onsite hosting or offsite hosting?* *Answer: The State requests that the Bidder put forth a cost-effective proposal that best meets the requirements set forth in this RFP including data security.* *Q&A #66: Excluding the centralized card production system backend components, what are the expectations for the State in term of hosting the backend-components for Primary and Disaster Recovery data centers? Should the vendor provide the hosting service, including network capacity or*

Questions	Bidder Response
	would the State provide rack space in its own datacenters, and in this case, would there be a charge associated with that? *Answer: Bidder shall provide their solution that best fits the needs of the State as outlined in the RFP.* Our primary proposal is based on the assumption that Vermont DMV will host the 2 data centers (main data center and DR data center), and source the standard IT equipment in those data center, based on specifications that we provide. Since the central HW elements of our solution are all standard, we appreciate that Vermont DMV might wish to own such a critical part of its IT systems. There are also financial advantages to DMV in providing their own HW. For example, if the data center already has a backup library robot with the matching backup software. These could easily be used to backup the data of our new system. If the data center already has in place UPS and emergency power generation, these could be reused by the new system, thus saving expenses. We assume that DMV currently has a main data center and also a disaster recovery data center, and sufficient place there to host one rack of equipment that our system needs. Should DMV decide that it does not wish to go this way we can host the main servers of our solution or the backup data center or both, at a cost. We could also buy all the equipment instead of DMV. Pricing for this is being provided as an optional item.
Service: Scheduled Maintenance/Downtime	
What is the frequency of scheduled maintenance and downtime?	Simpleroute would schedule weekly patch installs off-hours. The time can be varied to suit the DMV's requirements – we generally prefer a window early morning around Monday 1am-3am.
What is the notification process for scheduled maintenance and downtime?	Outside of the normal weekly maintenance window, Simpleroute would require a distribution group that would allow @Simpleroute.com domain emails to send allowing authorized staff to e-mail DMV staff and notify them prior to scheduled maintenance/downtime outside of the weekly maintenance window.
Describe how "maintenance" updates are tested with customers prior to installing them in their live environments.	The proposed solution includes a fully functional Testing Environment. Into this environment we will deploy the update and together with VT DMV we will test all the processes, from registration to issuing. Only after all relevant workflows are checked and found functional, can the software update be moved

Questions	Bidder Response
	to production. The amount of testing to be performed is always an open question when you deal with regression testing. The typical answer is that the amount of testing should be commensurate with expected damage.
Service: System Upgrades	
Are software upgrades provided as part of the software support contract?	Updates to the solution would be provided free of charge by SuperCom and would be installed by Simpleroute without charge.
Describe your software upgrade process.	Software updates will be updated first on the testing environment. All processes, from registration to card issuing, will be tested. Only after these tests have passed successfully, and after DMV approval, the software can be installed in production. The update process can include: - Upgrade of the database schema (if needed) - Upgrade of the central application - Upgrade of client applications Upgrade of operating system
How often are new versions released?	New versions of the application are released whenever there is a bug fix, or a commissioned software change, or at least once a year.
Is documentation and training provided for system upgrades?	Yes. All upgrades are provided with release notes, documentation updates (if needed). Remote training will be provided if needed.
Are there additional costs for upgrades and/or new releases?	No
Describe how and when the State will have an opportunity to test system upgrades/releases prior to live installation.	All planned updates will be available for testing in the testing environment.

Questions	Bidder Response
Describe how the State will validate post installation and how changes will be backed out in the event that a problem is encountered.	We recommend that state will conduct exhaustive testing of the new software in the testing environment. After deploying such a change, State should validate manually outcome of select processes for a number of days (by analysis of system logs) to ensure that everything is as expected.
Service: Bug Fixes and Minor Enhancements	
Describe the frequency and process for providing, testing, and installing bug fixes and minor enhancements.	Same as described above, just the amount of testing can be reduced.
Service: Disaster Recovery	
Describe the disaster recovery services included in this proposal for any non-state hosted services.	Simpleroute maintains a clustered environment and dual WAN connectivity. Off-site replication is encrypted with to the hour backups to allow spin-up on a remote server. If the SuperCom Team are awarded this project, Simpleroute would create an Azure replicated instance for its monitoring platform to ensure data continuity and up-time. While Simpleroute's monitoring services are important in preventative maintenance and tracking service delivery response, it is worth noting their failure would not cause a direct failure of the installed solution.
What is your standard RPO and RTO?	Simpleroute targets an RTO of 4-hours and an RPO of 1-hour.
Describe the plan your company has in place for its own disaster recovery of any sites that may be involved in support of this proposal.	Simpleroute has a Disaster Recovery Plan that would trigger a spin-up of our remote server for monitoring. DNS would be redirected to the new IP of our off-site location and technicians would connect to this server via an Internet connection using Remote Desktop Services. The Simpleroute phone system would be redirect to cellular and if longer term operation were required, the current virtual PBX would be brought up online on our off-site server. Simpleroute relies on G Suite for e-mail which minimizes the risk of communication outage as it is a distributed platform with 99.9% uptime.

2. Describe any other services not mentioned in the above list that are included in your standard Service Level Agreement (SLA) and **include a copy of your SLA with your response to this RFP. Label the SLA Attachment #8.**

The SLA for this project is noted in Attachment #8. Our SLA covers support of the solution once installed.

3. Describe how adherence to your service levels is measured and what remedies you would provide the State when performance doesn't meet the standard?

Simpleroute uses BrightGauge to monitor and report on metrics monthly. If SLAs are missed, clients can submit a request for a prorated refund based on the service outage for the time a system was down. Prior to issuance of a credit, Simpleroute will investigate the claim and ensure the outage met the criteria for the requested credit. For example, an outage of 1-day in a 30-day calendar month beyond the defined SLA period would result in a credit of 1/30th our standard monthly billing. This credit would be determined based on the Help Desk fees charged by SuperCom.

Simpleroute assigns statuses to track tickets. SLA clocks run until a ticket enters a waiting status. These waiting statuses are triggered when either a) we're waiting on a client, b) we're waiting on a vendor or c) a client requests a scheduled time in the future for service and asks us to put an issue on hold. For instance, a site-down alert would start a ticket and our SLA clock. When it was determined the ISP was offline, we'd call the ISP and then move our ticket to a "Waiting on Vendor" status which would pause our SLA timer.

Simpleroute would generate prior month reports monthly to allow refund requests due to a missed SLA.

PART 8: PRICING

1. Submit pricing for your proposed solution in the tables below. Fill in only the lines that are applicable to your proposal. **Insert lines for additional costs, but <u>do not</u> delete or rename any lines in the Tables. It is the State's desire that the Bidder fill out Table 1 and 2. However, if Bidder is unable to support Table 1 please complete Table 2 with the substrate materials the Bidder is capable of producing.**

TABLE 1 - Per Card (All Cost Covered in a per card fee)

	PVC	Teslin	Polycarbonate	Other
(DL/ID) Per Card Cost- including implementation costs	[redacted]	[redacted]	[redacted]	[redacted]
EDL Per Card Cost- including implementation costs	[redacted]	[redacted]	[redacted]	[redacted]
Total Annual Cost	[redacted]	[redacted]	[redacted]	[redacted]

TABLE 2 - Fixed Cost (Implementation & Maintenance/Support)
Per card cost for production of cards Only

Description of Costs	Implementation Costs (One-Time Project)	Annual Operating Costs (Reoccurring)		
Professional Services				
Card Design	[redacted]			
Graphic Design Services (Per Card Type, 6 are quoted)	[redacted]			
200 SAMPLES If Needed Upon Award - Per Unique Design (in Polycarbonate)	[redacted]			
200 SAMPLES If Needed Upon Award - Per Unique Design (in PVC/PET Composite)	[redacted]			
200 SAMPLES If Needed Upon Award - Per Unique Design (in PVC)	[redacted]			

Description of Costs	Implementation Costs (One-Time Project)	Annual Operating Costs (Reoccurring)		
Configuration/Installation/Implementation of Data/Information Capture Software	[redacted]			
Configuration/Installation/Implementation of Image Capture & Storage Software				
Configuration/Installation/Implementation of Facial Recognition Software				
Interface Design/Build/Testing/Implementation				
Project Management Cost - Included				
Other Contracted Professional Services for Implementation & Training (Please provide a detaile description)				
Training: Capturing application, IT and Document Personalization (after each office implementation, 3 D course for up to 10 VT DMV officers and local partne				
Training Documentation (English)				
500 hours per year for the purpose of system enhancements, changes to card formats etc.				
Third-party penetration tests (one per year)				
Cyber liability insurance				
Software/Licenses				
Data/Information Capture Software				
Image Capture & Storage Software				
Facial Recognition				
Hosting Cost				
Test Environment				
Production Environment				
Hardware				
Camera Stations (Please indicate number of units included in cost)				
Web Camera				
Signature Pad				

Description of Costs	Implementation Costs (One-Time Project)	Annual Operating Costs (Reoccurring)		
Color Printer for temporary DL & Receipt	[redacted]			
Scanner				
Card Reader				
Special stations at the Airport to issue emergency credential for Vermont citizens who must board a plane (if expired or lost)				
Servers, Switches, etc.				
Other Hardware (Please provide detailed description)				
Spare Parts				
Equipment or Supplies				
Backdrops				
Other Equipment or Supplies (Please provide detailed description)				
Vendor Annual Maintenance/Service Costs				
Level 2: 24 x 7 Support Services and Helpdesk of Local Engineers, periodical visits (5 Years)				
Level 3: 24 x 7 Service (5 Years)				
Total Annual Fixed Cost				
Total Fixed Cost				
Plus Per Card Cost				
Shipping Cost Per Card				
Card Production Cost - Per Card			**Polycarbonate**	**Other (Please Specify)**
DL/ID Card			[redacted]	[redacted]
EDL			[redacted]	[redacted]

2. Describe any assumptions you have made in relation to the above cost and pricing information.

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

- Optional Prices:

  If DMV asks SuperCom to provide the Data Center equipment, its software and DR (not including UPSs):

Description of Costs	Implementation Costs (One-Time Project)	Annual Operating Costs (Reoccurring)		
Data Center - Hardware				
[redacted]				

Description of Costs	Implementation Costs (One-Time Project)	Annual Operating Costs (Reoccurring)		
ABIS (FRS) Servers				
[redacted]				
Total Data Center - Hardware	[redacted]	[redacted]		

Description of Costs	Implementation Costs (One-Time Project)	Annual Operating Costs (Reoccurring)		
Data Center - Software				
[redacted]				
Total Data Center - Software	[redacted]	[redacted]		

Total Main Data Center – Hardware + Software	[redacted]	[redacted]		

Total DR Data Center – Hardware + Software	[redacted]	[redacted]		

3. Provide pricing information for any volume discounts that are available based on the number of cards produced, software licenses purchased or support years purchased.

Provided prices are final. However, if substantial change in annual quantities - we shall offer a discount.

4. Provide pricing for any Functional Requirements marked as "No" but could be accomplished through customization. Pricing should be based on each functional requirement or small group of similar requirements.

N/A. All of our functional requirements are marked as yes.

5. The State of Vermont DMV is concerned with the needs of Vermont citizens who must board a plane in an emergency where their current credential may be expired or lost. Bidder shall provide solution and pricing to address this concern separate from 8.1.

[redacted]

[redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

PART 9: TERMS AND CONDITIONS

In deciding which Respondent/s to shortlist the State will take into consideration each Respondent's willingness to meet the State's terms and conditions. Indicate any objections or concerns to our stated terms and conditions in the RFP or any of the exhibits, addendums or attachments including **Attachment C** and **Attachment D**. Add lines to the table below as needed.

Important: Bidder will be bound to all terms and conditions stated in the State's RFP, exhibits, attachments, and/or addendums except and then only to the extent specifically set forth in the table below, and only if and to the extent expressly agreed and incorporated in writing in a resulting contract.

Clause Location	Concern	Proposed Verbiage
Attachment D – Section 5.3, page 5	Contractor should be enabled to disclose State Data to its parent company and / or other affiliate (SuperCom Inc. submits its proposal together with its parent company - please see Bidder Profile, Exhibit C, Part 1) otherwise Contractor might be limited when performing its duties under the Contract.	Contractor may not share State Data except with its parent company or other affiliate without State's express written consent.

VERMONT

State of Vermont Bidder Response Form

PART 10: AUTHORIZED COMPANY SIGNATURE

I am authorized to submit a proposal to the State of Vermont in response to this RFP on behalf of my organization. The information provided as part of my organization's response is a true and accurate representation of my organization's ability to meet the State of Vermont's business needs as expressed in this RFP.

Signature:	Jason Gilbert
Full name:	Jason Gilbert
Title:	Vice President of Sales, Public Sector Solutions
Company:	SuperCom, Inc.
Date:	January 5, 2018

ATTACHMENT 1

Financial Statement

ATTACHMENT 2

Road Map

NASDAQ: SPCB | www.supercom.com

Secured Boundaries
Expansion

SuperCom ∑ID Roadmap for 2018-2019

January2018

- SuperCom Confidential -

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2

Magna™ **Road Map** - Main Tasks & Benefits

[redacted]

3

Magna™ **Road Map** - Main Tasks & Benefits (Continue)

[redacted]

4

Magna™ **Road Map** - Main Tasks & Benefits (Continue)

[redacted]

5

Magna™ **Road Map** - Main Tasks & Benefits (Continue)

[redacted]

6

Magna™ Road Map

Additional Tasks

7

Magna™ Road Map – **Additional Tasks**

[redacted]

8

Magna™ Road Map - **Additional Tasks** (Continue)

[redacted]

9

NASDAQ: SPCB | www.supercom.com

Secured Boundaries
Expansion

THANK YOU!

Eli Basson
elib@supercom.com

ATTACHMENT 3

Executive Summary PowerPoint

Executive Summary

VERMONT

SuperCom Proposal for

State of Vermont

Information Technology RFP for

Driver's License/ID System Replacement

January 12, 2018

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SuperCom Company

SuperCom at a Glance

Years in Business: 30 years

Number of Employees: 120

Nature of Business:

- National ID/eID and eGovernment
- M2M
- Mobile Payment
- Cyber Security
- GIS and Land

Clients:

- Over 20 Governments across the Globe
- Many State Agencies

Other:

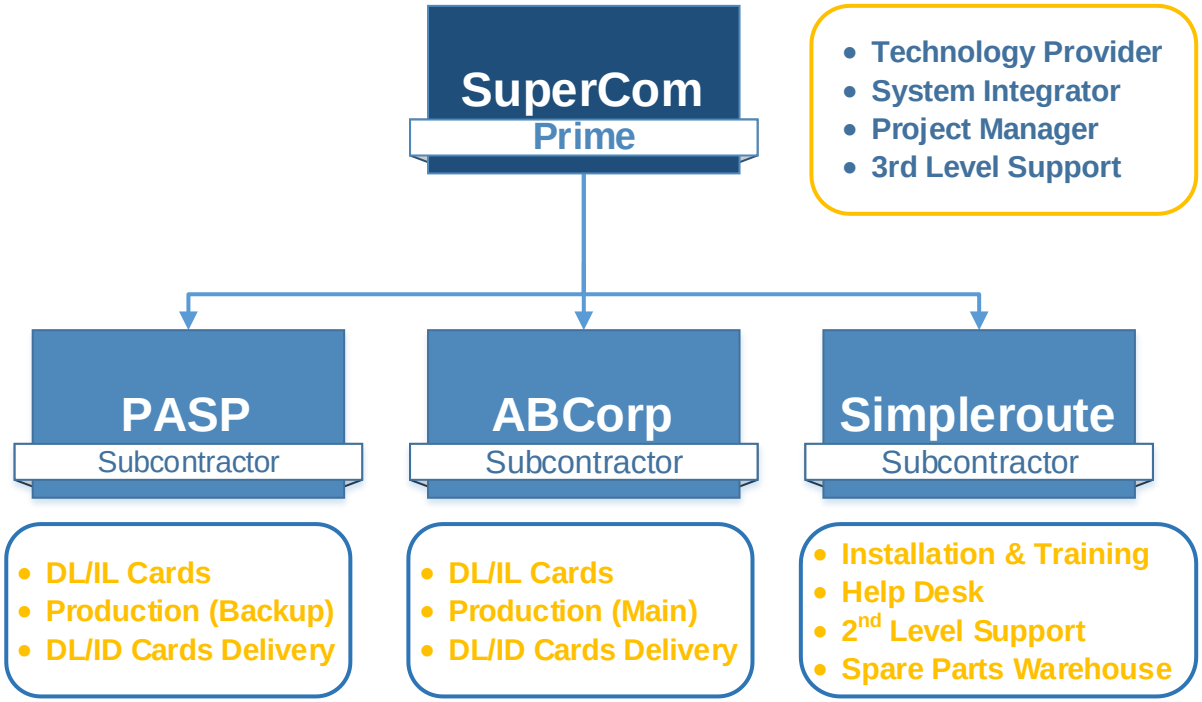
- Listed on NASDAQ (SPCB)
- World-wide leader in Location Based Solutions
- 40% of staff devoted to R&D and IT and technical support
- 7 patents in RFID Technologies

SuperCom (NASDAQ: SPCB) is a leading global provider of traditional and digital identity solutions, providing advanced identification, safety, and security solutions to governments and organizations, both private and public, throughout the world since 1988. **SuperCom**, as Prime and System Integrator, has teamed with 3 leading industry partners in order to address, with the highest quality and reliability, the requirements of this state-wide important project.

SuperCom's National ID/e-ID and e-Government solutions:

- National ID (all national documents from birth to death)
- Population registries, Censuses
- e-Government portal
- Driving license, Vehicle license
- e-Passport
- Biometric border control, e-Visas
- Voter ID & election management
- Internal Revenue & Social Security projects
- Pension Verification Systems

SuperCom Team

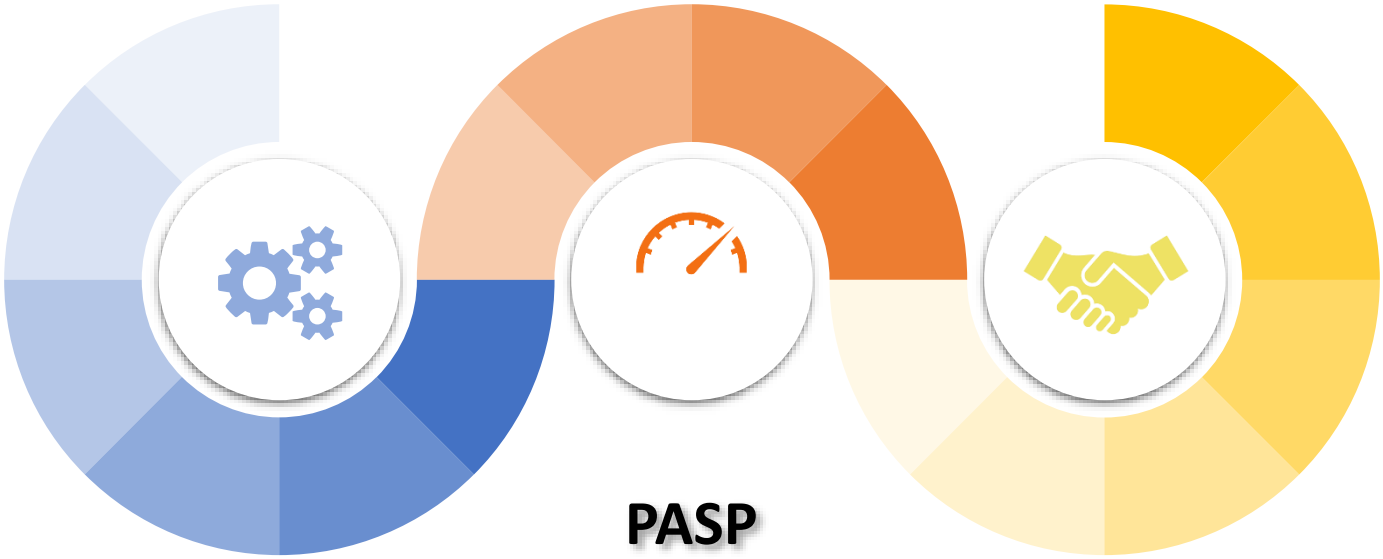


Key

- ● Major Responsibility
- ● Minor Responsibility
- \- No Responsibility

	SuperCom (Prime)	ABCorp	PASP	Simpleroute
Management	●	●	●	●
Implementation	●	●	●	●
Card Production	-	●	●	-
Support	●	-	-	●
Training	●	-	-	●

SuperCom Team Members



ABCorp

ABCorp, based in Boston, is a leading global supplier of secure solutions. For over 200 years of experience, ABCorp has successfully manufactured millions of DL/ID cards for over a-third of the US states and several Canadian provinces in compliance with AAMVA and US Federal Government Real ID Act.

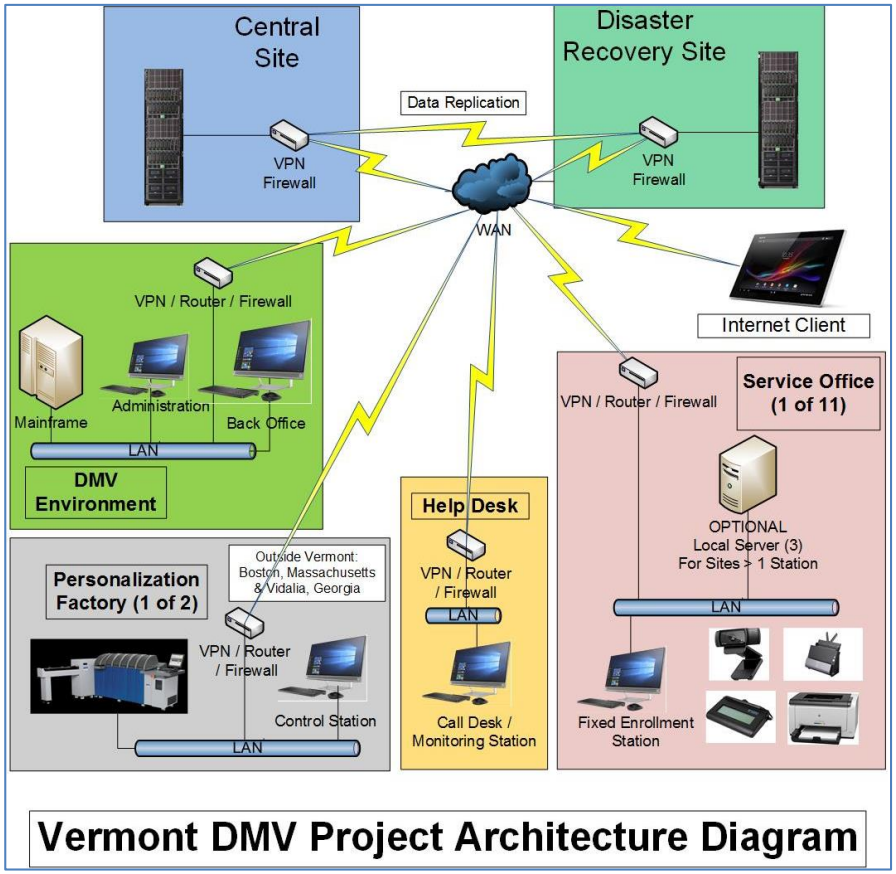
PASP

PASP, based in Georgia, has a strong presence in the first responder market providing credentials to the nation's over 5,000 Law Enforcement Agencies. All such Credentials exceed AAMVA security requirements and are used by Law Enforcement Officers routinely.

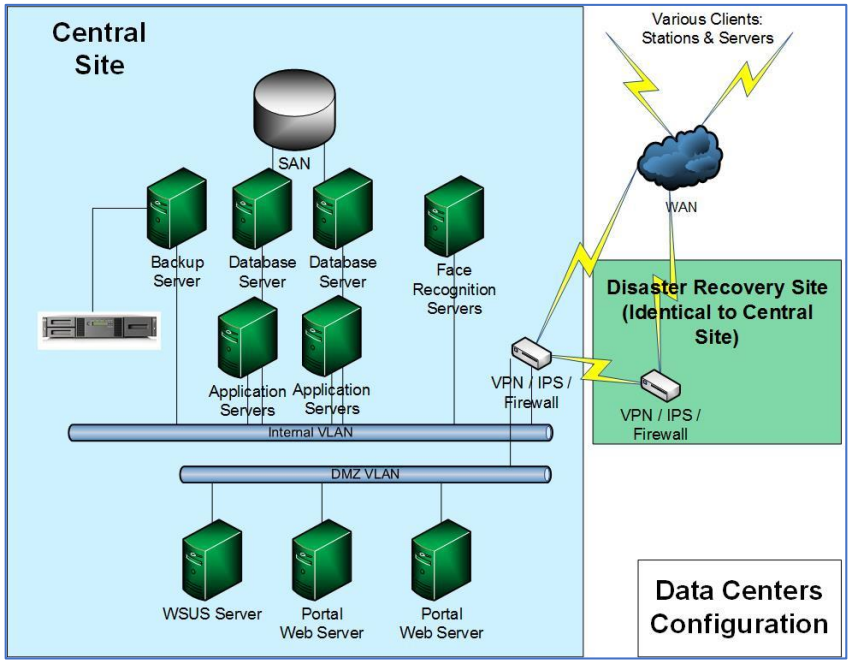
Simpleroute

Simpleroute, based in Vermont, was founded in 2009 and is a leading Vermont based Managed Service Provider and provides IT services and 24/7 monitoring services to its clients. It has extensive experience in providing IT services, including help desk, monitoring, and support to various local city and state agencies.

Proposed Solution Architecture



Vermont DMV Project Architecture Diagram



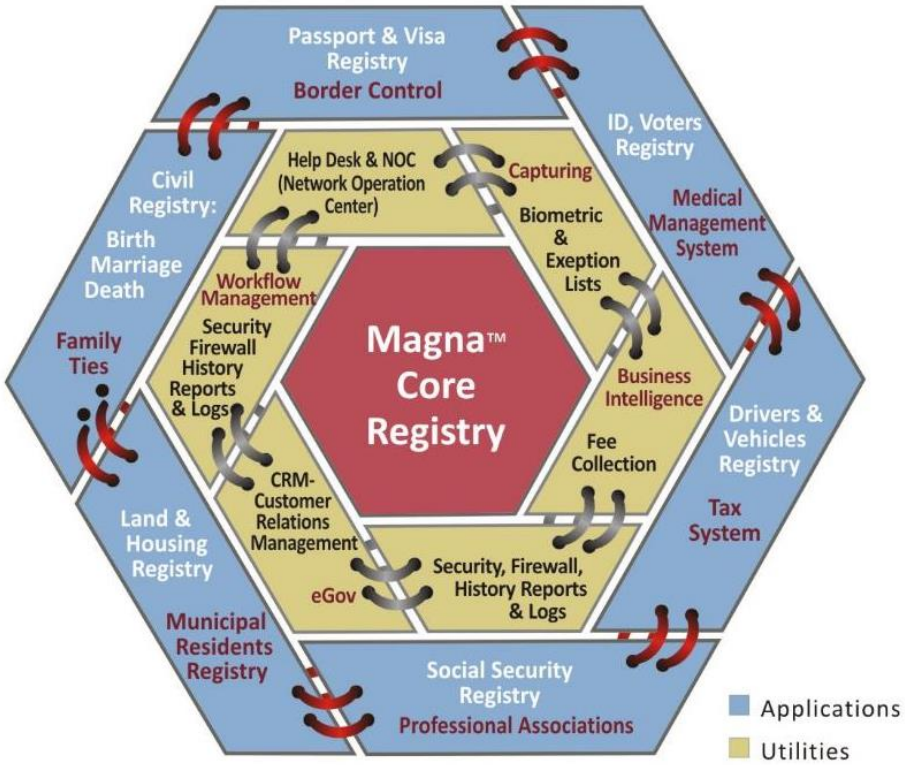
The hardware systems are controlled and the architecture is based on SuperCom's state-of-the-art software platform Magna™.

Software Solution - Magna™

The solution for the Vermont DL/ID project will be based on SuperCom's flag-ship, state-of-the-art, highly-secure and field-proven Software platform, Magna™.

Key Differentiators for Magna™ are:

- Successfully Implemented in over 20 Different National ID Projects, Worldwide.
- Developed and Enhanced during the Past 20 Years.
- Provides a Unique Secure & Comprehensive Identity Software Platform.
- Web-based, Scalable and Easily Customized.
- Provides One Platform for Many Applications.



Card Production - Personalization

- SuperCom Team member, ABCorp, will manufacture the new pre-printed card stock and execute the secure DL/ID card personalization, fulfillment and mailing to the requesting applicants. All the above processes will be performed “under one roof” at the secure Card Production and Personalization Bureau of ABCorp in Boston, Massachusetts. ABCorp’s personalization bureau is certified by MasterCard and Visa and employs the most advanced physical and logical back-up methods.
- If a catastrophic failure happens in the card manufacture and personalization facility of ABCorp, our plans include transferring all operations from ABCorp’s' main facility in Boston to our other SuperCom Team member, PASP, who can immediately perform manufacturing, personalization and shipping without any delays in the process in their secure hot facility at Vidalia, Georgia.

Maintenance & Support

Maintenance

Simpleroute's Level 3 technicians provide platform design, configuration, and other maintenance work. Once a sub-system becomes operational, the maintenance team is responsible for all maintenance activities and support of the system from this period onwards.

Training

SuperCom and its partner, Simpleroute, implement a structured and planned end-to-end training solution. This enables each group to obtain the required knowledge and skills that will deliver business value, while maximizing solution capability and minimizing training time.

Monitoring

Simpleroute will operate a monitoring system checking up on the status of the entire solution to discover problems and solve them, before they become troubling. Simpleroute will create an Azure replicated instance for its monitoring platform to ensure data continuity and up-time.

Help Desk

Simpleroute, will operate a help desk for receiving calls for help from DMV operators as well as technicians. Simpleroute's Level 1 technicians make up our Help Desk staff and are our first line of defense for client issues. Simpleroute will assign 4 technicians to Level 1 support.

Project Management

SuperCom
Secured Boundaries Expansion

Project Manager Strengths:

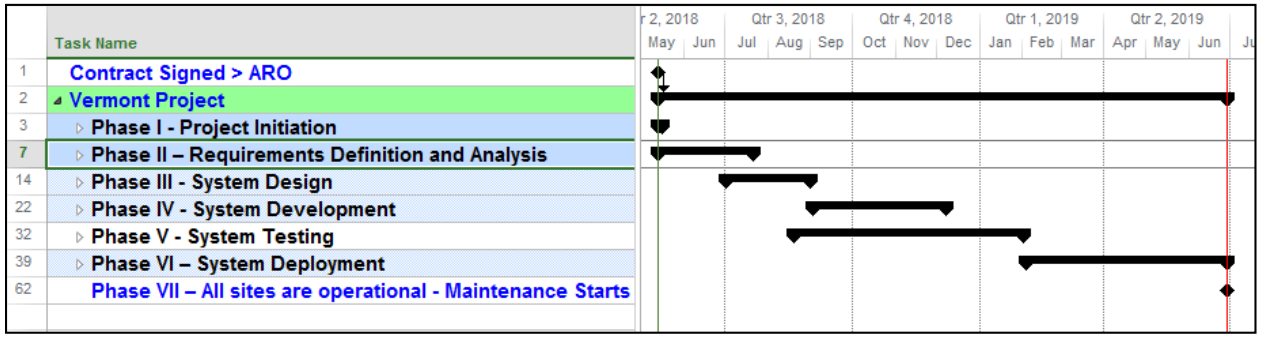
- 8 years Director of Driver Licensing at MassDOT
- 12 years of experience in high profile government related jobs
- Expert on all facets of driver licensing programs

Deputy PM Strengths:

- Level 3 IT Technician and IT Expert for 20 years at Registry of Motor Vehicles in Boston
- Over twenty- years expertise in Systems Analysis and IT Development Specialist

Project Main Activities:

- Business Requirements Extraction & Analysis
- Build Detail Project Management Plan
- SW and HW High Level Design
- SW and HW Detailed Design (Software and architecture)
- Detailed Cards Graphics Design
- Data Migration
- All related Reports
- System Integration
- Interfaces Testing's
- ATP Process
- Implementation
- Training



Our Differentiators

Leading-Edge Solution

SuperCom will provide its flag-ship, state-of-the-art, highly-secure and field-proven Software platform, Magna™ which has been filed tested in over 20 different National ID projects worldwide.

Global Experience

SuperCom has installed systems such as National IDs to Driver's licenses to ePassports in over 20 countries. It has thus brings this invaluable experience to the Vermont DMV project too.

Highly Secure

With a secure operational backbone, Magna™ has a modular and layered architecture based on a core registry that interfaces with services used for many solutions and provides highly secure services in various realms.

Effective Team

ABCorp has been in this business for over 200 years and its manufacturing facilities augmented by ASPS's will ensure seamless service to VT DMV. Simpleroute, a Vermont Company, has a track record of excellent IT service to local State agencies.

Solid Management

The Project Manager brings along his 8 years of experience as Director of Vehicle Licensing in MassDOT. His Deputy has over 20 years of experience in IT in MassDOT. Added to this, is our professional PMP and ISO Certifications.

Financial Stability

Supercom is a multinational company listed on NASDAQ (SPCB) and excellent financial track record which can ensure the State that it will receive continuous professional services for this project.

Thank you

ATTACHMENT 4

Project Phases, Tasks, and Implementation Timeline

1. Project Main Activities

The following main activities are included in the plan

- Business Requirements Extraction & Analysis
- Build Detail Project Management Plan
- SW and HW High Level Design
- SW and HW Detailed Design (Software and architecture)
- Detailed Cards Graphics Design
- Data Migration
- All related Reports (e.g. development, testing, implementation and Support and Maintenance)
- System Integration
- Interfaces Testing's
- ATP Process
- Implementation
- Training

2. Project Implementation Activities and Technology Transfer

Central site installation

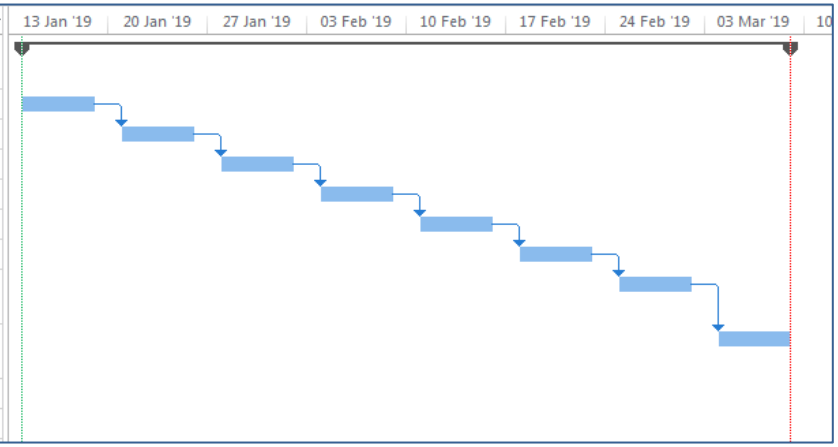
The installation of the central site will be performed by the technical teams from SuperCom and VT DMV's.

Sites Implementation Plan

As shown below, we plan to have site implementation, commissioning and training in a five days, single visit at each of the locations. After the training, the VT DMV's staff would be able to operate, configure and maintain all elements of the system.

The chart below, shows the suggested sites implementation plan. Note that this plan is subtask of much larger Project Plan Gantt.

	Task Name	Duration
1	Sites Implementation, Training and Commissioning	40 days
2	Montpelier	1 wk
3	So. Burlington	1 wk
4	Bennington	1 wk
5	Newport	1 wk
6	Springfield	1 wk
7	Rutland	1 wk
8	South Van (Which includes the Dummerston and Middlebury Locations)	1 wk
9	North Van (Which includes Saint Albans, St. Johnsbury and White River)	1 wk



Technology Transfer

Technology transfer activities will be conducted in parallel to the project implementation and deployment phases, thus providing an opportunity for the VT DMV's personnel to participate in the IT system development life cycle from its inception through its maturity phases.

SuperCom's training courses are developed and conducted in accordance with well tested and the latest methods and includes software and hardware studies. SuperCom will provide the training documentation in hard and soft copies, for all trainees.

SuperCom will transfer all the necessary skills and technologies to the VT DMV's personal by implementing training programs, as described below, to ensure prompt and secure response to any issues that may occur during the entire project.

After training, the VT DMV's staff would be considered as the key trainers for IT and applications training and will be able to operate, configure and maintain all elements of the system.

Training Courses

The following table lists the group of courses available for this project.

Please note, this general list of courses may be further customized after the project is awarded and during the project, according to the project specific needs.

Detailed Training Program documents, which include the entire courses' agenda, will be provided after the project is awarded and its scope is final.

Group #	Course	Audience	Course Subjects and Objective
1	Orientation Basic Course	All	System Objectives, Management structure, communication procedures, project overview
2	System Architecture Design Concepts	VT DMV's IT Support Officers, operation Managers and Trainers	Trainees will understand the design of the system architecture, design of data, technological environment of the system and technical constraints, operational aspects, security features, etc.
3	Features of Sub Systems	VT DMV's IT Support Officers, operation Managers and Trainers	Trainees will understand functional, Available list of web services, external interfaces and technical features of the complete system to a detailed level
4	Enrollment and Registration	Operation Managers, Application Support Unit / Super Users End Users and Trainers	Trainees will know how to use Fixed station enrolment, Portable station enrolment, screening of registrants, the registration steps, registering biographic data, capturing biometrics data, off line modes, validation/supervisor authorization, managing exceptions, documents and cards delivery/issuance, managing transactional and management reports
5	Documents and Cards issuing	Application Support Unit / Super Users And End Users	Trainees will know how to issue the cards and documents, Documents and Cards Quality assurance, packing, delivery, managing transactional and management reports, Troubleshooting Content, problem prone areas, actions to be taken, diagnosing problems, auditing logs.

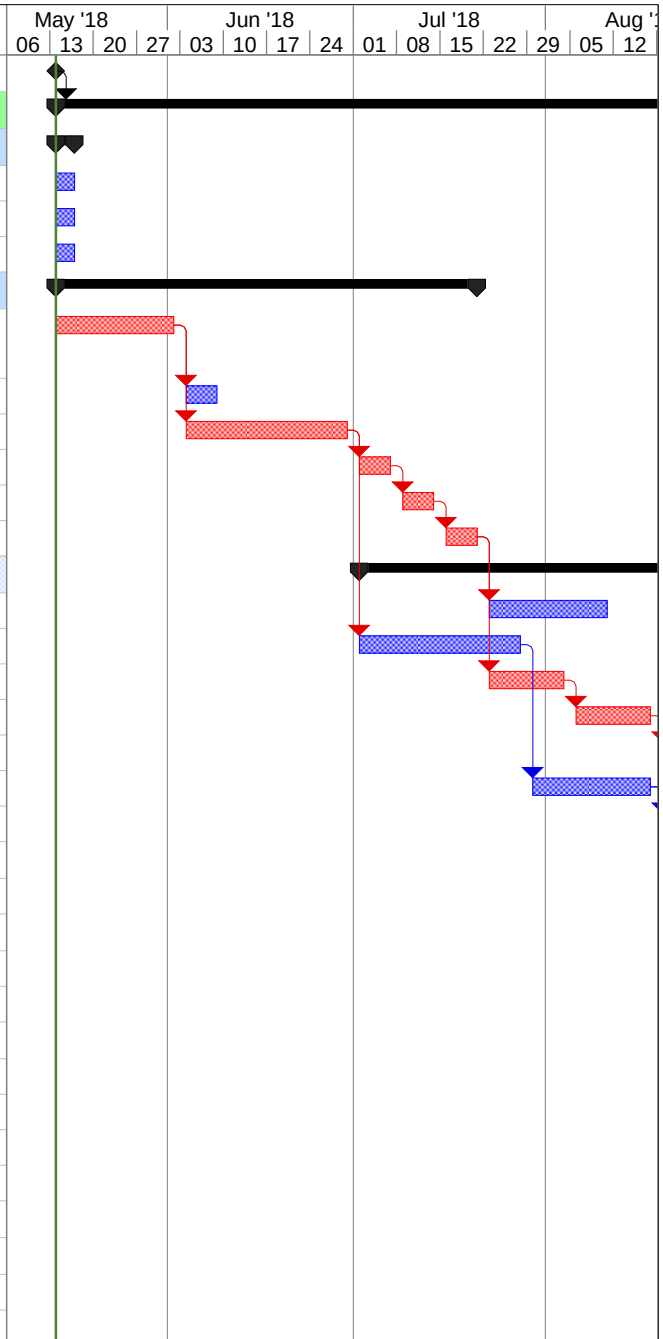
* The Project Plan in Gantt form is also attached.

Post Implementation Training

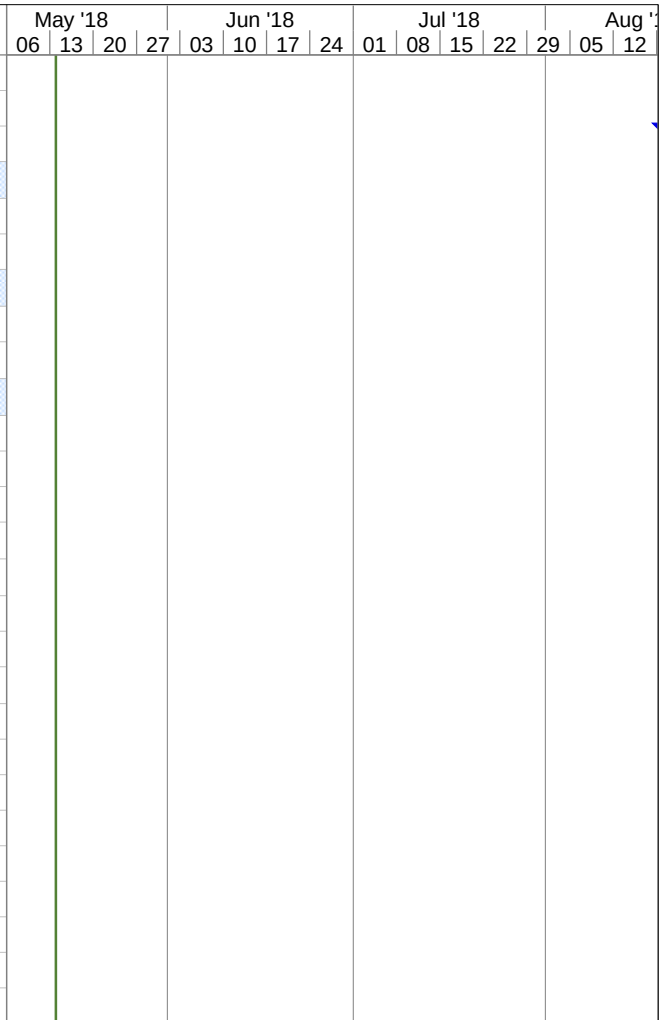
SimpleRoute will turn up locations one at a time per the attached Project Plan. As the new solution is installed at each location, SimpleRoute will also conduct an on-site training with staff members to get them comfortable with running the new platform.

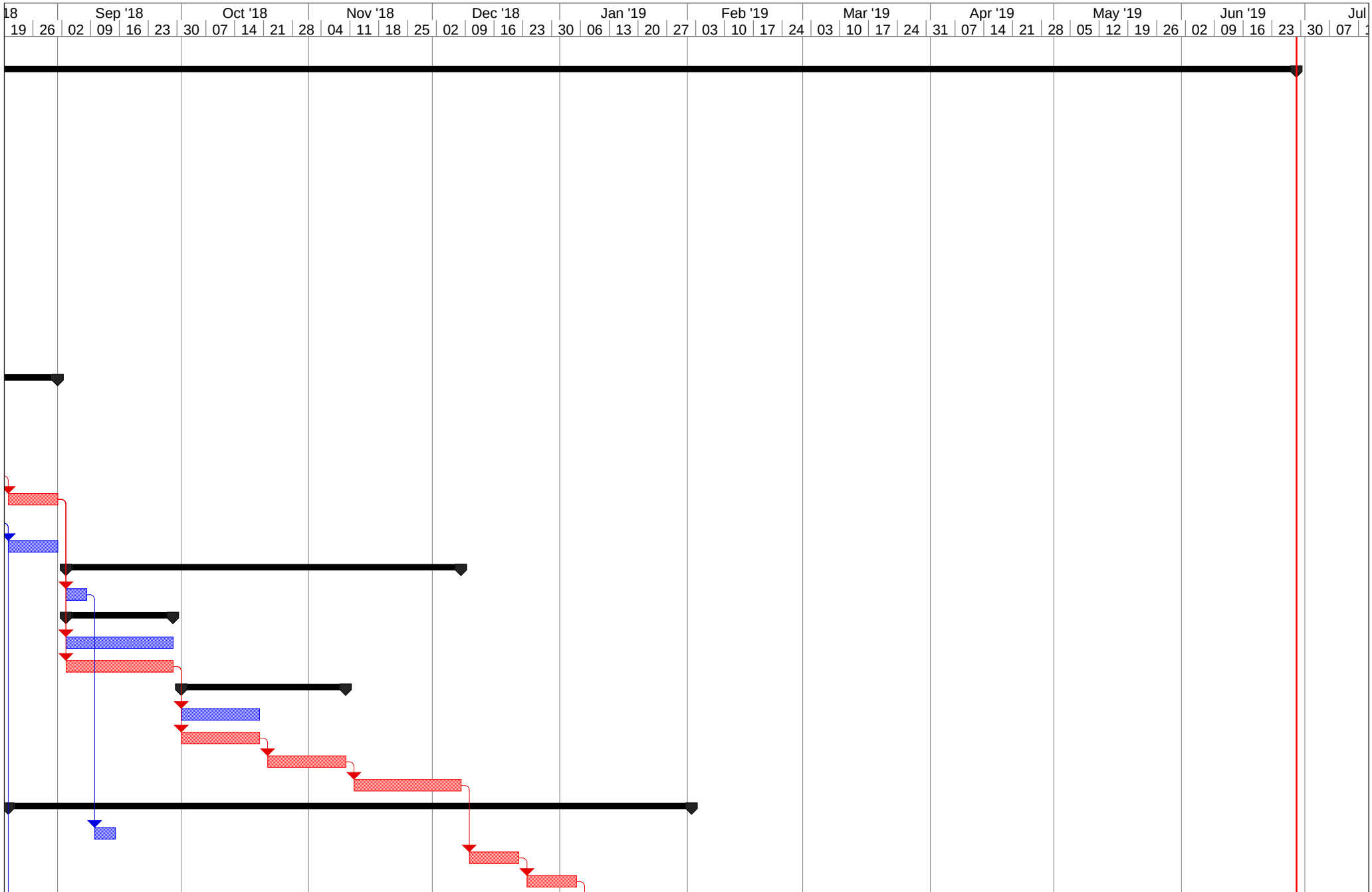
The on-site trainings during the Go Live period will include a review of documentation and training material from SuperCom as well as hands on instruction that will cover both use of the newly implemented solution as well as instructions for contacting the Help Desk for assistance.

ID	Task Name	Duration
1	**Contract Signed > ARO**	**0 days**
2	**Vermont Project**	**295 days**
3	**Phase I - Project Initiation**	**3 days**
4	Project management team assignment	3 days
5	Initial view of the intended solution	3 days
6	Initial Risks Analysis	3 days
7	**Phase III – Requirements Definition and Analysis**	**50 days**
8	System Study: Major functions include critical processes to be managed, including mission critical inputs, outputs, and reports	3 wks
9	Requirements Extraction & Analysis	1 wk
10	Cards Requirements Extraction	4 wks
11	GAP analysis	1 wk
12	Detail Project Management Plan (complete sets of documents)	1 wk
13	System Requirements document composition	1 wk
14	**Phase IV - System Design**	**45 days**
15	High Level Design	3 wks
16	Secure Documents - High Level Graphic Design	4 wks
17	Hardware Design and Specifications	2 wks
18	Detailed Design (Software and architecture)	2 wks
19	Detailed System Development Plan	2 wks
20	Detailed Cards Graphics Design	3 wks
21	Shipment of Goods, Customs release, Delivery	2 wks
22	**Phase V - System Development**	**70 days**
23	ATP Document preparation	1 wk
24	**Modules Development and Testing's - SuperCom**	**20 days**
25	Database design	1 mon
26	Registration Workflows	1 mon
27	**Modules Development and Testing's - Local Partners**	**30 days**
28	Payments	3 wks
29	Data Migration	3 wks
30	Integration	3 wks
31	Initial Testing and fixing all delivered Component/Module	1 mon
32	**Phase VI - System Testing**	**120 days**
33	**ATP Document Sign-Off**	1 wk
34	Final Component/Modules Testing	2 wks
35	DL/EDL	2 wks



ID	Task Name	Duration
36	Web Portal	2 wks
37	Others	2 wks
38	Cards first delevery	2 wks
39	**Phase VII – System Deployment**	**105 days**
40	Installation & Integration & testing- Main & DRC sites	2 wks
41	Interfaces Testing's	2 wks
42	**Data Migration Before Pilot**	**10 days**
43	Running Data transition procedures	2 wks
44	**System is ready for Pilot**	0 wks
45	**Pilot site - Implementation & Training**	**25 days**
46	Pilot site implementation Starts	1 wk
47	ATP Process	2 wks
48	Updates as per the Pilot and ATP Feedback	2 wks
49	**Pilot and ATP are completed**	0 days
50	**Implementation & Training for VT DMV's personnel - Two sites**	**50 days**
51	Implementation & Training - Local Partners	1 wk
52	Operation, Calibration, Testing, ATP - Two offices	1 wk
53	**All Sites Implementation and Training**	**40 days**
54	Montpelier	1 wk
55	So. Burlington	1 wk
56	Bennington	1 wk
57	Newport	1 wk
58	Springfield	1 wk
59	Rutland	1 wk
60	South Van (Which includes the Dummerston and Middlebury Locations)	1 wk
61	North Van (Which includes Saint Albans, St. Johnsbury and White River)	1 wk
62	**Phase IX – All sites are operational - System Maintenance Starts (3 Years)**	**0 days**

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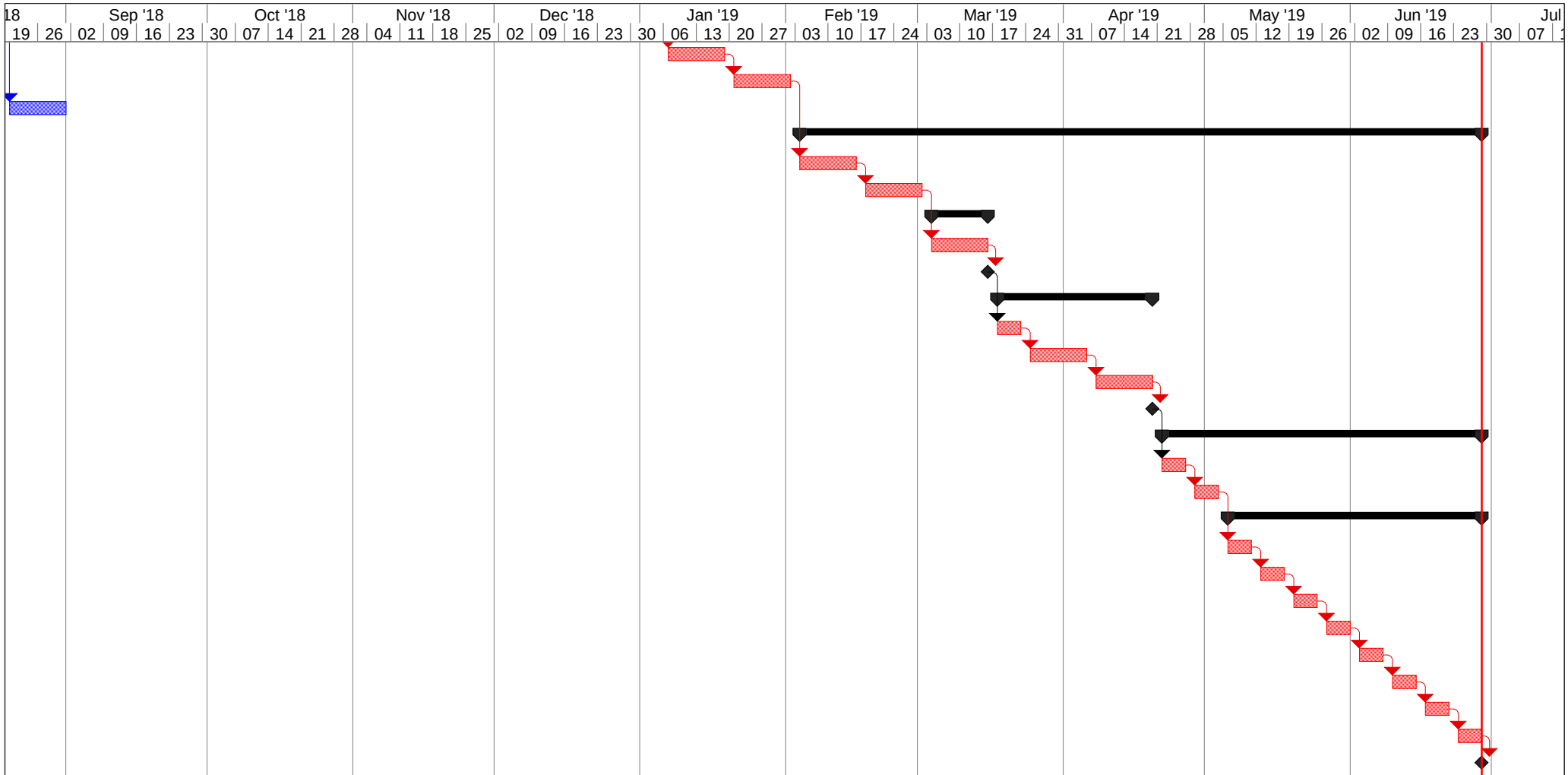
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ATTACHMENT 5

Project Manager Resume

ROBERT D. PETERS

Lexington, MA 02420
781-266-6698
rdpeters2007@gmail.com

PROFILE

Effective senior-level program and budget manager. Expertise in the following areas:

- Seek, obtain and administer competitive grant awards
- Management of collaborative projects and initiatives across agencies and levels of government
- Development of positive relationships with key stakeholders
- Procurement of critical software and hardware systems.
- Budget development and administration
- Public speaking and presentations

SKILLS

Microsoft Office Suite
PeopleSoft
SAP
SharePoint
Budget development and administration
Grant writing and management

PROFESSIONAL EXPERIENCE

Partners for Youth with Disabilities, Inc., Boston, MA — September 2016 – Present
Director of Administration & Finance

- Responsible for all administrative and finance functions of dynamic, direct-service non-profit.
- Administer newly awarded US Department of Justice grant with a total value of $1.1 Million over three years.
- Actively manage the human resources function, including ensuring wage & hour and other regulatory compliance.
- Leading the Agency effort to locate and occupy new office space in the challenging Boston office real estate market.
- Seeking to implement new technology solutions to improve operational efficiency and reduce size of office foot print.

MassDOT, Registry of Motor Vehicles Division, Boston, MA July 2008-May 2015

Director, Driver Licensing

- Directed the Driver Licensing function for the Massachusetts Registry of Motor Vehicles(RMV).
- Oversaw the Commercial Driver Licensing(CDL) program for the RMV, including the partner agencies, Massachusetts State Police, and Massachusetts Department of Public Utilities which provide skills testing services under an MOU on behalf of the RMV.
- Administered multiple Federal Motor Carrier Safety Administration(FMCSA)-provided grant funds for improving the Massachusetts CDL and Commercial Vehicle Operations programs.
- Collaborated with agency policy-makers in regard to identity policy for the Agency-issued credentials, primarily driver's licenses, which serve as the main identity credential for most public and commercial transactions.
- Directed oversight function for driver education and driver training programs. Ongoing efforts included improving quality and raising standards in the regulated driver training programs across the Commonwealth.
- Collaborated with central services within the MassDOT secretariat including Finance and IT to formalize the federal grants reporting and reconciliation process. Notable achievement was greater understanding of the process among the partner entities and more accurate and useful reporting.
- Produced grant application in competitive grant-funding program (subsequently funded) for addressing findings resulting from the 2008 FMCSA tri-annual compliance review. Total competitive grants funded over a four year period was in excess of $2.5 million.
- Oversaw the contract valued at $32 million for manufacture of Driver Licenses/IDs for the Commonwealth. Notable achievement was in getting contractor to acknowledge shortcomings in their reconciliation process and successfully requiring and receiving a rational reconciliation process. Led procurement for follow on system with a contract award of approximately $40 million.
- Articulated accurate and clear licensing policy for use by agency staff and the general public.

Intercultural Press, Inc., Boston, MA March 2006 – July 2008

Director, Finance and Administration

- Served as chief of accounting and administration for a small, yet multi-national independent publishing company.
- Notable achievements included successfully relocating office space in the downtown Boston office market and provisioning with proper furniture, fixtures and equipment; changing provider for health insurance for a small group, and changing provider for 401k plan providers.

OTHER AFFILIATIONS

Lexington Housing Authority, Lexington, MA 2007 - present

Member, Board of Commissioners

EDUCATION

Brandeis University, Waltham, MA: B.A. History

ATTACHMENT 6

Typical Implementation Plan

Project Management Plan [PMP]

Table of Contents

1. Project Management and Implementation....4

1.1 Project Management Plan – Introduction....4
1.1.1 General....4
1.1.2 Project Management – Classic Project Process Life Cycle....5
1.1.3 Objectives....5
1.1.4 PMP Structure....6
1.1.5 Applicability....6
1.1.6 PMP Configuration Control....6
1.1.7 Applicable Documents....7

1.2 Project Management Policy....7

1.3 Responsibilities....8
1.3.1 SuperCom Responsibilities....8
1.3.2 Work Packages....9

1.4 Customer Responsibilities....16
1.4.1 Customer General Responsibilities....16
1.4.2 Customer's Site Preparation Responsibilities....17

1.5 Project Scope Management....18
1.5.1 Scope Management Policy....18
1.5.2 Scope Management Processes....19
1.5.3 Change Management Procedures....19

1.6 Project Management Staff – Roles and Duties....20
1.6.1 General....20
1.6.2 Duties of mangers....20

1.7 Schedule Management....22
1.7.1 Schedule Management Policy....22
1.7.2 Schedule Management Guidelines and Tools....22
1.7.3 Schedule Control....22
1.7.4 Project Implementation Plan and Major Milestones....22

1.8 Cost Management 23
1.8.1 Cost Management Policy 23
1.8.2 Cost Management Guidelines and Tools 23

1.9 Risk Management Policy 24
1.9.1 Risk Management (RM) Methodology 24
1.9.2 Risk Management Guidelines 26
1.9.3 Tools 27
1.9.4 Project Risks 27

1.10 Project Control 28
1.10.1 Project Control Cycle 28
1.10.2 Action Item Management 28

1.11 Communication Plan 29
1.11.1 General 29
1.11.2 Reports 29
1.11.3 Meetings and Reviews 30

1.12 Procurement and Subcontracting Management 31
1.12.1 Procurement Policy 31
1.12.2 Procurement Process 31

1.13 Design and Engineering Management 32
1.13.1 General 32
1.13.2 System Engineering and Technical Management 33

1.14 ILS Management 33

1.15 Acceptance Test 35
1.15.1 General 35
1.15.2 Acceptance Test Procedure 37
1.15.3 Acceptance Test - Test Principles 39
1.15.4 Acceptance Test - Process Steps 39

2. Acronyms and Abbreviations 41

1. Project Management and Implementation

1.1 Project Management Plan – Introduction

The Project Management Plan [PMP] is the directive that specifies the instructions for the management of the **Driver's License/ID System Replacement** Project for the State of Vermont. It describes the project management policies, organization, methods and procedures.
The PMP is designed as a work document, reflecting the contractual commitments of the project, while applying SuperCom's processes and procedures.

1.1.1 General

This PMP section defines in broad terms all the management activities and tasks to be undertaken by the Project Key Personnel and other Project stakeholders, as part of the project.
This PMP defines and details the Project Manager's policy as to the various management activities for the entirety of the project.

The project management process includes mainly the following activities: Initiating, planning, executing, controlling, and closing. SuperCom has been successfully used to ensure standards, quality, and continuity in the projects where we were the Prime contractor.

By using prescribed processes defined in each phase of the project, SuperCom's Project Managers are accountable and able to manage and to respond to all of the requirements from proposal development through project transition.

1.1.2 Project Management – Classic Project Process Life Cycle

The following diagram is a Classical Project Management Life Cycle Process, which would be implemented in the management of the Project:

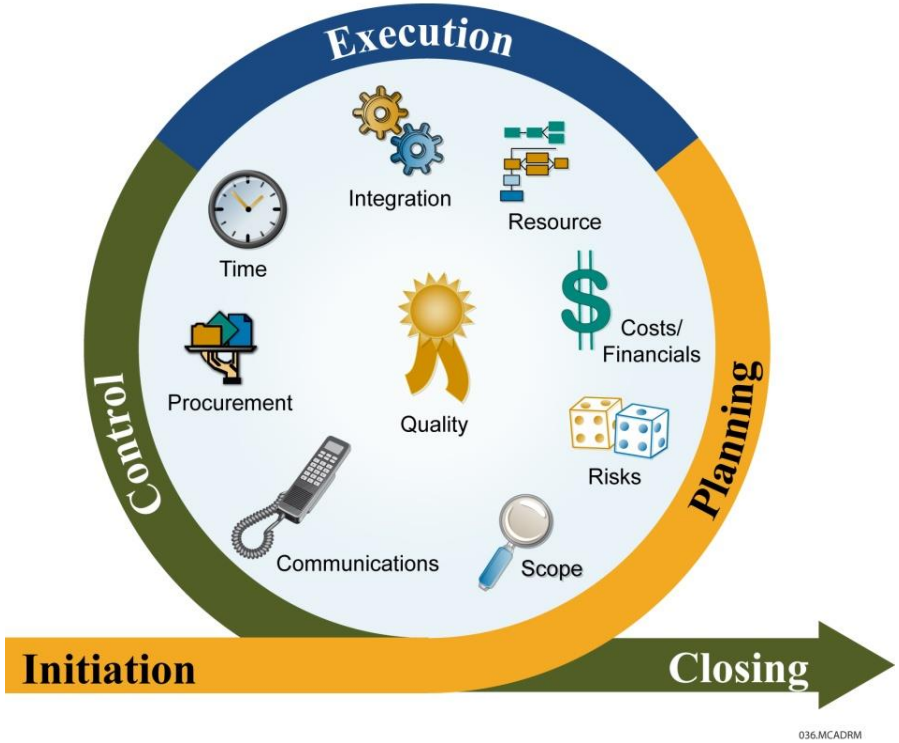


Figure 1. Project Management Process

1.1.3 Objectives

The State of Vermont is interested in obtaining bids to meet the following business need(s): The VT DMV seeks to establish a multi-year service contract for a secure Driver's License/Identification Card (DL/ID) services solution including all necessary hardware, software, design and development of credentials, customization, installation, training, supplies, personnel required to meet the demands of this contract and system maintenance and support.

1.1.4 PMP Structure

The PMP's structure reflects the company's project management methodology, derived from and based on PMI's PMBOK.
Covering all major project management areas of knowledge, the PMP is a principal document, comprising the main project management disciplines.
Figure 2 shows the ten PMP knowledge areas.

Figure 2. PMP Knowledge Areas

1.1.5 Applicability

The PMP is an obligatory document for all the participants in the project.
Upon release, the PMP shall be available to all personnel involved in this Project.
The Project Manager shall ensure the assimilation of the PMP directives throughout the project's life span.
It is the responsibility of those in management positions in the project to read, comprehend and implement all policies and directions comprising the PMP.

1.1.6 PMP Configuration Control

The PMP shall be considered a maintained, configuration-controlled document. It shall be updated according to the configuration control procedures, defined in the company's configuration management policy.

Each updated revision shall be distributed to all relevant key personnel.

A PMP update shall be initiated performed and published, should any of the following events occur:

- Any change in the organization structure, processes, tools and/or methods described in this PMP
- Any request for amendment made by the Customer and accepted by the Company with the objective of Project optimization
- Any time the contractual documents are being updated, and such an update affects the PMP

1.1.7 Applicable Documents

- Contractual Documents
- Applicable Standards and Procedures
- Technical Documents and CDRLs
- Management Documents and Reports

1.2 Project Management Policy

This PMP and the project manager executing it, are derived from SuperCom's project management policy as follow:

- Manage the project so as to meet all its deliveries on time, and preferably ahead of schedule
- Maintain and develop partnership relations with the customer
- Manage the project so as to meet all its cost objectives
- Implement the Project lifecycle processes in compliance with the “Company PLC"
- Manage the project at the highest quality, as derived from the Project's contractual requirements
- Initiate and maintain a risk identification and reduction process, implemented as early as possible, as a leading means to achieve Project goals [in terms of schedule, budget, performance and quality]

1.3 Responsibilities

1.3.1 SuperCom Responsibilities

1.3.1.1 General

SuperCom will perform the following activities:

- Project management for all project life cycle.
- Requirements extractions
- Design: detailed design of the system. The design will apply to all of the SuperCom system components
- Procurement: Provide the systems and subsystems components (Equipment and Software) to be installed as agreed on the Bill of Quantities.
- Deployment / Implementation: Installation, integration and testing the systems and subsystems components (Equipment, Network and Software) at customer environment.
- Tests: design and perform project acceptance procedures – SAT.
- Training: train the Customer's specialists to operate and maintain the system as agreed on the Bill of Quantities.
- Warranty for all materials and software supplied by SuperCom is for three (3) years.

1.3.1.2 Detailed Responsibilities

SuperCom will be responsible for the following activities and work packages including all related costs incurred from these work packages as describe in this document.

- SuperCom will nominate a senior manager to serve as SuperCom point of contact (POC) to coordinate with the customer's project management onsite.
- SuperCom will be responsible to have the appropriate manpower to support the deliverables under this document.
- SuperCom will manage the project locally.

- SuperCom will manage project schedules and procedures to implement the project on time as defined in this document.
- SuperCom is required to coordinate all project work packages and schedules with the customer's project manager in order to monitor the progress and ensure compliance by participating in project meetings and/or providing reports as required:
  - Participate in Project Reviews and meetings as required
  - Participate in Periodic Meetings
  - Provide Periodic Progress Report
- SuperCom will present during the kick off meeting (KOM) the Risk Management for the project implementation. This will include the identified risks, their severity and their mitigation plans.
- SuperCom has the rights to hire subcontractors to implement parts of the project.
- The customer shall treat SuperCom sub contractors as SuperCom employees.
- The communication required to manage the project, such as software applications, documentations, emails, letters, etc., will be in the English language.

1.3.2 Work Packages

1.3.2.1 Project Management

SuperCom supports our customers and the advanced systems that we implement with a comprehensive project management program. The goal of this program is to ensure that the solutions we design and deliver meet the specific operational and compliance requirements of our customers on an on-going basis. While supporting each customer with a tailored project management program, we strive to create a long-term, mutually beneficial relationship with our customer.

Our project management program includes:

- Project Initiation
- Requirements extraction
- Design
- System development, Integration and Testing
- Procurement

- Deployment
- On-going professional services
- Maintenance & Support plans

1.3.2.2 Project Initiation

In the Initiating and Planning phase, SuperCom will work with Customer to establish standards, expectations and desired outcome and project structure.
This phase includes the Project kick-Off, Project management team assignment, extraction of preliminary specifications for sites & Human Resources.
At this phase SuperCom will review the contract and project scope, prepare the project management plan, prepare the quality management plan, update the organization structure including the roles and responsibilities, prepare the communication plan, review risks and prepare contingencies, review subcontractor's statement of work, review and approve all plans.

The project PMP includes the plans/activities:

- Prepare the project management plan
- Prepare the quality management plan
- Prepare the organization structure including the roles and responsibilities
- Prepare the communication plan
- Prepare the stakeholders plan
- Prepare the risks management plan.
- Prepare the purchase plan, including subcontractors statement of work
- Review and approve all Plans

1.3.2.3 Requirements Extraction

This phase includes both Requirements extraction for all project aspects, as well as the Business process reengineering (BPR). Both

activities ends with reviews, and requires the client approval.

1.3.2.3.1 Requirements extraction:

In this task of Requirement Extraction, all requirements of the project will be extracted, collected and processes. An expert team of system and business process analysts of Contractor will analyze the current state of the system and the requirements of the new one.
The team will work with Customer staff (that will establish a technical working group) to develop a System Requirements Document (SRD) that defines the scope and borders of the System to be implemented and includes the System's functionality, content and performance requirements. After reviewing, and achieving the Customer's written approval for the document, the team will be ready for the system design.

1.3.2.3.2 Business Process Re-engineering (BPR)

The BPR is the analysis and redesign of workflow within and between organizations.
BPR is sometimes necessary to lower costs and increase quality of service and that information technology is the key enabler for that change.
Here below the principles of reengineering to streamline the work process and thereby achieve significant levels of improvement in quality, time management, and cost:

- Organize around outcomes, not tasks.
- Identify all the processes in the organization and prioritize them in order of redesign urgency.
- Integrate information processing work into the real work that produces the information.
- Treat geographically dispersed resources as though they were centralized.
- Link parallel activities in the workflow instead of just integrating their results.
- Put the decision point where the work is performed, and build control into the process.
- Capture information once and at the source.

Change management, which involves all human & social-related changes and cultural adjustment techniques needed by management to facilitate the insertion of newly-designed processes and structures into working practice, is considered to be a crucial component of any BPR efforts. Revision of reward systems, communication, empowerment, people involvement, training and education, creating a culture for change, and stimulating receptivity of the organization to change are the most important factors related to change management and culture.

Here below some of the major keys to successful BPR implementation:

- Revising reward and motivation systems
- Effective communication
- Human involvement
- Training and education
- Creating an effective culture for organizational change
- Stimulating the organization's receptiveness to change
- Committed and strong leadership
- Management of risk
- An adequate job integration approach
- Effective BPR teams
- Appropriate job definitions and allocation of responsibilities
- Effective process redesign
- Adequate alignment of IT infrastructure and BPR strategy
- Building an effective IT infrastructure

1.3.2.4 Design

Following the processes definition in the system, the system design is conducted for all system components.
The system design is consist of the system architecture design and system functional design. Once this phase is approve
A design review will be conducted with the client. The client approval is required to proceed to the next phases.

1.3.2.4.1 System Architecture design document

This document includes the following contents: the design of the system architecture, design of data, Technological environment of the system and technical restrictions, deployment view, operational view, security view, technology selection. Finalized Bill of

Quantity (BOQ) will be also prepared.
Super will provide Planning and establishing Infrastructure components for the system. That includes building, power, network, security and access control etc. (Under Client responsibility).

1.3.2.4.2 Functional design Document

This document includes: functional specs, ERD, Data Base Structures, entities, attributes, Logical Specifications, events, system workflows, Graphical User Interface, external system interfaces, data migration processes, system reports and more.
The system build / development phase will start after the approval of the design document by the Customer. The development team will be focused on the development of all system components.

1.3.2.5 Procurement

This task includes purchasing all the equipment's to the project: systems and subsystems components (Equipment and Software) as defined on the Bill of Quantities:

- SuperCom will provide the equipment and Software required for the project according to the Bill of Quantity specifications.
- SuperCom will supply the Software applications required for the project, according to the contract conditions of delivery.

Purchasing of LLI's will be evaluated according to the schedule management plan, as well as the other equipment and software in the scope

1.3.2.6 System Development, Integration and Testing

The system build / development phase will start after the approval of the design document by the customer. The development team will be focused on the development of all system components
Development & Testing approach is detailed later on the PMP.

1.3.2.6.1 Installation & Integration & Testing - first Site (ATP)

At this stage the entire central site infrastructure is completed, the server farm is established, and the central system is installed, Pre-Implementation training for VT DMV personnel is performed.
One site is chosen for the pilot / operation of first site. In this site the stations are installed. Pre-Implementation training for operators is performed.
After installation and training, the integration and testing are performed, includes the ATP.

1.3.2.6.2 Data transition before starting first site operation

Data transition procedures are performed before stating the first site operation

1.3.2.6.3 First site operation - Implementation & Training

During the first site implementation: On-site training is performed for end users (Trainers, Management, VT DMV team, Operators etc.) and after a period of time, the system is updated as per the first site operation/Pilot Feedback, once the pilot is complete the system is ready for deployment at other sites.

1.3.2.7 System Deployment

Deployment of the system, site by site, countrywide (and overseas if required) that includes on-site training and support.
SuperCom will be responsible for the required installation work of all project systems and subsystem components, as defined in the project BOQ. The installation work will be in conformance to the approved work plans and in accordance with the specifications and installation manuals. The Works will be performed in full compliance with all procedures, regulations and laws as will be required by the customer and subject to provision of the above by the customer at ARO.

High-level list of infrastructure to be installed by SuperCom in support of the systems and subsystem components:

- Installation of all systems including software and equipment as required.
- IT equipment, for example, computers, printers, servers, wiring and cabling of all networking and server devices on the racks.
- Installation of SW application on workstation and servers (such as systems Applications, operating systems (OS), databases (DB), and so on).

- Network elements, for example, switches, routers, aggregators, and racks
- SuperCom will provide a list of Support and Test Equipment STE necessary to perform the installation and integration tasks as defined in this SOW. SuperCom will submit the list of STE prior to start of installation
- SuperCom will perform all configuration, adjustment, integration and testing as required to properly operating the project proposed systems, such as work to be done on the subsystems.
- SuperCom will prepare a plan of corrective actions to fix defects if such will be detected during the testing according to the SAT documentation. The customer will approve the plan. SuperCom will perform repeated relevant testing after corrective actions of the new SW application version
- SuperCom will coordinate and supervise the installation work as required under this SOW. SuperCom will coordinate its work plan with the customer to perform the CFE work. Periodic Project meetings review (PMR) will be held for all project activities and SuperCom Project Manager will report the project status.
- SuperCom will prepare a detailed work plan for the installation, coordinated with the project implementation Plan, and present it to the customer for approval. The work plan will be updated weekly by SuperCom during the entire project lifecycle, and will be presented on a periodic PMR. Any changes in the schedule/work plan that has been agreed by the Customer and SuperCom shall be valid and replace any previous signed agreement.
- SuperCom will define an excel document as reporting template, to follow up the status of the complete materials Installation. The customer shall approve the Excel before first installation starts, at the PDR stage.
- SuperCom will provide a test document for customer review and approval, defining the set of test procedures to conduct verifications.
- SuperCom will perform the agreed upon tests to verify that system is properly installed and all units are properly functioning.
- The customer will approve acceptance of each site upon the agreed tests.
- Documentation - All installation documentation will be provided in its final state in electronic format and in English (provided that such documentation is supplied by the equipment and SW manufacturer).
- A detailed list is specified in SuperCom's program BOM as proposed to the customer; SuperCom will install all the required quantities as defined in the detailed BOM (appendix of the contract).
- Prepare Sites & Offices Infrastructure: Main, DRC

- At this stage the entire central site infrastructure is completed, ready for installation.
- Shipment of Goods, Customs release, Delivery to Sites
- Handling the shipment of the purchased BOM till arrival to destination

1.3.2.8 Maintenance & Support

- **Warranty and Maintenance Period**
  - Starts once the Acceptance test of each Sub-system is complete and the Sub-system becomes operational separately. The maintenance team is responsible for all maintenance activities and support of the system at this period
  - Detailed description is included in the proposal.

1.4 Customer Responsibilities

The following tasks are expected to be within the customer responsibility, to allow the success of the project implementation

1.4.1 Customer General Responsibilities

It is the customer's responsibility to provide the following:

- To provide all technical information required by SuperCom before implementation. Information such as answers regarding technical issues, updated documents and specs on time defined by the SuperCom project manager. Same for keeping SuperCom updated, at least 3 month in advance for any version or configuration update that is planned by the service provider in the switch or Network that may affect our system, throughout the project life cycle.
- Participate in the site surveys.
- The Customer to communicate its security requirements for the installation activities and communicate them to SuperCom's Project Manager.

- The Customer project manager and assigned engineers should be present throughout the installation and integration activities to help resolve any issues that may arise during the installation activities.
- Approval of submitted documents within the time frame that will be defined in the KOM.
- If a milestone or a milestone's prerequisite to be furnished by Customer is not completed on time, this may delay the completion of this and the following milestones. Customer and SuperCom will jointly update the delayed schedule accordingly.
- Site access - the customer should provide site access approval to SuperCom professionals' team during both the design phase and the integration and implementation phase.
- To assign operational experts (operators, system manager and IT experts) that have the required skills as will be defined by SuperCom.
- Training:
  - To provide classrooms setting for the training courses. The lecturers will use both whiteboards and projectors to present the course material.
  - To provide permissions to use the actual system that was installed in the project site by the participants for Hands-on exercises training.

1.4.2 Customer's Site Preparation Responsibilities

SuperCom assumes that the project sites will be equipped according to the SPG document. This will include the following:

- The availability of a suitable floor space for the additional equipment including Power UPS and Air-condition as stated in the SPG. Those will be available based on the relevant MS described above.
- The Customer will advise SuperCom on time about any change that might affect the site preparation (such as Infrastructure work, site relocation, freeze dates, etc.)
- The availability of communication links and communication equipment between sites

1.5 Project Scope Management

The Project Management Plan is in accordance to the Project Deliverables and due dates for this project. Components related to design, development, integration, test, acceptance, training, documentation, quality assurance, configuration management, are incorporated in the Project Management plan.

Processes and major events are within the project's life, and therefore, are part of the project plan:

- Project kick-off meeting
- System requirements validation
- Interface requirements capture and configurations
- High Level Design Review (HLD)
- Detailed Design Review (DD)
- System and subsystem installation and configuration
- Training
- Testing (unit test, CIT, SIT, OAT, UAT)
- Integrated logistics support (ILS)
- Go-live (field operations)

1.5.1 Scope Management Policy

The signed contract, the Statement of Work (SOW), and our proposal response formally authorize the scope of work. Scope planning and definition begin early during initiation and continue with each new phase and project component. At the beginning of the project, SuperCom together with the Customer will finalize the project schedule/work plan presented in the proposal.
Effective scope management is a critical project management process that contributes significantly to the overall project success.

Scope management includes the following activities:

- Collect requirements
- Define Scope

- Create WBS
- Validate Scope
- Control Scope

1.5.2 Scope Management Processes

The scope of the Project is defined by the WBS chart.
The WBS defines all efforts, tasks and work packages, which together form the Project. The WBS is used to achieve the following objectives:

- Enable Project planning by disassembling the efforts into manageable work packages
- Serve as cost estimating tool for each work package, later aggregated to the Project level
- Serve as skeleton for the detailed work planning process
- Enable coherence of all Project technical documentation and management activities
- Enable assigning of responsibility to each work package
- Serve as data collection structure [reporting per work package]
- Promote "common language" for all Project communication efforts

The WBS shall be a controlled & maintained document, so that any decisions resulting in approved changes to the scope of the Project or in re-allocation of the Project's work packages shall be reflected in a formally updated version of the WBS.

The updated WBS will be included in an updated version of the PMP document, and distributed in accordance with the PMP.

1.5.3 Change Management Procedures

Both Internal Change Requests [ICR] and Customer-initiated Requests for Change [RFC] shall be launched and processed in accordance with the Company's formal change management processes.

1.6 Project Management Staff – Roles and Duties

1.6.1 General

The Project is managed by the Integrated Project Team [IPT]. The IPT is consisting of members who are professional in their functional area that cooperates to meet the project goals and objectives.

1.6.2 Duties of mangers

1.6.2.1 Account Manager

- Overseeing the successful implementation of the project.
- To see that the project is delivered to the satisfaction of the client.
- Account Manager would be dealing mainly with business policy issues. While the Project manager is manages all project activities.

1.6.2.2 Project Manager

Head the project. Responsible for the successful execution of the project, that is:

- To see that the project is executed on time with keeping costs at control.
- Project Manager shall be the contact person to the project
- The general rolls and responsibilities of the managers is listed in short in each organization chart, however we elaborate on the following:

1.6.2.3 Training Manager

- Draw the project HR needs and plans for training purposes
- Make sure that all HR are ready on time as per the project recruitments, and to the aptitude needed.
- In charge of overseeing the recruitment of personnel for the project
- Make sure that all HR recruited is done as per the correct job description
- Liaise with the client on Vetting the HR

- Draw the training Plans
- In charge of preparing all training facilities and material
- Make sure attendance of all trainees to the courses
- Making sure that on the job training is properly done, until proper level of professionalism is attained.

1.6.2.4 Documents Production Manager

- In charge of planning and deploying personalization sites
- In charge of planning and deploying the card Factory site
- In charge of the daily operations of the sites.
- Manage the delivery of the finished cards and personalized cards to the client

1.6.2.5 Finance Manager:

Would be responsible for;

- Revenue generation and expense control.
- Maintain the accounting books,
- P&L statement issuance on monthly basis.

1.6.2.6 Legal Consultant

Would be responsible for;

- Provide legal advice services to the project

1.6.2.7 System Solution Manager

Would be responsible for;

- The design phases
- The corporate integration of the solution with all subcontractors
- The ATP for its technical aspects

- Usage and deployment of all Corporate IT resources and would make sure they are all coordinated and well managed at all time.

1.7 Schedule Management

1.7.1 Schedule Management Policy

The Project's work plan is the Project Manager's main tool for planning, monitoring and controlling the Project activities.
Schedule Management is a continuous process, from Project initiation through final delivery to continuing support activities. The Project Manager is responsible for the implementation of Schedule Management activities.

1.7.2 Schedule Management Guidelines and Tools

The Project's schedule management process will be based on SuperCom's schedule Management Methodology.
The schedule management platform for the Project is Microsoft Project 2010.

1.7.3 Schedule Control

Throughout the Project execution, a continuous control process with weekly control cycles will be maintained, as follows:
The weekly work plans, managed in MS Project environment, will be updated every week, prior to the Weekly IPT status meeting.
The Project Manager will update his work plan and will handle shifts in the schedule of any task / milestone. In case of unsolvable schedule conflicts, the issues will be escalated during the IPT meeting.

1.7.4 Project Implementation Plan and Major Milestones

The project's detailed Implementation Plan, list of project phases, tasks, Major Milestones and an implementation time-line are described in our Attachment #4.

1.8 Cost Management

1.8.1 Cost Management Policy

The cost management is a continuous process, from Project initiation through final delivery to continuing support activities. The Project Manager is responsible for the implementation of cost management activities.
Cost is the most up-to-date approved version of the project's cost estimation. The cost is generated and approved at an early stage of the project, and maintained thereafter on an on-going basis.

1.8.2 Cost Management Guidelines and Tools

The project cost planning process is based on three sub-processes:

- BOM planning per project sites
- Labor and subcontractor activities
- Other expenses

The combination of the above processes builds up the cost for the project.

1.9 Risk Management Policy

Risk Management (RM) is a continuous process, from Project initiation through final delivery to continuing support activities. The Project Manager bears the responsibility for the implementation of all RM activities.

The Project Manager will conduct Risk Management procedures throughout the lifecycle of the Project, based on the RM guidelines presented below.

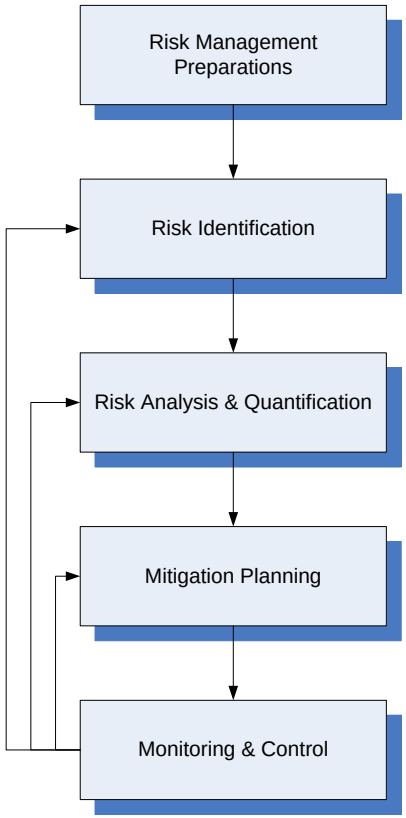
Risks identification and analysis and set up of mitigation plans will be conducted at an early stage of the Project, risk monitoring and control will be conducted on a monthly basis.

1.9.1 Risk Management (RM) Methodology

The Project's Risk Management process will be based on the Company's RM Methodology. The RM process will be led the project IPT and participates.

Figure 3 shows the RM process phases:

Figure 3. Risk Management Process



1. RM Preparations: A series of activities aimed at setting up the Project's RM infrastructures, for example, setting up of the RM database, calibration of Project's risk evaluation tables, and allocating Project team members to RM teams. The RM preparations are the responsibility of the Project Manager, with the Planning Engineer's assistance
2. Risk Identification: The risks identification process is achieved by participation of all of the Projects' Key Personnel and other participants in a session that includes systematic mapping of potential risks and their influence on performance, cost and schedule. During this phase, all candidate risk items are listed for further analysis.
3. Risk Analysis, Qualitative and Quantitative: The risk analysis process starts with refining of the risk descriptions. All risks are reviewed and assessed.
4. Each risk is assessed on probability and impact estimations
5. Each parameter is given a percentage value. This quantification process produces the Risk Factor (RF), which combined the effects of the Probability factor and the highest of the Impact factors. The result of this phase is a prioritized Risks Register.
6. Mitigation Planning: Each risk is assigned to a "Risk Owner," who is responsible to develop ways of action, in accordance with the specific risk magnitude. Once approved, the risk mitigation plans will be incorporated into the Project's work plans and monitored as part of the Project.
7. Monitoring and Control: Risks are being monitored on a monthly basis. Each risk mitigation plan's effectiveness is assessed, and if required risk parameters and risk factor are updated. If necessary, new risks are added

	Risk Priority Matrix			
	Overall Impact			
Probability		**High**	**Medium**	**Low**
	High	High	High	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low

1.9.2 Risk Management Guidelines

The following are the Project Manager's RM guidelines to serve as the basis for the Project's RM activities:

- Risk Management is a systematic approach which comprises identification, quantification, mitigation and ongoing monitoring of risks
- All potential risks should be identified at the earliest opportunity, thoroughly understood, assessed and mitigated, while clearly communicating the risk status
- All stakeholders are to be encouraged to identify potential risk elements

- Risk mitigation activities must be implanted into the Project's work plans
- Risk monitoring and control is an integral part of the Project's control cycle
- A Risk Register is to be established and maintained for the ongoing documentation and tracking of risks, and shall serve as a management tool to ensure the successful execution of the Project. The register shall display all identified risks, and for each risk – its severity, mitigation plans and actual status.

1.9.3 Tools

Our risk management procedures use a number of practical tools to effectively and efficiently implement the risk management approach discussed in the previous sections of this document. Our assessment of the project is that a special-purpose automated risk modeling tool is not required. We believe that simpler tools based on office productivity software will suffice. This approach should also simplify our information exchange with the project members. The tools include:

- Risk Assessment Worksheet
- Risk Form
- Risk Log
- Risk Analysis Form
- Risk Register
- Project management tools – e.g., the Requirements Traceability Matrix (RTM), the Project Schedule, and Procedures for Risk Management (PRM)

1.9.4 Project Risks

The following are the identified risks in the project. This identification is preliminary and will be revised in the project initiation; added mitigation plan and managed closely.

#	Subject	Description	Preliminary impact [H/M/L]
1	Integration with external systems	Might affect project timeline; scope & quality. Item is pending on	H

		external inputs to the project.	
2	Installation at all Project sites	Short downtime duration, multiple sites	L

1.10 Project Control

1.10.1 Project Control Cycle

The Project Control process is a continuous process with periodic cycles.
Each such control cycle includes data collection, data analysis, status assessment, preparation of a status report/presentation and a status meeting. The Project control is being conducted separately in each of the management areas, as detailed in the preceding chapters (schedule control, budget control, procurement), so that the control results and outputs are produced as control reports.
The Project Control process encompasses the IPT, all Project stakeholders, including contractors and subcontractors, internal and external.
Figure 4 shows various communication activities.

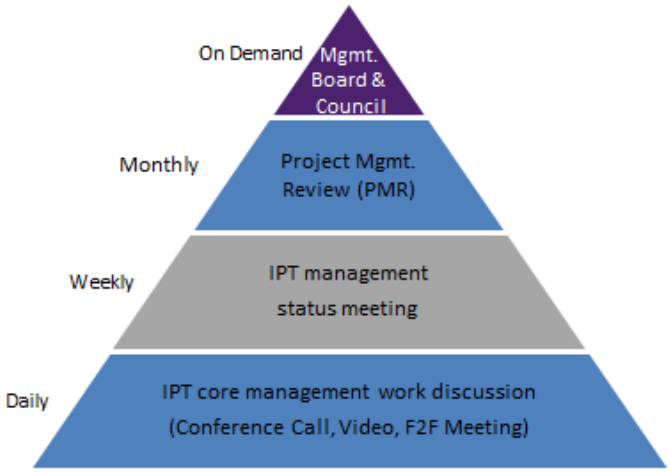


Figure 4. Communication Activities

1.10.2 Action Item Management

The control process for the project includes the management of Action Items (AIs) generated in the Project's formal meetings.

Minutes of Meeting (MOM) are being prepared in real time, during the meetings. The MOMs include the assignment of AIs to meeting participants and other Project functionaries. Each AI will include an AI owner (responsible for AI execution), and a due date.
Each AI owner is responsible to promptly update the AI's database with the status of his AIs.
The project manager is responsible to manage and control open AIs, and to issue actionable reports (overdue AIs, AIs due in the next week, and so on).

1.11 Communication Plan

1.11.1 General

The Communication Plan specifies the variety of communication channels to be implemented as part of the project. These channels include written reports and meetings.

1.11.2 Reports

Status and progress reports are an essential component of the Project's Communication Plan. Some of the reports serve as basis for Status and Progress Meetings.
Table 1 lists all cyclic Status Reports to be issued as part of the project:

Table 1. Communication Plan Reports

#	Name	Submitted By	Submitted To	Submittal Date	Purpose	Content
1	Weekly Project Report (email)	Project Manager	Customer	Every week	Overall Project status	• Project Status [Executive Summary] • Last Week's Activities Status • Next Week's Planned Activities
2	BI weekly Project Report	Project Manager	Program Manager	First week of each month	Overall Project status	• Project Status [Executive Summary] • Major Achievements • Last Week Activities Status • Next Month's Planned Activities • Risks and Mitigation Plans' Status

#	Name	Submitted By	Submitted To	Submittal Date	Purpose	Content
						• Monthly Budget Report [Actual vs. Planned Analysis, Revenue Recognition] • Open Issues • Managerial attention required
3	Monthly Project Report	Project Manager	Customer	Second week of each month	Overall Project status	• Project Status [Executive Summary] • Major Achievements • Major Milestones • Last Month's Activities • Next Month's Planned Activities • Risks and Mitigation Plans' Status • Open Issues • Customer attention required

1.11.3 Meetings and Reviews

Status and Progress Meetings and Reviews are an essential component of the Project's Communication Plan. Some of the meetings use the corresponding Status Reports as the meeting's skeleton.

This Section deals with management-oriented meetings and reviews.

The basic agenda of each of the cyclic meetings and reviews is specified below. The meeting owner is entitled to add ad hoc topics to the agenda and will notify the meeting participants as much in advance as possible.

The basic list of participants of each of the cyclic meetings and reviews is specified below. The meeting owner is entitled to invite ad hoc participants to the meeting and will notify the meeting participants as much in advance as possible.

The meeting owner is responsible to issue MoM and update the database of AIs no later than 2 days after the meeting.

Table 2 lists all cyclic meetings and reviews to be conducted as part of the project:

Table 2. Communication Plan Meetings

Meeting Name	Owner	Participants	Schedule	Agenda
IPT communication	PM	Project's IPT forum + ad-hoc participants as may be needed	Daily – as necessary	Ongoing project issues
Weekly IPT core management status meeting	PM	Project's IPT forum + ad-hoc participants as may be needed	Every Week	As per Weekly Project Report
Weekly Customer and IPT core management status meeting	PM	Customer POC and Project's IPT forum	Every Week	As per Weekly Project Report
Project Management Review [PMR]	Delivery Manager	Delivery Manager, Program Manager, PM	Second week of every month	As per PMR report

1.12 Procurement and Subcontracting Management

1.12.1 Procurement Policy

In order to enable full control over the Project's budget and timeline, all Purchase Orders (POs) for both goods and services, issued to Suppliers and Subcontractors, shall be issued by the Project, through SuperCom's supply chain.
Selection and ongoing management of Suppliers and Subcontractors will be the joint responsibility of SuperCom and the Supply Chain Department. The Project Manager will approve every purchase request issued within the project.
The PLM will be responsible for handling Purchase Requests and for monitoring and expediting the procurement process.

1.12.2 Procurement Process

Figure 5 shows the procurement process, specifying the flow of responsibility between the different units involved in the process:

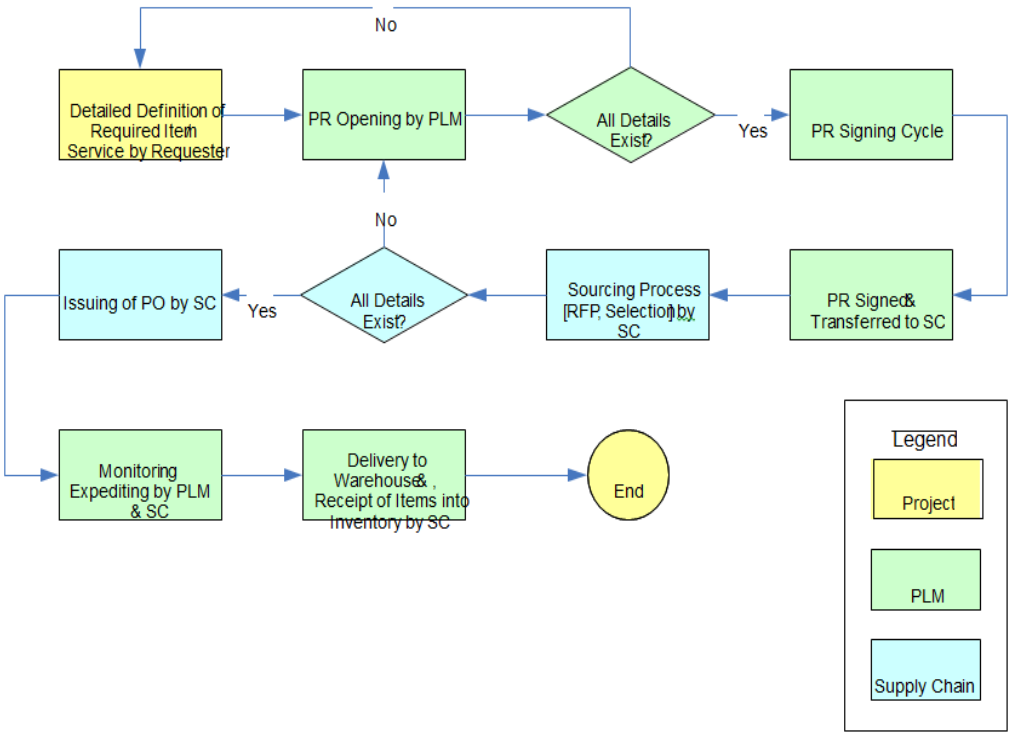


Figure 5. SuperCom Procurement Process

1.13 Design and Engineering Management

1.13.1 General

The project dictates the top-level flow of activities, and focuses on the various tasks and reviews comprising the end-to-end engineering and implementation process.

On the day-to-day level of the engineering design and T&I (Test and Integration) phases, a more detailed description of the work process is required to improve the coordination and synchronization of the various design and engineering entities involved in the process, and to ensure an integrative, effective and efficient solution.

A Design and Engineering Management Plan (DEMP) and a Master Integration and Test plan (MITP) will be prepared and approved

by the Project.
The DEMP will specify the organizational modes and management processes that will be implemented in the Project, and the methods that will be used to realize the design and engineering requirements and tasks.
The MITP plan will specify the methodology, methods and plan to integrate and test the system.

1.13.2 System Engineering and Technical Management

Technical management and system engineering of the project will be responsible for overall system design, system development and implementation, system test and integration and system performance.
The following figure is a high level block diagram of the National Intelligence Center project:
The SuperCom team together with the different sub-contractors will design, coordinate and supervise the high quality completion of each of the system's components and composing the overall system.
SuperCom team will also supervise and approve the sub-systems supplied by the sub-contractors.
The project plans will include the:

- Design, testing and proofing of each of the sub-systems
- Setting the process of testing the system
- FAT tests for each sub-system
  - Testing the interfaces between sub-system and the performance.
  - Overall system technical performance tests
  - Overall system operational performance test
- SAT tests

1.14 ILS Management

The prime objective of the Integrated Logistic Support (ILS) program is to ensure that the logistic elements described in the following paragraphs are properly integrated to achieve maximum economic and effective support to the project.
The ILS elements are given the necessary priority by the program management team early enough to enhance supportability throughout the defined operational phase of the system.
The proposed ILS is detailed in Section 6 and includes the following items:

- Warranty

- Logistic services
- Knowledge Transfer and Training
- Documentation
- Spare Parts

1.15 Acceptance Test

1.15.1 General

SuperCom will undertake testing and quality assurance on all Systems components of the proposed solution. SuperCom's approach to testing focuses on verifying compliance with the requirements as defined in the Tender Requirements.
All core functional components and all functional modifications specific to the project deployment are fully covered by the testing activities. Key to this is a strategy, which leverages SuperCom and its development teams' internal quality processes.

SuperCom has defined two acceptable paths that development teams can follow with their internal test efforts which will allow the project to ensure acceptable level of quality into the development teams' products prior to their delivery to integration and acceptance by the client.

- Implementing the project's V-Model Testing Approach with the inclusion of the project's pre-defined test items in the solution delivery package/s.
- Quality audits (done by the project's integration team) of the internal development Life Cycle.

System Integration and System Acceptance testing levels will all be managed by the integration team of the project. Other test levels can be managed and executed by the individual development teams in their own development and test environments.

Test Documentation

The test planning will provide the following testing documentation: STP – Software Test Plan and STD – Software Test Design. The STR – Software Test Report will be provided in each testing cycle: Statistical reporting summaries of the testing efforts and results of each release.

Test Methodology

The V-model provides a number of benefits to the overall testing activities. With the verification activities (requirements definition through to implementation) it becomes a logical solution for the delivery of the validation and testing activities.
The V-Model testing methodology is a structured approach emphasizing quality from the initial stage of requirements through product

verification. Each major development phase is linked to a corresponding testing phase. In practice, the V-Model framework is a powerful approach for managing and controlling risk within the testing component of a software development project.

Test Levels

- Unit Test - used to validate that individual units of a module (code or device) are working properly. A unit is the smallest testable part; each test case is independent from the others. Unit testing occurs within the development environment.
- Component Integration Test - individual modules are combined and tested as a group. Component Integration Test occurs within the development environment or local test environment.
- System Integration Test - validates the software system's ability to coexist with other systems within the production environment and there are no inconsistencies between the components that are integrated together and the infrastructure that hosts it (SW and HW). System Integration testing will occur within the central test environment of the project.
- Acceptance Test - obtains confirmation that the system under test meets the goals originally defined by the Requirements Documentation, verifies that the system operates in the production environment and that all supporting infrastructure is correctly commissioned.

Acceptance Test will be conducted by SuperCom testing teams and Customer, within the Customer's environment or the central test environment of the project, as agreed between the parties.

Test Preparation

The preparation step includes the following:

- Preparation of test data.
- Preparation of test scripts and use cases.
- Preparation of test procedures.

Test Execution

The execution step is the overall management of the execution of the complete testing process to include:

- Management of Roles & Responsibilities: In leading the testing process, the test lead is responsible for defining the roles and responsibilities for each test participant, and clearly communicating these in the individual test plans.
- Configuration Management (Version Control): A configuration or version control process and tools are proactively managed throughout the project.
- Measurement and Accountability: The progress and success of testing activities are tracked and controlled through an objective set of measurements
- Defects management: As part of the deployment activities a strategy for defect management will be developed and communicated to all relevant parties

A defect occurs when a test script cannot be executed to a point at which the actual result matches the expected result. When this occurs a defect will be logged in the defect management system.

1.15.2 Acceptance Test Procedure

1.15.2.1 Acceptance Test Approach – General Principles

- For each Milestone which required ATP (according to the Project Milestones, an Acceptance Test Plan Document (ATPD) drawn-up as a draft by the SuperCom.
- This ATPD draft will be sent to the Company for review and approval.
- Once the ATPD is approved by the Company, the steps comprising the plan, outlined in the approved ATPD will be carried out by Project Manager of the SuperCom and the Representative of the Company, as relevant.
- When the execution of the Acceptance Test Plan (ATP) is complete, an ATP Report (ATPR) will be issued by the SuperCom and mutually analyzed by both the SuperCom and the Company's Project Managers (PMs).
- Upon finalization of the ATPR analysis, either:
- An ATP Certificate (ATPC), approving that the SuperCom has fulfilled all obligations towards the Company (for the specific deliverable) will be issued and signed by the Company's PM; or
- Correction activities will be carried out by the SuperCom (and potentially also by the Company), as detailed in the ATPR.

- Nevertheless SuperCom is obligated to successfully finalize the Acceptance Test and receive ATP certificate.

1.15.2.2 Acceptance Test – List of Documents

The following documents are involved in the entire ATP Process:

- Acceptance Test Plan Document (ATPD): A table with specific steps to carry out and review results.
- Project Implantation Plan (PIP): The project plan approved for the project execution (See Project Schedule Attached).
- Acceptance Test Plan Report (ATPR): The same document as the ATPD, but with an additional column detailing the result of performing each step in the ATPD. This document is populated during the execution of the plan.
- Acceptance Test Plan Certificate (ATPC): This is the certificate which is populated and signed by the Company upon successful completion of the ATPD.

1.15.2.3 Acceptance Test - Success Criteria

There are three levels of severity assigned to failures which may be found during the execution of the steps outlined in the ATPD.

The severity levels are: Low, Medium and High

Low means that (i) up to two workstations, or (ii) up to two peripherals (camera, FP scanner, etc.), or (iii) up to two document processes are not functioning as expected (while all others of the same or similar type, do).

Medium means that (i) more than two workstations, or (ii) more than two peripherals (camera, FP scanner, etc.), or (ii) more than two document processes are not functioning as expected (while all others of the same or similar type, do).

High means that (i) a total stoppage of an entire Sub-system occurred (one of: VPR, DA or BC); or (ii) a stoppage of an entire major component of a Sub-system (such as: All Registration Workstations, Cards/Visas/Passport Production Line, ABIS System, Entire Database crash, etc.); or (iii) a slow process to issue working and ordinary visa; or (iv) a slow entry/exit process at BC.

Note: As all possible phenomena cannot be foreseen, in any case, the severity level for each step result will be mutually defined and

agreed upon by both PMs, during the test exercise.
When an ATPD is declared successful, the ATPC will be signed.

- An ATPD will be declared “successful” if the specified results for all the steps of the plan were actually achieved during the ATPD execution.
- An ATPD will still be declared “successful” if the specified results of most of the steps of the plan were actually achieved during the ATPD execution, whilst a maximum of two steps resulted in failures of Medium severity, and a maximum of three steps resulted in failures of Low severity.
- In this case, the SuperCom commits to take immediate correction activation to attempt repair of all identified failures within a period of two weeks.
- An ATPD will be declared “failed” if: (i) Failures of High Severity were found in at least one step; or (ii) Failures of Medium Severity were found in at least two steps and failures of Low Severity were found in at least seven steps.
- In this case, immediate correction activities would be carried out by the SuperCom, and upon their completion the ATPD will be carried out once again for the relevant steps that have been declared as failed.

1.15.3 Acceptance Test - Test Principles

As described above, for the system comprising the entire Project, there will be drawn-up and performed an ATPD.
Following are the principles that will be tested for each Sub-system. The specific ATPD for each Sub-system will detail the various steps which actually will realize achieving the goal of each principle.
The ATPD steps will actually detail all the activities that should be executed in order to achieve the goal which is set in the principle, i.e., the entire system process will be tested.

1.15.4 Acceptance Test - Process Steps

Following are the steps comprising the Acceptance Test Plan Process:

1. When the Works or any part thereof that is determined as a Milestone and required an Acceptance Test, is completed, the SuperCom shall issue a Completion Notice, notifying the readiness of the Sub-System for ATP and detailing the date of testing. The SuperCom will also draw-up and provide to the Company an ATPD, two weeks before the planned execution.

2. The Company will review and comment or approve the ATPD draft, within one week following receipt of the ATPD.
3. The approved ATPD will be carried out, with participation of representatives from the SuperCom and the Company, within one week following approval.
4. The ATP Report (ATPR) will be populated during the execution of the ATPD and will be mutually analyzed by the SuperCom and Company's PMs, within 2 working days following the ATPD completion.
5. Upon completion of the ATPR analysis, and subject to the ATPD being declared "successful", the Company's PM will sign off on the appropriate ATPC and hand it over to the SuperCom's PM. If required, the SuperCom will immediately launch correction activities for failures of Medium and/or Low severity levels that have been identified which shall be completed within no later than 6 months from ATPC.
6. Upon completion of the ATPR analysis, and if the ATPD is declared a "failure", the SuperCom will immediately begin carrying out correction activities, and when completed, the ATPD will be carried out once again, within 3 working days following completion following 1 week notice.

2. Acronyms and Abbreviations

AI	Action Item
CFE	Customer Furnished Environment
HW	Hardware
ICR	Internal Change Request
IPT	Integrated Project Team
KOM	Kick Off Meeting
KPI	Key Process Indicator
MOM	Minutes Of Meeting
MS	Milestone
PLC	Project Life Cycle
PLM	Project Lifecycle Management
PM	Project Manager
PMBOK	Project Management Body Of Knowledge
PMI	Project Management Institute
PMP	Project Management Plan
PMR	Project Management Review
PO	Purchase Order
POC	Point Of Contact
PQM	Project Quality Management
PR	Purchase Request
QA	Quality Assurance
RFC	Request For Change
RM	Risks Management
SOW	Statement of Work
SW	Software
WBS	Work Breakdown Structure
WP	Work Package

ATTACHMENT 7

Technical Resources' Resumes

Project Organizational Structure

Vermont DL/ID SYSTEM

SuperCom Team – Project Organizational Structure

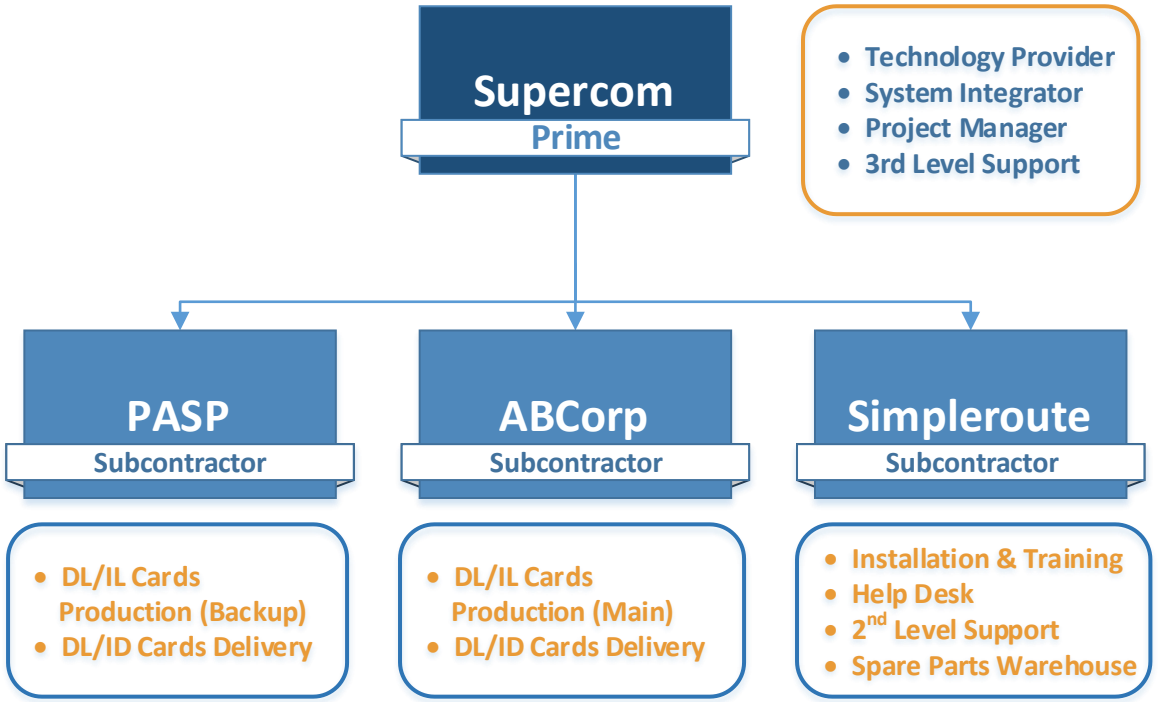


Figure 35 – SuperCom Team Project Organization Chart

Project Key Personnel Team

Following is the proposed Project Key Personnel Team. It includes the candidates from SuperCom (Prime contractor) and from all its sub-contractors.

SuperCom:

#	Candidate	Role in Company	Planned Role in Project
1	Robert Peters	Consultant	Project Manager
2	Jason Gilbert	Vice President of Sales, Public Sector Solutions	Account Manager
3	Frank A. Braman	Braman Consulting, Manager	Deputy Project Manager Specifically Responsible for Level 3 Support
4	Gerry Geva	Senior Projects Manager	Corporate Project Manager
5	Talia Ozeri	Senior S/W Designer	System Analyst
6	Igor Merling	CTO	System Architect
7	Arkady Tachman	S/W Group Manager	S/W Development - Team manager
8	Yehoshua Krochmale	Senior DBA	Project DBA
9	Dudu Lev	Documents Engineering Manager	Documents Production Expert
10	Ad Attias	Project Manager & Information Security Consultant	Security Expert
11	Yoel Vaknin	Customer Support Manager	Corporate Maintenance & Support Manager
12	Akiv Solomon	QA Team Manager	Project QA & Testing Manager

ABCorp:

#	Candidate	Role in Company	Planned Role in Project
1	Fernando Aleman	Director of Secure Bureau Operations	DL/ID Cards Personalization – Project Manager – Primary Facility
2	Jorge Ojeda	Creative Director	Secure Credentials Design Manager
3	Gregoire Maes	COO	Cards Production – Project Manager – Primary Facility

Simpleroute:

#	Candidate	Role in Company	Planned Role in Project
1	Mateo Tudon	Consultant	Project Manager for Technical Support
2	Corey Marrier	Level 1 Technical Support	Field technician Help Desk
3	Charles Bucchioni	Level 3 Platform Engineer	Engineer responsible for deploying software and remote turn-up of hardware as necessary
4	Brett Johnson	President	Backup Project Manager
5	Joseph John Andrzejewski	Produce support	Dispatch Help Desk
6	Daniel W. Safford	Systems Administrator	Help Desk

PASP:

#	Candidate	Role in Company	Planned Role in Project
1	Madeleine Raiford-Holland	VP, ACE-P	Project Manager
2	Elaine Poole	Fulfillment Manager	Card Production Service Bureau Manager
3	Frank Raiford	President & CEO	Overall responsibility for the secondary cards production facility

ROBERT D. PETERS

Lexington, MA 02420
781-266-6698
rdpeters2007@gmail.com

PROFILE

Effective senior-level program and budget manager. Expertise in the following areas:

- Seek, obtain and administer competitive grant awards
- Management of collaborative projects and initiatives across agencies and levels of government
- Development of positive relationships with key stakeholders
- Procurement of critical software and hardware systems.
- Budget development and administration
- Public speaking and presentations

SKILLS

Microsoft Office Suite
PeopleSoft
SAP
SharePoint
Budget development and administration
Grant writing and management

PROFESSIONAL EXPERIENCE

Partners for Youth with Disabilities, Inc., Boston, MA — September 2016 – Present
Director of Administration & Finance

- Responsible for all administrative and finance functions of dynamic, direct-service non-profit.
- Administer newly awarded US Department of Justice grant with a total value of $1.1 Million over three years.
- Actively manage the human resources function, including ensuring wage & hour and other regulatory compliance.
- Leading the Agency effort to locate and occupy new office space in the challenging Boston office real estate market.
- Seeking to implement new technology solutions to improve operational efficiency and reduce size of office foot print.

MassDOT, Registry of Motor Vehicles Division, Boston, MA July 2008-May 2015

Director, Driver Licensing

- Directed the Driver Licensing function for the Massachusetts Registry of Motor Vehicles(RMV).
- Oversaw the Commercial Driver Licensing(CDL) program for the RMV, including the partner agencies, Massachusetts State Police, and Massachusetts Department of Public Utilities which provide skills testing services under an MOU on behalf of the RMV.
- Administered multiple Federal Motor Carrier Safety Administration(FMCSA)-provided grant funds for improving the Massachusetts CDL and Commercial Vehicle Operations programs.
- Collaborated with agency policy-makers in regard to identity policy for the Agency-issued credentials, primarily driver's licenses, which serve as the main identity credential for most public and commercial transactions.
- Directed oversight function for driver education and driver training programs. Ongoing efforts included improving quality and raising standards in the regulated driver training programs across the Commonwealth.
- Collaborated with central services within the MassDOT secretariat including Finance and IT to formalize the federal grants reporting and reconciliation process. Notable achievement was greater understanding of the process among the partner entities and more accurate and useful reporting.
- Produced grant application in competitive grant-funding program (subsequently funded) for addressing findings resulting from the 2008 FMCSA tri-annual compliance review. Total competitive grants funded over a four year period was in excess of $2.5 million.
- Oversaw the contract valued at $32 million for manufacture of Driver Licenses/IDs for the Commonwealth. Notable achievement was in getting contractor to acknowledge shortcomings in their reconciliation process and successfully requiring and receiving a rational reconciliation process. Led procurement for follow on system with a contract award of approximately $40 million.
- Articulated accurate and clear licensing policy for use by agency staff and the general public.

Intercultural Press, Inc., Boston, MA March 2006 – July 2008

Director, Finance and Administration

- Served as chief of accounting and administration for a small, yet multi-national independent publishing company.
- Notable achievements included successfully relocating office space in the downtown Boston office market and provisioning with proper furniture, fixtures and equipment; changing provider for health insurance for a small group, and changing provider for 401k plan providers.

OTHER AFFILIATIONS

Lexington Housing Authority, Lexington, MA 2007 - present

Member, Board of Commissioners

EDUCATION

Brandeis University, Waltham, MA: B.A. History

Jason Gilbert

Dynamic solutions-oriented professional with proven track record of business development and exceptional leadership skills with an extensive background in the following broad-based competencies:

Business Alliances, Strategic Planning, Negotiation, Marketing, E-Commerce Innovation, Project Management, New Business Development, Technology Solutions, Team Building, and Government selling process.

- Demonstrated ability to launch new programs and services to increase corporate profit and market share.
- Provide innovation and leadership in key product development, management and expansion that consistently broadened customer base through successful marketing campaigns.
- Proven ability to develop and utilize resources to drive and deliver business growth.
- Excellent qualifications in new business start-up and strategic planning with comprehensive knowledge of management, organizational development, team building and project execution.
- Expert in office productivity tools to include Excel, Word, PowerPoint, Salesforce, and SugarCRM

EXPERIENCE

SuperCom -Vice President of Sales, Public Sector New York, NY 2014 – Current

Responsible for the development and management of all Government Sales and Account Management initiatives in North America, leading the organizations efforts to place SuperCom's cutting edge EID, M2M, and mobile payments products. .

- Designed and managed structure for account management, support and growth.
- Developed and specified technical and functional product requirements.
- Managed proposal process.
- Selected and customized enterprise CRM solution.
- Developed marketing material and the vehicles used to distribute them.
- Developed pricing strategies and service offerings.

Corrisoft -Vice President of Sales Lexington, Kentucky 2012 – 2014

Responsible for the development and management of the Sales Organization for Corrisoft's Electronic Monitoring Business in the United States, which targets Federal, State and County Correctional, Parole and Probation, and Sheriffs agencies, including key value added resellers, distributors and contract government lobbyists.

- Responsible for the development of Strategic and Operational Sales Plans. This includes the interpretation of industry trends, customer requirements, and business objectives to define guidelines/methods for the Sales organization to meet desired goals and objectives.
- Responsible for the management of a National Sales organization, including objective setting, performance management, as well as training and coaching.
- Responsible for determining priorities, timetables, and assigning resources/tasks.
- Led the development of products/customer solutions to ensure business attainment and growth.
- Applied business, product and technical knowledge to craft solutions that win new customers/contracts.

STOP LLC -Regional Sales Manager Indianapolis, Indiana 2006 - 2012

Penetrated Corrections market and grew STOP's market share of GPS Offender Tracking products and solutions. Responsibilities included, but not limited to:

- Posses an in-depth knowledge of the corrections/supervision market and supporting channels.
- Led and developed all sales channels to include direct and channel partners.
- Demonstrated success building new business, growing market share, managing and achieving revenue and/or profit goals.

- Established an in-depth network of government sector contacts throughout a 20 state area.
- Manage the complete sales cycle by identifying opportunities, making presentations, training and monitoring product trials, completing contracts, obtaining signatures, and growing programs.
- Work closely with State, County, City, and private enterprises to develop and launch GPS Offender Tracking programs.
- Develop, manage, and coordinate all marketing efforts through a combination of cold calling, mailers, trade shows, email, directing lobbying efforts, and networking.
- Direct the construction of customized RFP responses.

PayTRUST Solutions -Sales Director Indianapolis, Indiana 2004 - 2006

Managed all functions of sales for a startup electronic payment provider, focusing on the Government Sector. Sold customized internet payment gateways and operator assisted payment processing to County Clerks, Treasurers, Sheriff's Departments, Park Departments, and Planning and Zoning Departments.

- Shepherded business from a start-up phase to an established customer base of more than 200 accounts throughout a 15 state area.
- Expanded core Government market by targeting and securing payment processing business within the Utility Industry
- Developed product pricing, margin analysis tools, commission tracking tool, application enhancements, implementation and training tools, online marketing presentation, and mailing campaigns.
- Developed corporate CRM database using Salesforce.com.
- Generated leads through trade shows, professional associations, mailing campaigns, email campaigns, cold calling, and networking with existing customers.

ALLTEL -Professional Services Manager Indianapolis, Indiana 2000 – 2003

Responsible for all professional service concerns related to the installation of a mortgage software suite. Managed two project managers and five system engineers. Allocated resources in a complicated matrix of multiple products and multiple sites with varying timelines and levels of commitment.

FIRST CONSULTING GROUP -Consultant Boston, Massachusetts 1998 – 2000

Provided extensive technical direction and project management to clients in the Health Care Environment.

UNITED STATES ARMY - Airborne Infantryman Vicenza, Italy 1991 – 1994

EDUCATION

- MS, Information and Communication Sciences Ball State University **1998**
- BA, Telecommunications - Sales and Management Ball State University **1996**

FRANK A. BRAMAN

Braintree, Massachusetts 02184
617.283.3432 • AdnyBs@gmail.com • LinkedIn

Over twenty- years expert Systems Analyst and IT Development Specialist

AREAS OF EXPERTISE

- Broad knowledge, experience and success in Windows applications and software in general.
- Ability to communicate complex transactions and work effectively for practical solutions.

Technical Proficiencies

Platforms: Windows, Windows Server, Linux , VSE/SP, MVS through Z/OS

Tools: HTML, CSS, JavaScript, COBOL, IDMS, JCL, Mainframe and PC Assembler, C/C++, PC scripting language, TSO, VSAM, JCL

PROFESSIONAL EXPERIENCE

BRAMAN CONSULTING, LLC, BRAINTREE, MA

MANAGER (JAN. 2017 – PRESENT)
Designed and built websites using CMS applications and native HTML5, CSS3 and Javasript.

REGISTRY OF MOTOR VEHICLES, Boston, MA

Contract Programmer (2010 – Dec. 2016)
Supported mainframe and Windows applications as a member of the Level 3 Help Desk. Improved procedures for the distribution of application code to fifty remote servers, meeting PCI compliance standards. Developed and implemented procedures to distribute Windows 10 application code to fifty remote servers, achieving consistent results.

Key Achievements:

- Consistently resolved application issues within expected response times.
- Consistently achieved software distribution goals.
- Modernized distribution procedures to meet PCI standards.

Contract Programmer (1997 – 2010)

Kept Driver Licensing, Inspector Licensing, and Medical Affairs applications compatible with Windows and the mainframe. Configured version control system for Windows applications and distributed applications to fifty remote servers. Resolved Windows and mainframe applications issues, following SDLC documentation standards.

Key Achievements:

- Modernized over 800 C++ programs to achieve successful migration from Windows 3.1 to Windows XP.
- Achieved reliable Vehicle Inspector Licensing by constructing mainframe and Windows application.
- Enabled reliable Handicap placard issuance by successfully designing and implementing mainframe and Windows application.

** *** **

FRANK A. BRAMAN

Previous Professional Experience

Programming Manager and Developer & Systems Programmer

EDUCATION AND TRAINING

NORTHEASTERN UNIVERSITY, Boston, MA
Associates in EDP

Gerry Geva

Personal details	Year of birth	1960
	Address	Kochav Yair, ISRAEL
	Tel	Office +972 (9) 889 0800 Cellular +972 (52) 566 1002
	e-mail	gerry@supercom.com

General	An experienced executive with specialization in Projects, Operations and IT. Over 20 years of working experience in multinational environments in Europe, Africa, North & South America, including team management, strategic planning and P&L management.	
Education	Year: Profession: Institute:	2007 - 2008 Ms. – Management New York University
	Year: Profession: Institute:	1984-1988 Bs. – Mechanical Engineering Israeli Institute of Technology –Technion
	Courses	2001 - Intercultural behavior - Comverse 2000 - Project Management, Software Licensing - Microsoft Education 1999 - Cisco Routers Management & Configuration – Netcom 1998 - Implementing CA Unicenter TNG – Computer Associates 1995 - TCP/IP Protocols – Logtel 1994 - UNIX System Administration, UNIX Performance and Internal - Team Systems
Professional experience	2013 - Current	SuperCom Ltd. Senior Project & Customer Services Director
	2010 - 2013	On Track Innovations Ltd. Senior Project & Customer Services manager
	2006-2009	SuperCom Ltd. VP Operation and Projects
	2004-2006	SuperCom Ltd. Project & Customer Services manager
	1999-2003	Comverse Ltd. Director of IT Services
	1998-1999	Athena Software Services Ltd. VP Infrastructure and System Integration
	1991-1998	Athena Software Services Ltd. Project Manager- IT Infrastructure and System Integration
Additional information	Languages: Hebrew – Mother tongue English – Fluent at professional level	

Talia Ozery

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Tel: +972-9-7406239
Mobile: +972-52-8893681
Email: taliao@Supercom.com

PROFILE

Education: B.Sc. in Computer Science.

Current position: Chief Designer in ∑ID Division (domain of governmental ID solutions)

Current Employer: Supercom (from 2012 until today)

EXPERIENCE

Over 20 years of experience in system engineering, system design and project management.
Extensive experience in large integration projects, leading variant project activities: system requirements and business process evaluation, solution concept definition, high level design, detailed design, development, quality check, training, and maintenance.
Extensive knowledge and experience in many areas:
Registration – Registration Processes in various governmental ID programs such as Population Registries, National eID/IDs, Biometric Passports & Visas, o Smart Driving/Vehicle Licenses, Biometric Border Control & Immigration and more.
Biometric - variant biometric types (face recognition, Hand geometry, Iris scanning, finger prints), Expertise and large experience in the biometric business solutions and processes (Enrollment process, identification (1:M) and authentication (1:1)) biometric scores and rates, integrations of biometrics identification and authentication modules with existing systems, customizations and related interfaces.
Access control (physical (gates) / logical (IT-systems) and **border control** systems - process and authentication using token / smart cards.
Smart Cards ,Smart Documents systems- Registration process, Smart Document/Card life cycle, variant usability and interfaces.
Logistics and electronic production management systems- complex business process of manufacturing and large logistics system.

PROFESSIONAL HISTORY

Period of Assignment: 2012 – Today,
Projects Description:

Developing systems related to various governmental ID solutions/programs: National IDs/eIDs driving licenses, voter's cards, passports, visas and more. Every system covers end-to-end solution: workflows and services related to a program include biometric registration, functional services, smart documents issuing and life cycle, external interfaces and more.

Position / Title Held:
Chief Designer in ∑ID Division (domain of governmental ID solutions)
Job Description:
Leading the design of the systems in the domain.

Period of Assignment: 2010 - 2012, 2 years

Projects Description:

- Developing and implementing countrywide biometric ID registration system (facial template and fingerprints), the project includes: establishment of biometric storage, registration storage, mobile and fixed workstations, issuing biometric smart cards for the population.

- Developing and implementing driving licenses countrywide management system. The project includes: establishment of biometric storage, drivers storage , issuing of biometric smart cards driving licenses , supporting driver management functions such as driving tests, report of offences, drivers suspensions etc.

- Developing and implementing Biometric Visa management system. The project includes: establishment of biometric storage, issuing of biometric visa , implement the visa control in the border crossing

- Developing and implementing Border Control Process (implementing ePassports , passports and visas)

Position / Title Held:
Systems Engineer in the domain of biometric systems, registration procedures and issuing smart cards

Job Description:
Concentrating and handling all subjects related to systems and software engineering in projects mentioned: analyzing the system requirements and the client needs defining the development solution concept (software architecture and functionality) interfaces and business processes, high level and detailed design of the system, leading all the system specification docs and deliverables, manage and control the development phase, supporting tests planning, training, implementation and maintenance.

Period of Assignment: 2001 - 2010, 9 years

Projects Description:

- Developing decentralized system for biometric capture (hand geometry, facial template and fingerprints), issuing smart cards with digital signatures, and controlling automatic biometric passage in internal border crossing.
  The system includes: Automatic identification using Contact-less Smart card and Biometrics (face recognition , hand geometry) Automatic permission control, recording, and transit gateways. The system provides High level of Authentication: fusion of the two biometrics.

- Developing System for the Immigration Authority, for biometric capture authentication and identification of foreign workers (use of a mobile biometric package). The project includes: establishment of centralized demographic and biometric storage, providing mobile and fixed workstations, at identical configuration to be used On line and Off line with various communication capabilities: Lan, Wan & Cellular, enrollment of finger print and Face recognition biometrics, biometric finger print authentication (1:1) and biometric identification(1: Many) controlled by automatic workflow.

Position / Title Held:
Systems Engineer in the domain of biometric systems, registration procedures and issuing smart cards

Job Description:
Concentrating and handling all subjects related to systems and software engineering in projects mentioned: analyzing the system requirements and the client needs defining the solution concept (architecture and functionality) interfaces and business processes, high level and detailed design of the system, leading all the system specification docs for all the system CI's (Configuration Items) and deliverables, manage and control the development phase tests planning, managing sub contractors, system testing, training, implementation and maintenance, contracting all project reviews and clients approvals for all projects deliverables.

Period of Assignment: 2000 – 2001, 2 years

Projects Description:
Developing systems for managing various registration processes and documents issuance (such as passports, visas and I.D cards)
The systems include biometric capture and identification via magnetic media and smart cards, procedures for submitting a request for a document, its approval (including integration into the rule base system), the document issuance, quality control regarding the document being issued and handing it over to the client.

Position / Title Held:
Systems analyst and project manager in the domain of registering and issuing documents and smart cards

Job Description:
Analyzing characterizing, designing, following up on the development and tests planning of these systems.

Period of Assignment: 11 years

Projects Description:

Developing and maintaining systems of:

- Production of electric circuits data management
- Production floor data management
- Logistics
- Inventory management
- MRP 2 production management: production material requirement planning, work orders etc.

Position / Title Held:

Systems analyst and development team leader in the domain of Logistics and Production Management.

Job Description:

Analyzing and characterizing the systems, managing development teams, introducing systems within the client's environment, designing necessary changes and adapting systems to the client's needs.

Mrs. Ozery has a vast experience in User Training and has managed a lot of Training Courses in the following projects:

- Zanzibar ZEC
- Ecuador ID
- Tanzania DL
- Panama Visa and BC
- And more

Igor Merling

Personal details	Year of birth	1959
	Address	14 Arie Shenkar, Herzliya, Israel
	Tel/Fax	Tel. (Cellular) +972 (52) 566 1007 Tel. (Office) +972 (9) 889 0809
	e-mail	igor@supercom.com

General	Mr. Merling has been working in the area of national documentation since the late 1980's, developing software and systems and system architecture in consecutive positions and projects. He has broad range of experience accumulated over varied projects, requirements, customers, standards and technologies, not only in system hardware and software and integration, but also security and materials.

Education	Year	1977-1981
	Profession	**BSc.** in Electrical Engineering
	Institute	Technion, Israel Institute of Technology, Haifa
Professional experience	10/2012 -	**SuperCom (previously Vuance) Ltd.** **Chief Technical Officer** Solution architecture for national identification document projects:
	1/2007 – 9/2012	**On Track Innovations Ltd.** **Chief Scientist, SmartID Division** Solution architecture and proposal preparation for many national identification document projects: Iceland, Moldova, Ethiopia, Zanzibar, Tanzania, Ecuador.
	1999-2006	**SuperCom Ltd.** **CTO** Solution architecture and proposal preparation for many national identification document projects: Philippines, Hong Kong, Israel, Argentine, Brazil, Ukraine, Ethiopia, Zanzibar
	1991-1999	**SuperCom Ltd.** **Software R&D Manager** Software development and team management. Played an important role in Supercom's successful completion of many national ID projects. System design and/or proposal preparation for national ID projects: Israel, Romania, Moldova, Ukraine, Tanzania
	1986-1991	**Phasecom LTD.** **Project Manager & Engineer** Hardware and software development, and project management for extensive radar environment simulation project.
	1981-1986	**IDF** **Project Manager & Electronic Systems Engineer**

Igor has a vast experience in User Training and has managed a lot of Training Courses in the following projects:

- Romania ID
- Zanzibar ID, ZEC
- Ecuador ID
- Tanzania DL

- Moldova Multi-ID
- Panama Visa and BC
- Iceland ePassport
- Ethiopia Passport
- And many more

Arkady Tachman

Personal details	Year of birth	1974
	Address	14 Arie Shenkar, Herzliya, Israel
	Tel/Fax	Tel. (Cellular) +972 (52) 836 9909 Tel. (Office) +972 (9) 889 0815
	e-mail	arkady@supercom.com

General	Mr. Tachman serves as the Software Development Team Leader in SuperCom's ∑ID Division Brings massive experience in ID software development full life cycle and the complex integration of national projects: Requirements, Design, Development, Integration, Installation, Acceptance and Support. Key Skills: .NET 4.0, C#, Delphi, Oracle Methodologies and tools: Agile, Team Foundation Server, SVN Speak, read and write: English, Hebrew and Russian
Education	Software Engineer, 1996, Russia
Certificates	MCPD – Microsoft Certified Professional Developer Enterprise Application Developer, 2008, Israel
Courses	Programming the .NET Framework 4.0 with C# Ms70-536: Application Development Foundation Ms70-526: Windows-Based Client Development Ms70-528: Web-Based Client Development Ms70-529: Distributed Application Development Ms70-547: Designing and Developing Web Applications Ms70-548: Designing and Developing Windows Applications Ms70-549: Designing and Developing Enterprise Applications

Professional experience	2012 – Present	**SuperCom (previously Vuance) Ltd.** **Software Development Team Leader, ∑ID Division** Solution development of national identification smart document projects
	2007 – 2012	**On Track Innovations Ltd.** **Software Developer, SmartID Division** Design, development and implementation of several national identification document projects: Moldova, Ethiopia, Zanzibar, Uganda, Tanzania, Ecuador and Panama
	2001 – 2006	**SuperCom Ltd.** **Software Developer** Developed applications providing the front-end and the back-end of the ID document enrollment and smart documents issuing systems for Governments and Education projects: Israel, Iceland, Ukraine, Moldova, Ethiopia, Zanzibar, EduGate
	2000 – 2001	**AgroLogic Ltd.** **Software Developer** Software development for the agriculture sector

Mr. Tachman has a vast experience in User Training and has managed a lot of Training Courses in the following projects:

- Romania ID
- Zanzibar ID, ZEC
- Ecuador ID
- Tanzania DL
- Moldova Multi-ID
- Panama Visa and BC
- Iceland ePassport
- Hong Kong Passport
- Ethiopia Passport
- And many more

T6 Curriculum Vitae for Proposed Professional Staff

1. Proposed Position: **Senior Database Administrator**

2. Name of Firm: **SuperCom**

3. Name of Staff: **Yehoshua Krochmale**

4. Date of Birth: **17/02/1953** Nationality: **Israeli**

5. Education:

Masters degree in physics and computers at Voronezh University.

6. Membership of Professional Associations:

7. Other Training:

- 2011-2012 : Course DBA MS SQL Server 2008 R2 at Ness College.
- 2008 : Course MS SQL Server 2005 at John Bryce
- 2000-2001 : Courses transition to ORACLE DBA at John Bryce
- 1996-1997 : Course Novell SYS ADMIN and Novel C.N.A certification.

8. Countries of Work Experience:

- Tanzania
- Zanzibar
- Ethiopia
- Ecuador
- Panama
- Israel

9. Languages:

Russian – Native, English + Hebrew – (Speaking, Reading, Writing) –High level.

10. Employment Record:

From: 2013 **To**: Today
Employer: SuperCom
Positions held: Oracle DBA

From: 2010 **To**: 2013

Employer: On Track Innovation
Positions held: Oracle DBA

From: 2006 **To**: 2010
Employer: One1 company - Data Quality (DBQ)
Positions held: Oracle DBA

From: 2003 **To**: 2005
Employer: M.L.L Company
Positions held: System administration, Oracle DBA

From: 2001 **To**: 2003
Employer: WE - consulting firm providing IT solutions
Positions held: Oracle DBA

11. Detailed Tasks Assigned:	**12. Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned:**
Providing DB solutions Database installations Oracle Storage management Backup and Recovery procedures support for the smooth functioning of the Database Tuning SQL process of database for improving performance Archiving, index management, High Availability, Replication. Experience with versions of Oracle 7, 8i, 9i,10g,11g in a variety of operating systems such as Windows, Unix, AIX , Sun Solaris, Linux. Installations and upgrades of different versions on different platforms. Analysis, performance tuning and optimization . DB solutions, experience in tools such as: RAC, RMAN, DataGuard. Experienced working with large databases, DWH. System scripts / maintenance.	Main projects : Name of assignment or project: Ecuador ID Year: 2010- Today Location: Ecuador Client: RC (Ecuador – Civil Registration) Main project features: Biometric Registration and ID card Issuance Positions held: DBA Activities performed: DB solutions, Database installations, Oracle Storage management, Backup and Recovery procedures, support for the smooth functioning of the Database, tuning SQL process of database for improving performance Name of assignment or project: TZDL Year: 2010- Today Location: Tanzania Client: TRA Main project features: Positions held: DBA Activities performed: DB solutions, Database installations, Oracle Storage management, Backup and Recovery procedures, support for the smooth functioning of the Database, tuning SQL process of database for improving performance

	Name of assignment or project: Panama Visa\Panama eBorder Year: 2012 - Today Location: Panama Client: Panama Migration department Main project features: Biometric Visa & Biometric Border Control Positions held: DBA Activities performed: DB solutions, Database installations, Oracle Storage management, Backup and Recovery procedures, support for the smooth functioning of the Database, tuning SQL process of database for improving performance Name of assignment or project: National Registration and Document Issuing for Zanzibar ID cards Year: 2010-Today Location: Zanzibar, Tanzania Client: Ministry of Interior Main project features: Data capture including photo, signature, fingerprints and text, and secure document issuance of ID cards Positions held: DBA Activities performed: DB solutions, support for the smooth functioning of the Database, tuning SQL process of database for improving performance Name of assignment or project: Document Issuing for Ethiopia Year: 2010-Today Location: Ethiopia Client: IICIS Main project features: secure document issuance for passports, residence cards, visas Positions held: DBA Activities performed: Support for the smooth functioning of the Database, tuning SQL process of database for improving performance

Dudu Lev			
Address Tel/Fax	Address	1 Arie Shenkar, Herzliya, Israel	
	Tel/Fax	Tel. (Cellular) +972 (54) 227 8075 Tel. (Office) +972 (9) 889 0880	
	e-mail	dudul@supercom.com	
General	Mr. Lev's accomplished tasks included the following: Specification of product technical requirements including structure, definition of BOM, raw materials and Smart card characteristics, in accordance with customer requirements Planning of production processes including workflow, problem solving, quality assurance requirements and overseeing of all activities Project management. Specification of all smartcard engineering tasks from development to production, including development and implementation of new production processes. Handling of key customer accounts from product requirements to full scale production. Qualification process of printers with card products. Managing new sub-contractors worldwide, training and setting them up for production and providing engineering support at all stages.		
Education	2005	**BSc.** in Mechanical Engineering	
		Ben Gurion University, Israel	
Professional experience	2013 -	**SuperCom (previously Vuance) Ltd.** **Engineering Manager**	
	2010- 2013	**On Track Innovations Ltd.** **Head Of the Smartcard Engineering**	
	2006 - 2010	**Millennium Card's Technology (MCT), Shenzhen, China** **Project Manager and Production Engineer** Solution architecture and proposal preparation for many national identification document projects: Philippines, Hong Kong, Israel, Argentine, Brazil, Ukraine, Ethiopia, Zanzibar	
	2003 - 2010	**IICIS Ethiopia Personalization project Head Of the Smart Card Engineering**	

- In his current position, Mr. Lev is the Head Of the smart Card engineering in the Panama Visa\Panama eBorder project since 2012. This project provides Biometric Visa & Biometric Border Control components
- Mr Lev is also the Head of smart Card engineering for the Tanzania Driving License project that has been ongoing since 2010. Its main features include: Biometric and text capture, AFIS, DL card production and personalization, and "driver" lifecycle management.
- In the three years when Mr Lev was assigned to the Ecuador ID project, he served as the Project Manager and Production Engineer. The main features of this project were the following: Biometric Registration and ID card supply and Issuance.

Dudu has a vast experience in project management and specifically has worked in many capacities in cards personalization in the following projects (partial list):

- Zambia
- China

- Hong Kong
- Ecuador
- Korea
- Poland
- Tanzania
- Panama
- Ethiopia

AD ATTIAS

Mosinzon 3, Tel-Aviv, Israel
+972-52-8089-089
Ad.attias@gmail.com

Profile

Cyber Security Architect, with more than 7 years of experience in information & cyber security guidance and Project Management, with a broad view in development and assessment of secure architecture in various sectors.

Experience

Prevision Data Security:

VP Cyber Security Consultancy & Product, Prevision Data Security, SuperCom Group — 2015-Present

- R&D and product management for mobile security product.
- Management and Development of the companies' cyber security services - Risk Assessments, Attack simulations, Penetration testing, Security research.
- Providing cyber security services to companies' clients in various fields such as governments, finance, broadcast, critical infrastructure etc. worldwide.
- Research and Penetration testing teams' management.
- Management of full scale security assessment in a large asian bank, which includes attack simulation, application security architecture, iso 27001 compliancy, network security, infrastructure and application penetration testing.
- SIEM-Soc security assessments.
- Swift systems security and risk assessments.
- Enterprise Fraud Management systems research and POC.
- Mobile security architecture design & assessment for mobile payments systems.

Cyber Security Architect, Prevision Data Security — 2014-2015

- Managing and providing cyber security services to companies' clients in various fields such as governments, finance, broadcast, critical infrastructure etc. worldwide.
- Providing secure architecture design and security assessments for the following:
  - IPTV and Over-The-Top systems
  - ATM & Swift systems.
  - Payment systems such as Pin Code authorization, issuing and management.
  - Credit card issuing and credit card related services.
  - Mobile applications.
  - DCS/SCADA systems.
- Providing guidance for PCI-Pin Security compliancy periodical audit for large banks.
- Incident response team management.

Cyber Security Technology Manager, Ministry of Justice, Enforcement and Collection Agency(Prevision) — 2013-2014

- Providing cyber security consultancy services and guidance to the agency in various fields such as:
  - Network and Application security.
  - Risk assessments & penetration testings.
  - SIEM evaluation, security requirements, POC and deployment.
  - Secure software development (SSDLC)
  - Cyber security awareness program development and operation
  - Security products & solutions evaluations and POC such as DB activity monitoring, DLP
  - ISO 27001 compliancy
  - Information security policy and procedures development

Information Security Consultant & Project Manager, Prevision Data Security — 2012-2013

- Providing cyber security consultancy services and guidance.
- Security products & solutions evaluations and POC.
- ISO 27001 compliancy.
- PCI-DSS compliancy.

IT Project Manager(Captain), Computer Center and Information Technology unit, Mamram, IDF — 2008-2011

- Information systems infrastructure deployment and integration
- information security architecture design.
- Project management.
- Conducting applications performance and load testing.
- IT operational procedures development.

Information Security Project Manager(Captain/Seren), IT, processing and computing Unit (Mamtam), Navy, IDF — 2007-2008

- Various information security projects management.
- Product evaluations and POC for endpoint and server security.
- Providing requirements and evaluation for SIEM, IPS solutions.
- Network security products Implementation and configuration.
- Evaluation for file activity monitoring solution & Thin client policy management solution.

Education & Credentials

College of Tel-Aviv, Yafo — B.Sc, Computer Science, 2014

MCITP & CCNA

Areas of Expertise

Team & Project Leadership Application Security Mobile Security Risk Assessment / Impact Analysis PCI-DSS, Pin Security Information & Cyber security managementPayment system security-ATM, Swift Security Design Review

Network and Systems Security Attack Simulation Siem-Soc Dev&Operation

Regulatory compliance

Yoel Vaknine

Personal details	Year of birth	1965
	Address	Kfar Saba, Israel
	Telephones	Tel +972 (97) 433733 Cel +972 (55) 8862600
	e-mail	yoel.vaknine@gmail.com
	Citizenship	French, Israeli

General	International work experience in Africa. High level of English, French, Portuguese languages speaking. French and Israeli Passports. High management & work stuff supervising abilities. Excellent functioning under pressure. Extensive technological background. High Logistic & Operational management abilities. Good at interpersonal relationships. Readiness for frequent Travels abroad.
Education	**2007-2009: MSc.M**, Technology Management, Polytechnic NYU branch in Israel | (**GPA: 3.68**). **1990-1992: BSc E.E**, University of Bridgeport, CT, U.S.A | (**QPR: 3.72**). **1987-1989: Practical Engineer**, Tel Aviv Practical Engineering College
Courses	CCNA – Net4U College (August 2016).

Professional experience	2017	**Field Engineer - Superzoom's ∑ID™ (Sigma-ID) Division** Technical Support and Installations & Training of complete and complex VPR (Visa Passport Resident card) Biometrics Identification system throughout Angola's Ministry offices and embassies around the world.
	2016 – 2017	**Consultant & Project Manager – Aqua Systems, Israel** Project Management of remote reading of Water Meters for water corporations in Israel. Supervising the implementation of the project according to the tender requirements. Performing durability tests of the hardware and software of the wireless system of the franchise.
	2014 – 2016	**Project Manager, Mototrax (Mitrelli Group) - Angola, Africa** Project Management of detection and protection of vehicles fleets throughout Angola. Product Management (Inbound, Outbound) and hardware & software characterization requirements, improving and adapting the system according to customer's needs and the market. Writing User Manual's and characterization specs for Mobile Apps. Management local staff in Portuguese language which included technicians, salespeople and financiers and withheld them for targets achievement. Meetings managements with local customers and creating

		strong and enduring relationships with major and strategic customers. Source of knowledge and system Administrator in Angola, resolving technical and administrative issues including funds collection, performing training and demonstrations to customers.
	2012 – 2014	**Logistics Manager, E.O International (Mitrelli Group) - Congo, Africa** Project Management of IT and Data Communication Systems installations throughout Congo. System characterization, subcontractors (Congo Telecom) management and implementation of the system on the customer's sites. Intense work on daily basis and creation trustful relationship with senior ranks in the level of Mayor, General Secretary and District Mayors as well with the head of the “Grands Travaux” ministry in Brazzaville. Managing the Logistics Department in the remote filed cities in Congo which included dozens of local workers and responsibility for their salaries and the Fleet Vehicles of the company. Working with local subcontractors from the construction domain, management schedules for building and testing reference points for the GIS Network.
	2010 – 2012	**Manager, Alital Advanced Solutions, Israel** Establishment a SMB which provided integrative solutions for the B2B/B2C Markets in the field of Wireless Communication Technologies (GSM/GPRS, UMTS, Bluetooth, ZigBee, Wi-Fi, RFID). Consolidation of the Products Line and reaching an approbation of agreements with leading manufacturers from the Far East (China, Taiwan), Europe and the United States. Project Management for leading customers in Israel and Africa (Ivory Coast, Gabon) according to their requirements and managing Turnkey production projects in China.
	2003 – 2010	**Digital & Wireless M2M Manager, Semiconductors Distribution Companies, Israel** Projects Management and providing Wireless Communication Solutions (GSM/GPRS, GPS, Wi-Fi, UMTS, CDMA, and ZigBee) of Telit to leading customers from the Israeli High Tech. Enlarging the Customers basis in the M2M arena, performing trainings and demonstrations of Radio Network GSM/UMTS (RAN) Optimization. Management of Turnkey Production Projects in China for Leading High-Tech customers. Projects Management and providing solutions for strategist's customers in the fields of: SONET/SDH, DWDM, Interface Converters/Bridges, Power Supplies and DC-DC Converters Memories, Micro Controllers and Mixed Signal IC’s of the company Winbond.

	2000 – 2003	**Field Application Engineer (FAE), National Semiconductor, Israel/Germany/USA** Field Application Engineer of the company in Israel, execution design win's and project management for Strategist's OEM customers. Writing Technical and Commercial presentations in English and presenting them to the customers in professional conventions in Israel and to the company's managers in Europe/USA. Distributor's management, training them on the company's products and withheld them for targets achievement.
Skills and Qualifications		**Operating Systems:** MS-Windows 10/8/7/2000/XP/NT/9x/CE, UNIX, Linux, DOS. **Programming Languages:** Assembler, C, C++, HTML, Ladder (PLC). **Networks:** OSI Model, Ethernet, LAN/WAN, Switching & Routing. **Wireless:** RF, GPS, Wi-Fi, Bluetooth, ZigBee, RFID, 2G, 3G, 4G. **Databases:** Access. **Work Environment:** MS-Office (Word, Excel, Power Point). **Management Systems/ERP:** MS-Project, Priority.
Military Service		1983 – 1986: Combat Soldier, Combat Medic N.C.O in an infantry unit.
Languages		**Hebrew** – Mother Tongue | **English** – Very Well | **French** – Very Well | **Portuguese** – Very Well | **Spanish** - Basic

Akiv Solomon

Personal details	Year of birth	1977
	Address	1 Arie Shenkar, Herzliya, Israel
	Tel/Fax	Tel. (Cellular) +972 (0) 54-249-2491
	e-mail	akivs@supercom.com

General

'Hands-On' QA & Automation Tools Manager with an Engineering background, specializing in Mobile, Web and Security based systems.
Successfully led professional teams in the fields of Development, QA, Automation, Operations and Customer Support.
Managed projects and people to deliver high quality results in dynamic environments, within budget.
Built and led closely-knit, high-morale, high-throughput, fun-loving teams
Specialties:
Strategy & Architecture, Team Building, Test Automation Systems, Load and Performance Testing, Release Management, General (Cross-Discipline) Management, Creativity, Confidence, Courage and Efficiency.
Programming Specialties:
Java, C#, WPF, WCF, SQL, HTML, CSS, XPATH.
Selenium WebDriver, Robotium, Espresso, JUnit4.
JMeter, JSystem, Maven, SoapUI, LoadUI.
GIT, Hudson.
Jira, Microsoft Test Manager (MTM), Quality Center.

Education

Web Application Security	Agile Scrum Course - AgileSparks
Java programming – Open university	Advanced Java – John Bryce College
C programming – Open University	SQL, IAF
Computer communications, IAF	VB, IAF

Professional experience

2015 - Present	QA & Validation Tools Manager at SuperCom Ltd Recruited, built, trained and managed 2 teams QA validation engineers and automation tools developers. Release Manager for multiple simultaneous big scale projects within tight schedules. Built functional automation and performance automation platform from scratch, using Object Oriented C# and internal generic tools. Responsible for all quality related aspects of a system consisting of both hardware and software. Complex system architecture including 1700+ hardware components, servers and peripherals, IIS based web servers, WPF, WCF, XBap, Oracle DB and more. Synchronizing and matrix managing tasks of Programmers, IT & DevOps.
2013- 2015	QA & Automation Manager, Tranzmate (Moovit) Ltd Recruited, built and managed a team of 4 QA validation engineers and automation developers in a Mobile Navigation domain company. Created functional automation and performance automation from scratch, using Java and Jmeter. Responsible for all quality related aspects of a platform consisting of Server side - nginx, Tomcat, Redis, RabbitMQ, Open Street Map (OSM) and more. Mobile client (Android, IOS, Windows Phone), web client, Rest API and Oracle DB. AWS work environment. Release Management for multiple simultaneous projects within tight

		schedules. Synchronized and matrix managed tasks of Programmers & DevOps.
	2013-2013	QA & Automation Team Leader, UIUMobile Ltd Mentored and managed a team of 2 QA engineers and automation developers in an Android and Cloud domain company. Responsible for all quality related aspects of a complex platform consisting of client on android device with 13 Apks and cloud based website. Responsible for training and technical support to potential customers from Europe and Japan. Developed web and mobile automated testing system from scratch using Java, Selenium, Robotium, Espresso, Junit4, Xpath, CSS, SQL. Work environment – Linux, Android, Drupal, Git. Comprehensive understanding of QA and Development methodologies, Agile Scrum, Project management. Technical pre-sale to potential customers and partners.
	20011-2013	Technical leader and Senior Automation QA Engineer, RSA Security Ltd. Technical tasks management of 2 QA Engineers in Agile Scrum methodology in an Online Security domain company. Responsible for quality of BackOffice and Billing components of an online banking security related product. Developed automation using Java, Selenium, Jsystem, Soap. Work environment – Unix, AIX, Windows, Tomcat, TCServer, Websphere, Oracle, PostgreSQL, SqlServer, Quality Center, Jira, perforce, Nexus, Maven and Hudson.
	2009-20011	QA and Operations Team Leader, Exent Technologies Ltd Managed a team of 6 QA engineers in an Online Gaming domain company Managed quality and operations of all projects with multiple customers and partners such as Verizon, Frontier, Verizon wireless, Comcast, Qwest, Telmex, T-Mobile and Yahoo. Responsible for all quality aspects of a platform consisting of client, web server, management tools and product content on CDN. Managed and delivered 6 projects simultaneously. Improved installation process and version control in Production to reduce installation time by 75%. Planned, reviewed and executed tests for client-servers in web systems running on Apache, Tomcat, and Oracle database Professionally interfaced with the US-based management team
	2007-2009	QA Engineer, Massive Impact Ltd Designed quality assurance processes using Agile development process in a Mobile Advertising domain company Provided Tier-2 customer support, performed installation and maintenance of Production. Reduced installation downtime from 2 days to 3 hours. Worked in Microsoft-based test environment using SQL Server 2005 and IIS Trained system administrators in the Far East Professionally interfaced with management teams based in the Far East, including Taiwan, China, Thailand, and Hong Kong
	2006-2007	QA Engineer, Fringland (Fring) Ltd

		Wrote QA test documents, including STP and STD in a mobile VOIP domain company Wrote automated test scripts for Nokia's Symbian-based phones, using Nokia recommended framework. Performed load tests, using generic automated tools Familiarity with protocols such as TCP, UDP and SIP. Professionally interfaced with the development team in Ukraine.
	2003-2006	Programmer and Systems Engineer, Israeli Air Force (IAF) Lead UAV-related projects Managed all aspects of project life cycle from API level. Participated in technical spec finalization with civilian companies such as Rafael Hands-On programming in C# and VB Tested systems using flight simulators Conducted frontal training sessions for group technicians
Languages	English (mother tongue level), Hebrew (mother tongue level), Hindi and other Indian languages (mother tongue level)	

Fernando Aleman - Director of Secure Bureau Operations

Fernando Aleman is our Director of Secure Bureau Operations at ABCorp in our Boston location. Fernando has over 25 years of rich experience and extensive knowledge in card manufacturing and personalization industry. He has a track record of significant contribution to the business success and profitable growth. He was most recently managing both Manufacturing and Personalization at VALID USA.

He has ssuccessfully developed and delivered numerous Business Plans, achieving exceptional results in Operating Performance, Sales, Margins, and EBITDA. Consistently able to detect and develop new business and improvement opportunities.

ABCorp NA, United States of America

Director, Secure Bureau Operations 2017 - Present

- Manage 20+ employees in the Boston Personalization Bureau, personalizing high security EMV and mag stripe banking cards.
- Oversee bureau operations, production scheduling, client satisfaction, cost control, and client satisfaction.
- Current focus on improvement of perso operations, process streamlining, production yields, and implementation of additional corrective actions and key performance indicators to improve performance and EBITDA.
- Continued objectives for operations growth of income & EBITDA and overall factory efficiency improvement.

VALID USA, United States of America

Director & General Manager 2014 - 2017

- Manage 160+ employees in the South Plainfield manufacturing plant, producing and personalizing high security EMV and mag stripe banking cards and ID documents.
- Oversee plant operations, production planning, P&L, budgeting, cost control, and client satisfaction.
- Current focus on improvement of plant operations, process streamlining, production yields, and implementation of additional corrective actions and key performance indicators to improve EBITDA.
- Delivered 105% of revenue and EBITDA budget for 2014 and 100% of budget during 2015, also achieving 30% improvement in waste reduction and plant efficiency.
- Continued objectives for growth of income & EBITDA and overall factory efficiency improvement.

ACADEMIC BACKGROUND

Master in Business Administration (MBA) with Honors

Instituto Tecnológico Autónomo de México (ITAM), Mexico

B. Eng. Major in Electrical and Mechanical Engineering

Universidad Nacional Autónoma de México (UNAM), Mexico

Jorge Ojeda - Creative Director

Jorge Ojeda (ACE-M Certified) is our Creative Director at ABCorp in our Boston location. Jorge is an award winner and world-renown credit card artist and expert in security design for national and international IDs. He has contributed to numerous articles and presented to international audiences on topics related to card design and engineering. Jorge leads a team of designers who provide expert consulting and creative design services to banks, governments, and corporate brands around the world. We welcome the opportunity to offer counsel, ideas, designs, and prototypes in the event of a future re-design. ABCorp is proud to employ some of the most talented card designers in the industry and Jorge is one of them.

Gregoire Maes Resume

Gregoire Maes			
	Address	225 Rivermoor St., Boston, MA, 02132	
	Tel/Fax	617 894-3042	
	e-mail	g.maes@abnote.com	
General	Gregoire Maes, one of the industry's leading young minds in the fields of complex secure credentialing and world class operations management including EMV and dual interface cards, is the Chief Operating Officer of ABnote North America, headquartered in Boston, Massachusetts. Mr. Maes has previously served for eleven years at Gemalto in different operational responsibilities across the globe (Europe, Singapore and China) and more recently as Regional Operations Director, Asia Pacific for Oberthur Technology based in Hong Kong, where he was coordinating EMV deployment and industrial best practices across 7 different sites in the region. The hiring marks Mr. Maes's second tour of duty with ABnote, for which he previously led Australasian operations, and comes as ABnote North America and its competitors await the imminent adoption of EMV-based smartcard technology within the United States. Mr. Maes is credited with ABnote Australasia's successful transition of its major Australian and New Zealand bank customers' transition to Dual Interface smartcards.		
Education	1995	Graduate School of Chemistry and Physics of Bordeaux (ENSCPB)	
Professional experience	2014-	American Banknote North America COO	
	2013-2014	Oberthur Technologies Regional Operations Direction Asia Pacific	
	2012-2013	American Banknote Australasia COO	
	2007-2012	American Banknote Australasia Card Operations Manager	

Mr. Maes was responsible for industrial support of 7 personalization centers in Asia Pacific (China, India x2, Korea, Philippines, Indonesia, Australia). This included:

Standardization of best practices (Lean, Yield enhancement, Personalization platform)

Investment strategy

Cost reduction program

Startup of new personalization centers

He also was responsible for the following:

Management of Cards, Cheques & Secure Document Operations (7 Production sites, Supply Chain,

Procurement, Maintenance, Project Management, Smart Card Software development and NFC team

Development and implementation of Industrial strategy for Aus/NZ operations

Yield enhancement and continuous Improvement programs (Kaizen concept, lean 6 sigma)

Cost Reduction Programs (local supplier, waste reduction, efficiency improvements…)

Introduction of new technology: Contactless, Dual Interface products, Java or Multos Chip

Security certification Mgt : Visa, Mastercard, American Express.

ISO certification Mgt : ISO 9001& ISO 14001

Management of North Asia Operations (2 sites, Tianjin & Zhuhai , 600 people, budget of several M€ , 100 Mu cards in Tianjin , 100 Mu cards in Zhuhai , 50 Mu personalized)

VP operation for Zhuhai factory & General Manager for Tianjin factory

Mateo Tudon

SUMMARY

Mateo is a battle-tested IT veteran that has enforced the highest level of service for clients of every industry. He has demonstrated proficiency through leadership, drive, and attention to detail.

As a native Texan, he is naturally an obligate carnivore. When he is not contemplating the intricacies of steak, he is thinking about scotch, cigars, boxing, and Clint Eastwood films. Though a classically trained tuba player, he has also dabbled in blues harmonica, audio production and web development.

EDUCATION /CERTIFICATIONS

The Ohio State University: Independent Studies in Philosophy, Politics, and Computer Science- 2006-2010

MCP (2011)

MCDST (2011)

CompTIA Security+ (in progress)

SEMINAR EXPERIENCE

"How Soon is Now", The 2011 Ohio LinuxFest Conference: Celebrating 20 Years of Linux- September 2011

- Lectured on Stuxnet and the proliferation of Cyberwarfare. Argued that a greater implementation of Open Source Software is critical to the future of the global economy. http://vimeo.com/29097013

"Technology in the Courtroom", San Antonio Criminal Defense Lawyers' Association- June 2008

- Lectured a room of seasoned attorneys on using OSS to develop digital presentations for use in trials (e.g., Voir Dire, opening and closing arguments)

TECHNOLOGIES

Networks:
Citrix Xenserver, ClearOS 4.1, MS Exchange 2007-2016, Shoretel/M5 VOIP, Virtualbox, VMware vSphere 5.1-5.5, Watchguard Firewalls, Windows Server 2K3-2K16, MSSQL 05-16

Workstations::
Windows XP-10, Mac OS X, Ubuntu 7.04+, Backtrack 5

Languages:
DOS, Exchange Management Shell, Bash

Admin Tools:
Cisco Meraki, Kaseya, Labhtech, Kaspersky VRT, Logmein Central, MBAM, Mozy Pro, Watchguard System Manager

CURRENT EMPLOYMENT

simpleroute **03/15 to Present**
Technical Consultant, Level 2 Services

Provided technical implementation services and operational support to a fast growing MSP in South Burlington, VT. Assisted in migrating RMM solutions and handling key accounts. Worked with multinational clients and handled complex network infrastructure design and deployment across varied environments.

- Put in charge of management of Level 1 and Level 2 technical teams and provided training to current and new staff.
- Met with prospective clients and participated in the RFP process with C-Suite Executives
- Handled complex network design planning and implementation across a variety of technology platforms including Windows/Linux server farms and Office 365 and G Suite deployments.

PREVIOUS EXPERIENCE

Sinu Inc., New York NY **05/11 to 02/15**
IT Consultant, Technical Lead

Provided support and engineering services for a top ranked MSP based in Lower Manhattan. Fostered client loyalty by effectively resolving critical issues. Relied heavily on Kaseya, Shoretel Sky/M5 VOIP, Watchguard Firewalls, Cloud-based email & backup solutions, and ClearOS/Windows servers.

- Promoted in Summer 2012 to lead a team of technicians located primarily in Colorado, Manila (PH) and NYC. Oversaw technician career development through hiring, training, promotion and termination processes.
- Met with prospective clients and participated in the RFP process with C-Suite Executives

Microsoft Corporation, Austin TX **05/10 to 05/11**
Network Support Engineer (employed as an outsourced consultant via Harte-Hanks, Inc.)

Provided mission-critical engineering support for Microsoft's cloud-based enterprise email security product, Forefront Online Protection for Exchange.

- Promoted to BPOS-D team. Responsible for Supporting Exchange 2010/07 cloud operations for a variety of Fortune 100 Multinationals, Federal Agencies, and hospitals.
- Regularly assisted clients in preparing for data migrations, mailflow coexistence, HIPAA compliance.

E-Roots, Columbus OH **01/08 to 02/10**
PC/Network Specialist

Provided emergency onsite support services for Legal and Political clients. Repaired and troubleshooted Mobile Devices, WAPs, and Workstations in Windows and Linux environments.

Northrop Grumman, San Antonio TX **Summer 2007**
IT Consultant (employed as an outsourced consultant via ARC of Texas)

Implemented a regional desktop rollout project at government sites under contract with NG. Performed data migration, hardware install, and decommissioned according to DOD standards.

COREY MARRIER

Enosburg Falls, Vermont 05450 Phone: (802) 752-5065 • E-mail: corey.marrier@gmail.com

TECHNICAL SKILLS AND PERSONAL ABILITIES

- Working knowledge of Windows 7 operating system
- Working knowledge and certification on Allworx and Mitel MiVoice 250 phone systems
- Intermediate knowledge in network wiring and infrastructure
- Basic knowledge of Windows Server operating systems
- Goal oriented, always looking for ways to improve work flow
- Ability to communicate in a professional manner with customers and co-workers
- Customer Service Representative skills

EDUCATION

Attended New England Institute of Technology, Warwick, Rhode Island

Bellows Free Academy, Saint Albans, Vermont

CAREER HISTORY

simpleroute 2016 – Current Level 1 Technical Support

- Provide on-site implementation services and server turn-up
- Assist clients with remote support issues
- Handle vendor escalations and perform technical liaison services on clients' behalf
- Provide assistance with Allworx and Mitel 250 phone platforms

Vermont Connections Computer Services 2012 - 2016 Level 1 Tech Support

- Handle all incoming calls and perform level 1 and basic level 2 troubleshooting
- Dispatching service requests
- Perform onsite and remote support including hardware and software troubleshooting
- Install hardware upgrades and/or new hardware (Workstation and VOIP phones)
- Install or expand existing network infrastructure

Wireless Zone - Verizon Wireless Authorized retailer 2011 - 2012 Sales Representative

- Sold wireless phones, service, and accessories
- Suggested handsets and services based upon the needs of the customer
- Responsible for opening or closing the store

Tasca Automotive Group, Cranston, Rhode Island 2009 - 2010 Appointment Coordinator

- Schedule customers for repair work on their vehicle
- Help regulate flow of work coming into service department
- Manage all specially ordered parts
- Act as stand-in cashier when needed

Charles Bucchioni
42 North Ave
Burlington VT 05401
(203)312-7868
Charles.Bucchioni@gmail.com

Objective

- Continue to feed my never ending appetite for technical advances in computer based information systems, commercial repair and network infrastructure. Perform technical support to continue to shape my skill-set into a long lasting career in a field that I truly enjoy.

Skills

- Microsoft Exchange 2003, 2007, 2010, 2013
- Microsoft Windows PowerShell\WINRM 2.0, 3.0,4.0,5.0
- Windows Server (2003, 2008 RTM, 2008 R2, 2012 R2 as well as learning Server 10)
- CentOS Server v4.7, v5.3, v6
- Debian Server 3.0, 3.1, 5.0, 6.0
- Design, install and support all functional levels of Active Directory.
- Active Directory Federated Services (2.0,3.0,4.0)
- Network Infrastructure design and installation. (Wireless access points, interactive heat-map deployment, Cisco IOS configuration, DDWRT custom firmware, hardware firewall, hardware VPN Meraki Cloud based services)
- SIP services (Allworx, CUCME and Asterix)
- MPLS and QoS planning and deployment for multisite WAN\LAN integration
- Off-site backup design, planning,and deployment. (Appassure, Storagecraft Shadow protect)
- Hardware Repair (troubleshooting, replacement of components, repair of individual components)
- vmWare workstation, ESXi (3.0-6), vMotion, vCenter Server, vCenter Orchestrator
- Remote management and monitoring. (Labtech, nAble, AVG\ Level RMM, Spiceworks, Kaseya)
- Server initial configuration, purchasing, assembly, deployment and/or migration
- Office 365 migration, deployment, and management.
- General office support, experience with ticketing systems(connectwise, Auto task,) help desk type support.
- Well versed in standardized IPSEC, firewall configuration both hardware and software.
- Well versed in PCI\DSS, HIPAA compliance
- Security\Penetration testing utilizing Metasploit and Maltego
- Centralized certificate management for use with smart-cards, rotating pin systems, RFID electronic triggers, and active directory integration with a single sign on(SSO).

Experience

simpleroute	1690 Williston Road, South Burlington, VT
Level 3 Platform Engineer	August 2015 - Current

- Handled VIP clients, complex vendor escalations and high pressure issues
- Design and implement complex client network systems including MPLS, VLAN and Layer 2/3 Routing
- Provide client and internal security and client network auditing services
- Migration from onsite Exchange to Office 365 in every deployment scenario (Offsite, Offsite with Dirsync\Azure AD Connect, Offsite with ADFS integration, Hybrid Deployment with full AD integration.
- Server postmortem diagnosis and analysis
- PCI\DSS and HIPPA compliance scanning and fortification
- Liaison between technical team and point of contact in client company
- Responsible for simpleroute security policies and procedures
- Implement and maintain Kaseya network monitoring platform for internal and client monitoring services
- Provide long term strategy planning for clients

Vermont Connections Computer Services	2 Champlain Commons, Saint Albans V.T
Level 3 Systems Administrator\HelpDesk Manager	August 2013 – August 2015

- Provide backend server monitoring and support
- Provide Infrastructure Engineer services in planning and deploying multiple complex networks
- Security and Penetration testing for multiple organizations on a per contract basis
- Migration from onsite Exchange to Office 365 in every deployment scenario (Offsite, Offsite with Dirsync\password sync, Offsite with ADFS integration, Hybrid Deployment with full AD integration.
- Server postmortem diagnosis and analysis.
- PCI\DSS and HIPPA compliance scanning and fortification
- Liaison between technical team and point of contact in client company.
- Create and manage system automation through powershell scripts and LabTech
- Diagnose pre-existing networks and author clear scopes of work over 6 month – 5 year plans
- Lead team of 3-5 people in dispatch of tickets and organizational management.

Naugatuck Valley Lawn Maintenance	12 Sperry Street, Waterbury C.T.
I.T. Administrator	May 2012 - August 2013

- Perform in house I.T. Support
- Complete redesign of network, server, email system, billing and proposal. Created inventory tracking system, deployed Blackberry Enterprise Server, Microsoft Exchange Server, Off-site backup solution and a complete network overhaul.
- Work as outsourced I.T. commercial support
- Currently support multiple companies with 9 servers running both Linux and Windows, offering terminal services, VPN, Active Directory integrated door lock systems (HID), Exchange, Post-fix, FiPr services, webDAV publishing, Mail lists, Web hosting/design, Ticketing systems (Spiceworks deployment) and designed and installed the underlying network. ~750 desktop/lap-top units with a range of software suites installed by PXE.
- Receive and repair residential units ranging from software maintenance to hardware repair/maintenance, Cellular/Smartphone repair.
- Security camera/dvr installation services, wireless/keypad electronic door strike installation.
- Upgraded existing cable from cat3 to cat 5, 1500 ft

Julie Porzio Law Office	25 State Street, Waterbury C.T.
I.T. Administrator	February 2011- May 2012

- Migrated 35 PC's from Windows XP to Windows 7,
- Upgraded multiple servers from Windows Server 2003 to Server 2008 R2
- Migrated existing exchange 2003 infrastructure to Microsoft Office 365 Cloud services (40 mailboxes)
- Installed, configured and deployed Microsoft based VPN services for use with active directory authenticated remote work-sites.
- Provided in house I.T. Support until the integration of the new system was accepted by the users.
- Moved to another company and was retained as an out-sourced tech.

U.S. Department of Defense	Fort Gordon, Georgia
94F - Computer/Detection Systems Repairer	January 2005 - August 2008

- The Computer/Detection Systems Repairer (formerly Special Electronic Devices Repairer) performs or supervises field or sustainment level maintenance and repair on microcomputers and electromechanical telecommunications equipment, Field Artillery (FA) digital devices, Global Positioning System (GPS) receivers, switchboards, telephones, associated wire instruments/equipment, night vision devices/equipment, laser and fiber optic systems, mine detection and dispensing systems, electronic distance and azimuth-orienting devices, battlefield illumination devices, and nuclear, biological and chemical (NBC) warning and measuring devices.

Education

Nonnewaug High-School	5 Minortown Rd, Woodbury, CT 06798
	August, 2005

References Available Upon Request

Brett Johnson

bjohnson@simpleroute.com

1690 Williston Road | South Burlington, VT | 05403 | 802 – 881 – 0010

~/Experience

SIMPLEROUTE, South Burlington, VT
President September 2009 – Present

- Own and manage business, focusing on networking and IT services and also providing cloud-based web services.
- Provide implementation services and managed service to small and medium businesses.
- Migrate clients to G Suite from on-premise Microsoft Exchange based setups and train users post migration.
- Actively work with clients to create custom technology solutions to improve business efficiency.
- Manage client IT infrastructure and quickly respond to generated network alerts to insure network up-time.

DYNAMIC BUSINESS SOLUTIONS, South Burlington, VT
Technical Consultant August 2007 – May 2010

- Took full responsibility for sales, implementation and support of client network upgrades and daily client network issues.
- Designed and implemented disaster recovery systems with clients for off site restore of financial accounting applications.
- Developed and performed quarterly server/network audits for clients to proactively address IT issues.
- Designed and implemented custom software to integrate with existing accounting systems using .NET and Microsoft Access.
- Implemented new and upgraded existing client installations of Microsoft Dynamics GP and Sage PFW accounting systems.
- Migrated clients to Windows SBS 2008 and Server 2008 platforms and provided virtualization support for existing servers.

Network Technician July 2005 – August 2005

- Worked with clients to create proposals for network and hardware upgrades within client budget guidelines.
- Performed on-site network upgrades and daily on-site and remote support for clients.

Network Technician May 2004 – August 2004

- Built and configured application and terminal servers running Windows 2000 Server and Windows Server 2003.
- Took primary responsibility for networking three car dealerships in two states.
  - Upgraded pre-existing fiber connections between two dealerships and assisted in setting up a new frame relay.
  - Designed and implemented new network from the ground up, working with executives to ensure customer satisfaction.
- Worked with clients to migrate server and PCs to centralized email using Exchange 2003 built into Windows SBS 2003.

JOHNSON & PERKINSON, South Burlington, VT
Systems Administrator/Web Designer February 2002 – December 2010

- Developed original firm web site on a custom-built CMS then later migrated site to Drupal with a redesigned frontend.
- Independently managed firm's network from their base NT infrastructure through their current Windows SBS 2003 setup.

BLADELOGIC, Lexington, MA
Technical Support Engineer January 2006 – June 2006

- Assisted very large clients using the product to manage data centers by troubleshooting performance issues, addressing concerns, assisting in 3rd party software deployment and aiding in security compliance detection and remediation.
- Worked with professional services team to work around issues that arose during live demonstrations and implementations.
- Rallied engineers with the help of management to push critical fixes to critical customers when necessary.
- Helped maintain public and internal corporate portals by providing news updates, product hot fixes and forum maintenance.

COMPUTER ASSOCIATES, Marlborough, MA
Performance Engineer January 2005 – June 2005

- Created and executed test plans to determine how well the products met performance goals, summarized and analyzed results and shared results with upper management.
- Automated performance tasks to cut down on time required for tests.
- Worked with developers and technical support in designing tests and configuring software.

~/Education

NORTHEASTERN UNIVERSITY, Boston, MA
Bachelor of Science in Computer Science, *summa cum laude*, 2007 September 2003 – August 2007
GPA: 3.96 / 4.00

~/Technical

Operating Systems:	Microsoft Windows Server NT-2016, Linux (Ubuntu, CentOS/Red Hat, Debian, Gentoo), HP/UX, Solaris, MS-DOS
Scripting:	Windows PowerShell, Perl, Bash, sh, csh, ksh, AWK, sed, PHP
Languages:	Java, C#, VB.NET, MIPS, C, Scheme
Software:	Kaseya BMS/VSA, ConnectWise Manage/Automate, Microsoft Dynamics GP, Sage PFW, Visual Studio, SQL Server, Eclipse, MySQL, Apache, IIS, Adobe Photoshop
Databases:	Microsoft SQL Server, Pervasive SQL, MySQL
Certifications:	G Suite Deployment Services, Mitel Sales Engineer, Microsoft SQL Server 2005, Microsoft Dynamics GP 10.0 Installation

Joseph John Andrzejewski

60 Cherrywood Drive , Barre, Vermont 05641
802-917-2487 - andrews_vt@yahoo.com

SUMMARY:

- Experienced technical support specialist with strong knowledge of networking, hardware, software and printer configuration and troubleshooting. Digital printing/variable data expert.
- Solid experience with operating system migration/installation from Windows XP Pro to Windows 7 & 10 Pro.
- Technical knowledge of Email Clients (Outlook, Outlook Express, Lotus Notes), POP3, IMAP, and webmail.
- Working knowledge and experience with spyware, malware/virus removal.

EDUCATION: **Lane Tech College Preparatory High School**, Chicago IL
1971 - 1975

TECHNICAL QUALIFICATIONS

OPERATING SYSTEMS: DOS 1.1+,OS/2,Windows 3.1-XP/Windows 7, 10, Mac OS X, Linux

SOFTWARE: MS Office (Outlook, Word, Excel, Power Point, Access), Lotus Notes, WordPerfect, etc.

APPLICATIONS: Teamviewer, LogMeIn, Malwarebytes, Symantec, Microsoft Active Directory

NETWORKING: Windows Server 2003- 2008 r2, VMWare, LAN/WAN, TCP/IP, DHCP, Novell Netware

LANGUAGES: HTML, .NET, VBA, C#, Basic

PROFESSIONAL EXPERIENCES

Produce Support
Hannaford's Barre, VT **Sept 2015 - current**

Restocking produce such as broccoli and cauliflower and the many other shrubberies. Cleanup.

Skills used: Produce identification, I can now distinguish between parsley and cilantro. It's an entry level position ... rocket science it's not. But they did provide me with some kind of employment after a year+ of endless IT applications and failed interviews (I don't talk much). I'm very grateful and may *(insert your favorite diety)* bless them but I'm getting kinda old for manual labor … and the 1980's wages.

Reason for leaving: Still employed there
Supervisor: Ron Dutil (802) 479-3326
Experience Type: Other, Part-time 4-6 hours/day
Salary: $12.00/hr
It is **OK** to contact this employer.

System Operator **August 2014 to September 2014**
Intralot, East Montpelier, VT

- Part of a 3rd shift 3 person IT team, supporting the state lotteries of Vermont and New Hampshire
- Updated web sites and monitoring various Win/Linux/AIX servers used in the process.
- Dispatched technicians as appropriate for on-site repairs of VT and NH state lottery terminals

Salary: $16.00/hr
It is **OK** to contact this employer.

IT / Mailing / Data Processing
Villanti Printers, Milton, VT **February 2005 to May 2014**

- As the sole in-house IT person, provided technical support to 25+ employees and some customers, on-site & remote.
- Setup and installed all user PC's (Dell) and printers.
- Manage process and outside services for PC rollouts.
- Responsible for upgrading systems from Windows XP Pro to Windows 7 Pro
- Responsible for new employee onboarding - ordering new systems, creating Active Directory accounts & assigning proper group policy, joining systems to the domain, configuring Outlook accounts, and general configuration for new employees. Also responsible for employee termination process – mainly disabling account access, backing up local content & reformatting HD's.
- Help maintain PBX configurations, setup extensions and voicemail boxes.
- Unresolved server issues were escalated to outside vendor who originally installed and setup the multiple servers.
- System configurations were done from scratch for new/upgraded users.
- Provided support for Logic System job tickets, as well as the EFI Logic System timeclock hardware.
- Other responsibilities include installing and troubleshooting network printers, removing viruses, replacing failed hardware (NIC's, video card, RAM, CMOS battery, power supply, hard drives).
- Manage and keep track of all laptops and workstations.
- Provide one-on-one end-user training on new/updated software and hardware.
- Wrote a helpdesk program in Access to track issues, as well as to automate the mailing part of my duties, and to interface with the SAP PostalSoft mailing application and our EFI Logic System (SQL based).
- Trained my replacement that had no prior experience in networks or programming or IT in general. To his credit, he's kickin' butt and doing very well.

Salary: $40K/yr
It is **OK** to contact this employer.

1st Tier Triage **July 2004 to December 2004**
IDX Burlington, VT
Support Operator

- Worked for Westaff as a temp for IDX on a short term contract providing 1st level support for IDX Radiology software.
- Troubleshooted and entered trouble tickets for various hospitals calling in with the IDX software issues. Escalated tickets as necessary to the software engineers for a timely resolution, as it usually involved doctors and patients waiting for an answer.

Salary:$16/hr

Operations Manager **1995 to December 2000**
ems (efficient market systems), Deerfield, IL

- Managed a 4 person Operations Department of data quality techs resolving data quality issues and retrieving daily sales data from 3000+ grocery stores across the US.
- Supported 200+ pc's and installed software to call the stores nightly and retrieve data.
- On call 24x7x365 to monitor/troubleshoot all systems and escalate as appropriate.
- Assisted network admins with in-house user issues and failed installs. OS support of Novell Netware, DOS, OS/2, and Windows.

Salary: $64k/yr

Tech Support Manager **May 1985 to December 1994**
ELEK-TEK, Lincolnwood, IL

- Started as the lone tech support person, answering 100+ customer calls daily with issues and questions. After about a year, the PC market expanded exponentially, I became the manager and expanded the department to about 10 in the end.
- Ran Tech Support department assisting customers who purchased computers and related products from our catalog and multi-state stores. Support included troubleshooting and resolving hardware issues and software problems from new and experienced users over the phone..
- Issued RMA's (Return Merchandise Authorization) to customers with possibly defective products, and tested those products upon arrival. As we had a "No Return Policy", would escalate issues to Customer Service if the product was not defective for further processing
- Setup and installed company's first PC network (WFW 3.11) for the support department using Ethernet and BNC cables.
- Wrote company newsletter (named "RTFM") to announce new products and answer technical questions and reduce RMA's.
- Trained support personnel on how to perform phone support quickly and as effectively as possible.
- Perform onsite repair and replacement of in-house hardware and software.
- Wrote helpdesk program in early MS Access to assist support department with tracking calls and product information, and interfacing it with multiple MS TechNet cd's.

Salary: $50k/yr

Daniel W. Safford

Information Systems Specialist Engineer

Location: 941 S Brownell Rd, Williston VT, 05495 • Phone: (802)-730-2378 • Email: daniel.safford@mymail.champlain.edu

OBJECTIVE

Technical advocate driven to provide clients with the most effective technical solutions possible. Proven effectiveness communicating between diverse teams as well as clients, providing an understanding between technology and business.

EDUCATION

Champlain College GPA: 3.675
Expected Graduation: May 2018
Bachelor of Science in Computer Networking & Cybersecurity
Minor: Management Information Systems

QUALIFICATIONS

- Certifications CompTIA, A+, Network+, Cloud Essentials, and RHCSA 7, ITIL V3 (12/16) MCSE Azure (2017)
- Experience troubleshooting Windows, Linux, Solaris, Macintosh systems, printers, and mobile devices.
- Experience in virtualization VMware ESXi, KVM, Docker, Zones, and Hyper V, Office 365 migration, Azure migration
- Effective leadership & team skills (Eagle Scout)
- Strong analytical problem solving skills
- Linux administration, storage, LAMP, LEMP, services, user management, backups, ISCSI targets, Z-Filesystem storage, Docker, bash, python/shell scripting, PowerShell Web application migration

EXPERIENCE

2016

Systems Administrator, simpleroute LLC, South Burlington, VT - Present

- Responsible for assisting clients in developing new infrastructure systems which are scalable and redundant
- Maintained onsite and offsite backup systems, StorageCraft SPX, Dell AppAssure
- Wireless systems development Unifi and Mikrotik AP systems
- Troubleshooted and assisted in implementing several Windows Server based applications, ERP, Backup, Group policy software deployment, Azure networking, Office 365
- Interacted with vendors to ensure clients received the appropriate technology to run their business and operations.
- Responded to emergency situations promptly with uptime, reliability, and customer satisfaction in mind. Consulted solutions for various industries, manufacturing, food production

EXPERIENCE CONT.

Junior UNIX Administrator, Data Conversion Services of New York, Shortsville, NY

2015

- Planned and deployed an SMB PDC controller for a insurance marketing firm to cut costs and integrate with an existing Linux environment
- Performed weekly backup cycles using ISCSI targets as well as NAS / SAN technology
- Optimized existing and new Linux environments for stability and performance (RHEL, Ubuntu)
- Reviewed and edited IT policies for employee liability with company technology as well as some security
- Deployed and maintained dynamic network services such as NTP, DNS, DHCP, VoIP, as well as Firewalld and Fortigate firewalls
- Started the process of implementing an Asterisk VoIP server for the same insurance marketing firm in order to deploy a call center
- In charge of researching new technologies to automate and increase the productivity of clients

IT Administrator Intern, Manufacturing Solutions Inc., Morrisville, VT

2014

- Implemented a new device naming scheme to avoid duplicate namesManaged the company MySQL database (Zeus), changed passwords, added users, and edited user groups
- Assisted in replacing over 50 clients with Windows 7 Professional or Ubuntu 12.04 LTS workstations
- Configured Wasp Zebra, and Dymo label printers in Windows and Linux environments.
- Managed users and groups in Windows Server 2012 which included managing a Microsoft Exchange email server
- Ran Cat5e cable to workstations, AP’s, switches, etc.
- Created a failover solution for their web application Zeus. CentOS 6.5
- Edited and Updated their web applications MySQL database
- Implemented NFS and CIFS shares for employee storage

Adult Education Instructor GMTCC, Hyde Park, VT

2013

- Instructed several classes in the realm of Information Technology. Topics ranged from Introduction to Macintosh, to Integrating Mobile Devices into the Workplace
- Class sizes ranged from 8 to 12 adult students from different levels of understanding of the topic
- All classes were four weeks long and were held twice a week.

Lamoille North Supervisory Union, Superintendent Search Committee, Hyde Park, VT

2013 • parents and school board members Only student on a committee of 14 members including administration, teachers,

- Group task: to choose three candidates who were well qualified for the position of superintendent
- Reviewed over 30 applicants that met a previously defined criteria and chose candidates with the committee

Police & Sheriffs Press, Inc.

Key Personnel – Short CVs

Frank Raiford, President & CEO, BBA UGA, is a multiple patent holder of secure card technologies with over 40 years' experience in card manufacturing and fulfillment. Frank began his career in the card industry in 1976 working with Data Card in California. With continuous involvement in this industry, Frank keeps abreast of current and future security manufacturing technologies.

Madeleine Raiford-Holland, VP, ACE-P, is a seasoned project manager with experience in managing state sized projects. Madeleine currently manages statewide Voter ID projects in Georgia, Alabama and Mississippi with over 400 registration stations combined. She oversees technical support, training, daily production and fulfillment. Madeleine has a BS degree from VIrginia Tech and has 8 years' experience in this field.

Elaine Poole, Fulfillment Manager, oversees all aspects of the PASP Service Bureau.

Card personalization, various encoding protocols, laser and mailing services fall under Elaine's experience of over twenty years in this area.

ATTACHMENT 8

Service Level Agreement

Attachment #8: Service Level Agreement

Plan Selection

The scope of the services provided (the "Services") will be determined by the plan noted below. The light gray checkmark indicates services which will be covered during the initial installation of the scoped hardware/software. Future upgrades and changes are outside the scope of services and would require further negotiation.

Work Type	*Enterprise*
Remote Support Covers remote work from our office when the issue is at your location. Examples of remote support include remote attempts to resolve hardware issues, printing issues, Office issues and Windows issues.	✓
On-site Support Covers on-site work performed at any location other than our office. Examples of on-site support include onsite diagnostic work, requested technician presence during a meeting.	✓
In-house Support Covers work performed on devices that are dropped off at our office. Any time spent on a device over which we have physical possession will be covered under this work type.	✓
Vendor Support Covers work interfacing with external hardware/software vendors for the purposes of support. Examples of vendor management include escalating an issue to your accounting software vendor, calling your ISP or calling a PC hardware manufacturer on your behalf.	✓
Vendor Management Covers work interfacing with external hardware/software vendors for planning purposes for solutions on covered systems. Examples of vendor management include budgeting, account maintenance, future planning and holding vendors accountable for upgrades and account maintenance.	✓

Implementation Covers work installing or upgrading hardware/software, regardless of location. Upgrading Windows, new server installs, vendor supported software upgrades or infrastructure improvement time all fall under implementation.	✓
Consulting Services Covers work consulting for endeavors such as weighing upgrade paths, pricing vendor solutions or writing procedural plans like backup and disaster recovery documentation or acceptable use policies.	✓
Emergency Covers all off-hours time, subject to reasonable restrictions by SuperCom.* All non-emergency services will be provided during standard business hours only.	✓

** Excessive or unreasonable use of emergency services may result in curtailed or delayed service implementation. The determination of whether a service is an "emergency" will be made in SuperCom's discretion.*

Supported Technologies

The following technologies will be supported under this SOW (collectively, "Supported Technologies"):

IT Infrastructure	*Supported Technology*
Server Operating Systems	Windows 2008 R2 and upwards, SBS Server Linux Flavors (Red Hat, CentOS)
Infrastructure Applications	Domain Controller (Active Directory), Email (Microsoft Exchange / 365), Backup (Symantec, NY Backup), Mobile (Android, iOS), Terminal Servers, Citrix, SharePoint, Web Servers (Apache, Tomcat, IIS, Web Logic, JBoss, J2EE), SharePoint Server
Virtual Server / Desktops and App Virtualization	Virtualization (VMware, Xen and Hyper-V), VDI(VMware View, Citrix Xen Desktop, Microsoft VDI), App Virtualization (Citrix XenApp, VMware ThinApp and Microsoft App-V)
Databases	MS SQL, MySQL

Network (Switch, Router, and Firewall)	Switches, Router, Firewall, WAP and VoiP (Cisco, HP, Juniper, WatchGuard, SonicWALL)
VoIP & Datacenter	UCM/Unity/VoIP Phones, UCS/Nexis Services
Storage	EMC, NetApp, HP and Dell
Desktop Operating Systems	Windows 7 and upwards
Antivirus Products	Symantec, Trend Micro, CA eTrust Antivirus, ESET NOD32, Microsoft Forefront Client Security, Webroot, Sophos Anti-Virus

Remediation; Service Levels

The following table describe the various priority levels associated with incidents that require remediation by SuperCom. The applicable priority level will be determined by SuperCom in its reasonable discretion.

SEVERITY	*DESCRIPTION*
Critical	Emergency condition that significantly restricts the use of a covered enterprise or mission-critical application, system, network or device that is required to perform a critical business function.
High	The reported issue may severely restrict the use of an application, system or device in the network. Overall network and/or servers are operational and functioning.
Medium	The reported issue restricts the use of one or more features of an application, system, network or device, but the business or financial impact is not severe and The State of Vermont is able to maintain relatively normal operations.
Low	The reported issue does not substantially restrict the use of an application, system, network or device, and the overall negative impact on the The State of Vermont's operations is minimal.

The following table describes SuperCom's response time for any reported, covered incident or issue. Note, all time frames are calculated as of the time that SuperCom's Help Desk is notified of the applicable issue / problem by The State of Vermont through SuperCom's designated support portal, help desk, or by telephone. Notifications received in any manner other than described herein may result in a delay in the provision of remediation efforts.

TROUBLE / SEVERITY	*SOFTWARE SERVICE PLAN**	*A LA CARTE / SERVICES NOT COVERED BY A PLAN*
Critical priority Service not available (all users and functions unavailable)	Resolution will occur within four (4) clock hours after notification. †	Best efforts.
High priority Significant degradation of service (large number of users or business critical functions affected)	Resolution will occur within an average of one (1) day, but no more than a maximum of three (3) days.	Best efforts.
Medium priority Limited degradation of service (limited number of users or functions affected, business process can continue).	Resolution will occur within an average of four (4) business days, but no more than a maximum of seven (7) business days.	Best efforts.
Normal priority Small service degradation (business process can continue, one user affected).	Resolution will occur within an average of ten (10) business days, but no more than a maximum of fourteen (14) business days.	Best efforts.

The following table describes simpleroute's response time for any reported, covered incident or issue for an Enterprise plan. Note, all time frames are calculated as of the time that simpleroute is notified of the applicable issue / problem by The State of Vermont through SuperCom's designated support portal, help desk, or by telephone. Notifications received in any manner other than described herein may result in a delay in the provision of remediation efforts.

TROUBLE / SEVERITY	*SERVICE PLAN**
Critical priority Service not available (all users and functions unavailable)	Remediation efforts will begin within two (2) clock hours after notification. † Resolution will occur within four (4) hours.
High priority Significant degradation of service (large number of users or business critical functions affected)	Remediation efforts will begin within four (4) business hours after notification.
Medium priority Limited degradation of service (limited number of users or functions affected, business process can continue).	Remediation efforts will begin within eight (8) business hours after notification.
Normal priority Small service degradation (business process can continue, one user affected).	Remediation efforts will begin within two (2) business days after notification.

* All time frames are calculated as of the time that SuperCom's Help Desk is notified of the applicable issue / problem by The State of Vermont through SuperCom's designated support portal, help desk, or by telephone.
† Critical problems must be reported to our Help Desk by telephone during non-business hours.

Notifications received in any manner other than described herein may result in a delay in the provision of remediation efforts.

Service Hours

Business Hours: 8:00am to 5:00pm EST, Monday through Friday, excluding State and Federal Holidays
Non-Business Hours: 5:00pm to 8:00am EST, Monday through Friday, excluding State and Federal Holidays

Assumptions

The fees and provision of the Services are based on the assumptions listed below ("Assumptions"). If any of the Assumptions are incorrect, or if the conditions underlying the Assumptions change, then the fees and scope of Services may be subject to change in SuperCom's discretion.

- The State of Vermont will provide full and free access to all Managed Devices and provide a safe environment in which to work. The State of Vermont shall make available to SuperCom at no charge, use of any The State of Vermont-supplied power, lighting, photocopying, telephone, or other equipment reasonably necessary for SuperCom to provide the Services at The State of Vermont's location.
- The State of Vermont may need to purchase new or substitute equipment for the System to be fully functional and/or reliable. Equipment not provided by SuperCom will be the responsibility of the State.
- The State of Vermont will implement internal administrative policies to supplement technical and physical security processes, including an acceptable use policy and management support.
- The State of Vermont will comply at all times with all applicable software licenses.
- The State of Vermont will not add to or modify the System without SuperCom's prior approval.

Exclusions

Services that are not expressly listed as "Included Services" are out-of-scope ("Excluded Activities"), and will not be provided under this SOW. By way of example, the following are Excluded Activities:

- Remote connectivity: not guaranteed when users are traveling.
- SuperCom is not responsible for availability, uptime, speed or quality of Internet service at the The State of Vermont's premises, or the management of the The State of Vermont's ISP, but will work to diagnose and resolve technical support issues as per the service levels stated below.
- Vendor account management of smartphone devices or similar portable devices is not covered. We cannot guarantee the availability or quality of signal, or the ability of the cellular provider's network. We also do not guarantee the availability or uptime of the Blackberry backbone network.

- Our responsibility for users' remote connectivity to the The State of Vermont's office or the Internet is limited to the hardware and software that is on the System (i.e., hardware and software that SuperCom has installed and configured, or specifically agrees to maintain under this SOW). Support provided for any other equipment or software will be billed separately.
- Printer, copier, plotter repair and maintenance.
- Setup of new devices, servers, PCs or peripherals.
- Data/voice wiring or cabling services of any kind.
- Major system changes or upgrades such as but not limited to: server replacement, OS or software upgrade/replacement, re-location of equipment, addition of remote locations, email upgrade/replacement, installation of new workstations or printers, or any other projects that are not considered a "maintenance, administration or support" type of service.
- Application programming, modifications, or design work.
- All third-party vendor connections or third party remote connections.
- Support for software other than Windows business class operating systems & Microsoft Office, or any support for proprietary data, or any support, configuration, upgrade, installation or reinstallation thereof.
- Services required that are a direct result of the The State of Vermont modifying or changing the configuration of the equipment covered or installing unauthorized software.
- Hardware to repair units not covered by manufacturer warranty.
- Labor costs due to (i) modifications, relations or reinstallation by anyone other than SuperCom or that are performed without SuperCom's supervision or written approval; (ii) the use of supplies other than those recommended or industry recognized equivalents; or (iii) unusual shock or electrical damage, accident, fire or water damage, neglect, air conditioning failure, humidity control failure, a corrosive atmosphere, harmful to electronic circuitry, damage during transportation or causes other than from ordinary use.

If Excluded Activities are required or requested by The State of Vermont, they will be offered at SuperCom's then-current applicable rates.

Work By Others. If any service work is performed by others without SuperCom's pre-approval, or if The State of Vermont moves the System (or any portion of the System) from its installed location without SuperCom's pre-approval, and if, as a result of any of the foregoing, the System requires repair or remedial services, then The State of Vermont shall pay SuperCom's then-current hourly rates to bring the System back into full and proper operation.