

Department of Veterans Affairs

Telehealth Scheduling System (TSS) Integration

Requirements Specification Document



Department of Veterans Affairs

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1 Introduction

1.1 Purpose

The purpose of this Requirements Specification Documentation (RSD) is to record the Telehealth Scheduling System (TSS) Scheduling requirements. This RSD will give the development team a high-level look at the specifications for the TSS project.

1.2 Scope

TSS Scheduling is a requirement of the following strategic initiatives:

- Research, Telehealth and Mental Health (RTMH)
- VHA Telehealth Task Force Report, dated January 2011. Recommendation 4, “deploy a scheduling solution for TSS”.

The VHA Telehealth Task Force assessed that current VA scheduling systems cannot support widespread expansion of TSS due to manual processes involved with the current inter-facility TSS consult and inability of the current VistA scheduling system to interface with other TSS scheduling technologies and resources.

Problems with the current “as is” interfacility TSS scheduling for consult processes are listed below:

- Manual scheduling must occur on the VistA system where the health care provider is located and the VistA system where the Veteran is located. This pair is not handled within and across VistA systems as a synchronized event and uses separate scheduling systems that do not link with VistA or various work-arounds. Therefore, it is difficult to create or modify TSS appointments.
- Inability to document all TSS activities including TSS event closure on both healthcare provider and Veteran’s local VistA systems.
- Potential for clerical error and improper tracking of workload capture. There is currently not a way to show a single listing of daily scheduled TSS patients across facilities and VISNs. Healthcare providers currently do not have a clear view of TSS scheduled patients.

The TSS project will address:

- Consistency and adaptability across all VISNs, VistAs and facilities
- Management of TSS resource availability
- Interfaces to existing systems to include VistA (an integration solution is to be determined) and the TMS system.
- Ease of use through the use of Graphical User Interfaces (GUIs) and application wizards
- Recent advances in TSS technology
- Flexibility in scheduling healthcare providers, Veteran patients and TSS resources

The Office of Telehealth Services supports the development of an enterprise TSS scheduling system which will ensure that resources at both ends of a telehealth visit for the Veteran and the Healthcare Provider are coordinated with the patient possibly across different VISNs. The TSS scheduling system will also capture workload data.

The contractor will provide design, development and deployment consulting to advise and assist OI&T and VHA with the following activities around the Telehealth Scheduling System (TSS) application:

Overall objective: Enhance and nationally deploy standalone TSS capability hosted at NWA. Using an Agile based approach, identify, prioritize and incorporate as many features as possible within available hours.

CRM infrastructure and Solution Design

- The production version of the solution is already been hosted by the same hosting provider as other VRM projects, currently BAH at NWA. .
- During the current phase of development, integration with other systems will be planned and developed, although no production integrations are expected to be released until later project increments.
 - VistA Conceptual Design – a conceptual design of the scheduling integration with VistA (actual functioning endpoint expected to be produced by VA OIT before December, 2014)
 - TIMS Inventory integration and VTC Booking / Call Initiation integrations will be explored and the method of integration determined
 - A prototype MVI-integrated Person Search capability will be developed based on the CRME Person Search code model (SR #399 already in progress, based on SR #333)

Enhance CRM solution for TSS

- Create an Inventory of Assets capability within TSS for tracking site technology resources.
- Develop a CRM workflow process within TSS to manage and track the TSA Development and Approval process
- Develop other system enhancements as prioritized by the product owner

1.3 References

- Requirements Tracibility Matrix (RTM)
- VHA Telehealth Task Force Report, January 2011
- RTMH Telehealth Operating Plan
- TSS Pathways, September 28, 2010
- TSS Scheduling GUI
- TSS System Design Document (SDD)

Project documentation can be found on the TSS TSPR: Scope Objectives

Work with VHA on the deployment of a CRM system to produce a TSS application. The goal of the application is to allow the scheduling of diverse TSS resource components (Personnel, Rooms, and Technologies). There are 2 main logistical facets to TSS which are the Patient Side Resources and the Provider Side Resources. Operationally, the system is again bifurcated into a configuration and resource management component and a rapid scheduling component. The system will help to facilitate scheduling by automating the selection of available time slots. The current increment will not provide integration capabilities but will be built knowing that those capabilities will be added in future phases, and will account for that future requirement in the data structure.

The end result of the current phase of development will at a minimum be a national release of a case management and scheduling solution which can be used by TSS practitioners and schedulers to effectively create and manage the Telehealth Service Agreements (TSAs).

During the current TSS phase project team is planning to integrate existing TSS with MVI and TMS.

1.4 Acronyms and Definitions

1.4.1 Acronyms

Acronym	Acronym Meaning
BRD	Business Requirements Document
CEVN	Clinical Enterprise Video Conferencing Network
TSS	Telehealth Scheduling System
TSS	
COTS	Commercial Off-The-Shelf
CVS	Conformance Validation Statement
COOP	Continuity of Operations
CRM	Customer Relationship Management
EA	Enterprise Architecture
MVI	
XML	Extensible Markup Language
FTC	Facility Telehealth Coordinator
FIPS	Federal Information Processing Standard
FISMA	Federal Information Security Management Act
FY	Fiscal Year
GUI	Graphical User Interface
GBS	Green Beacon Solutions
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
IT	Information Technology
IPT	Integrated Project Team
IP	Internet Protocol
LAN	Local Area Network
MTSA	Master Telehealth Service Agreement
MDWS	Medical Domain Web Services

Acronym	Acronym Meaning
MCS	Microsoft Consulting Services
MVS	
NIST	National Institute Standards and Technology
NMOC	New Models of Care
OED	Office of Enterprise Development
OI&T	Office of Information and Technology
OMB	Office of Management and Budget
PwC	Pricewaterhouse Coopers
RSD	Requirements Specification Document
SIP	Session Initiation Protocol
SOAP	Simple Object Access Protocol
SDK	Software Development Kit
SQL	Structured Query Language
SDD	System Design Document
TRM	Technical Reference Model
TCT	Telehealth Clinical Technician
TSA	Telehealth Service Agreement
VISN	Veteran Integrated Service Network
VA	Veterans Affairs
VAMC	Veterans Affairs Medical Center
VHA	Veterans' Health Administration
VistA	Veterans Health Information Systems and Technology Architecture
WAN	Wireless Area Network

1.4.2 Definitions

Term	Definition
Create	In reference to user permissions in CRM, “Create” refers to the ability of a user to perform an Insert action in the database or to save a new record in the CRM UI
Read	In reference to user permissions in CRM, “Read” refers to the ability of a user to perform a Read action on a database row, or to ‘see’ a record in the CRM UI
Write	In reference to user permissions in CRM, “Write” refers to the ability of a user to perform an Update action on a database row, or to change the values of specific fields and save the record in the CRM UI
Delete	In reference to user permissions in CRM, “Delete” refers to the ability of a user to perform a Delete action on a database row or to delete record in the CRM UI – This is a separate UI permission from Deactivation.
Append	In reference to user permissions in CRM, “Append” refers to the ability of a user to perform an Update action on a database field set for the CRM UI field type, “Lookup.” In the CRM UI, Append permission on a given entity, X, refers to the ability of a user to select X as a value for a lookup field on a different entity, Y, and save record Y. This can be thought of as the ability to “Attach” entity Y to entity X.
Append To	In reference to user permissions in CRM, “Append To” refers to the ability of a user to perform an Update action on a database field set for the CRM UI field type, “Lookup.” In the CRM UI, Append permission on a given entity, X, refers to the ability of a user to select a value for a lookup field on entity X for another given entity, Y and save record X. This can be thought of as the ability to “Attach” entity X to entity Y.

2 Overall Description

In outlining the requirements that are being provided below for VA OI&T to provide the basis upon which the necessary information and telecommunications platform is negotiated to support the care of Veteran patients, the following assumptions/caveats are understood:

- All TSS services are provided on VA’s clinical enterprise video conferencing network (CEVN)
- TSS services into the homes of Veteran patients provided via IP video are undertaken as an associated service to CEVN
- As of September 2, 2010, care via TSS is provided annually to 70,000 Veteran patients in 110 VA Medical Centers and 450 Patient-side Vista Clinics
- Levels of TSS activity are set to rise by 50% in FY2013 and a further 50% in FY2014
- The technology and associated peripheral attachments that constitute Telehealth Scheduling System technologies are classified as “medical care technologies” that are standardized units purchased from VA’s medical care appropriation
- VA OI&T supplies the telecommunications infrastructure, gatekeeper, local area network, wide area network, IT backbone and associated routing, cyber security, firewalls, and channels through which organizations and individuals outside VA connect; VA OI&T also provides the systems whereby scheduling takes place

- Requirements to define national contracts for clinical video conferencing units that connect to CEVN are defined by the Office of Telehealth Services (OTS) with input from VA OI&T. OTS is the business owner for clinical video conferencing units. OTS provides the expertise for the clinical review of these technologies and VA OI&T provides the IT expertise in contracting reviews.

2.1 Accessibility Specifications

Section 508 Compliance is mandated in OIT policy and is required for the CRM solutions to have accessibility. According to the VA Handbook 6102, accessibility is ensuring that content can be navigated and read by everyone, regardless of location, experience, or the type of computer technology used. VA Web managers must ensure that all Web pages, documents, and files posted to the Web and/or to a collaboration tool must be accessible (including .pdf, .xls, .doc).

The Accessibility requirements for the CRM solutions identified for Section 508 Compliance consist of the [Section 508 standard checklist §1194.21](#), Software Applications and Operating Systems, and [Section 508 standard checklist §1194.22](#), Web-based Intranet and Internet Information and Applications. These specific checklists have been documented within the enterprise-level-requirements by the VA 508 Office for the purpose of being utilized within applicable projects. The details for 508 Compliance checklist specifications will be added within the System Design Document (SDD). The CRM COTS product is covered by the VPAT which has been accepted by the VA as meeting 508 compliance requirements.

Custom development within the system that affects the UI will be tested to identify exceptions. If any such exceptions are identified, a remediation strategy will be developed and submitted to the VA as part of a waiver application.

2.2 Business Rules Specification

2.2.1 Agile Product Backlog

The remainder of specified business rules and requirements are detailed in the TSS product backlog (detailed in section 2.6 below). The development team follows an agile project management methodology, allowing the Product Owner to dynamically prioritize development from the product backlog at every sprint planning session. As such, all business rules and requirements included in the product backlog are considered open to the current increment.

2.3 Design Constraints Specification

2.4 The initial phase of the application has been deployed in production in July 2014. Current, TSS release will provide enhancements to current TSS functionality which includes interface with MVI, TMS and VistA through MASS. . Disaster Recovery Specification

TSS Disaster Recovery procedures will follow those currently in force for CRM UD.

2.5 Documentation Specifications

System documentation includes descriptions of the system hardware, software, policies, standards, procedures, and approvals related to the system life cycle and system's security controls. VA requires that sufficient documentation exists to provide an operating reference to effectively use software and hardware, and formal security and operational procedures have been documented, including the adequate completion of certification and accreditation processes. Documentation must include, but is not limited to, all documentation of the security planning, certification and accreditation process, and configuration management of the hardware and software associated with the system.

2.6 Functional Specifications

This solution will save the Telehealth units considerable time and expense as well as increase the utilization of the Telehealth equipment. The TSS National Release will include the following application functions: Service Activity Management; Service Scheduling; VA TSS Resource Management; VA TSS TSA Management; and VA TSS Site Management.

In order to manage the overall objectives of TSS, the development team tracks activities as User Stories in Team Foundation Server (TFS). These User Stories are tied to features, which are the high-level functional objectives of the business team. Elaboration of those features into User Stories which can then be developed is undertaken in an elaborative, agile approach.

2.6.1 Functional Specifications – Phase 2

The table below indicates the functional specifications that were included as part of the initial project phase:

ID	Work Item Type	Title

[illegible]

ID	Work Item Type	Title

2.6.2 Business Requirements

The Features and Stories used for development purposes are generated based on the Business Requirements originally outlined in the TSS Business Requirements Document, dated March, 2011. In that document, the requirements were represented according to the content below:

2.6.2.1 Business Needs:

ID	Requirement
NEEDCVT1	Ability to schedule a patient and provider as a pair on both the VistA system where the health care provider is located and the VistA system where the Veteran is located. This pair should be handled within and across VistA systems as synchronized event.
NEEDCVT2	Ability to document all TSS activities including TSS event closure on both healthcare provider and veteran's local VistA systems.
NEEDTSS3	A TSS scheduling system would reduce clerical error and improve workload capture, in addition to improving efficiency for provider and scheduler. There is a need for a single listing of daily scheduled TSS patients across facilities and VISNs. Health care providers currently do not have a clear view of TSS scheduled patients.

2.6.2.2 Business Features:

ID	Requirement
OWNRCTV1	The system shall have the capacity to identify the Veteran.
OWNRCTV2	The system shall have the capability to select locations of patient and healthcare provider.
BDETTSS1	The system shall have the ability to capture Patient Location (including patient home).
BDETTSS2	The system shall have the ability to capture Provider Location including: <ul style="list-style-type: none"> • Providers designated as privileged at the chosen Veteran location • VistA clinics • Non-VA sites (e.g. DoD, IHS, Contractor site)
OWNRTSS3	The system shall have the ability to generate an automatic Consult to register a Veteran at a provider location. The need will be determined by search for Veteran at a provider site.
BDETTSS3	The system shall prompt to return to schedule event, allowing time for registration to occur.

ID	Requirement
OWNRTSS5	The system shall have the ability to handle the creation, cancellation, or updates to a TSS appointment pair (patient and provider) as a single event (to prevent creation of orphans) within VistA and any interfacing system.
OWNRTSS6	The system shall provide the ability to allow changes to a TSS appointment pair (patient and provider) to occur individually as needed to prevent creation of orphans or to correct errors.
OWNRTSS7	The system shall allow visualization of VistA clinics in order to review and/or confirm correct Decision Support System (DSS) coding by request.
OWNRTSS8	The system shall allow for appointments/events at non-VistA sites for Veterans that includes: <ul style="list-style-type: none"> • Veteran home • Non-VA sites e.g. DoD, IHS, Veterans' home
OWNRTSS9	The system shall allow for appointments/events at non-VistA sites for Providers that includes: <ul style="list-style-type: none"> • VA Contracted Providers at non-VA Sites
OWNRTSS10	The system shall have the capability to process check-in, no-show, reschedule, cancellation, and walk-in.
OWNRTSS11	The system shall have the capability to query and view of appointments by: <ul style="list-style-type: none"> • Health care provider • Veteran • Pre-determined views (control by access, pre-built reports for quality management, e.g. where are telepresenters, room schedules, basic management reports)
OWNRTSS12	The system shall have the capability to set permissions to access lookup tables and scheduling processes determined in advance.
OWNRTSS13	The system shall allow a health care provider to choose events to document/close: <ul style="list-style-type: none"> • From Veteran identification information from a list (created by "action required" status on events for this provider.) • Allow for visualization by date, locations, or other selections.
OWNRTSS14	After an event is selected, the system shall provide a means to display all open consults on (at all locations) for Veteran, so provider can indicate which to close at the time if necessary (or proceed if not necessary). Existing CPRS functionality shall be accessible to the TSS scheduling system.

ID	Requirement
OWNRTSS15	The system shall allow selection of a Veteran's Medical Home by healthcare provider from a list of locations where Veteran is registered. Documentation, such as a clinical progress note, would be captured to this system (for example, a Veteran that receives primary care in one facility, but also receives care from a primary care Provider while at another VA site while on vacation or "snowbird".)
BDETTSS4	System shall provide a lookup capability and/or display the Veteran's Medical Home for primary care.
OWNRTSS16	The system shall allow a provider to select from a list of standardized TSS note titles and enter clinical progress note content, service connection, and other question information, chooses/enters diagnosis(es) and chooses/enters clinical procedure code(s) (System would allow healthcare provider to access their progress note templates):
BDETTSS5	The system shall build clinical progress note in Veteran's Medical Home VistA system.
BDETTSS6	The system shall automatically create a clinical encounter on Veteran's Medical Home VistA system with a Q3014 procedure code.
BDETTSS7	The system shall build clinical encounter on Provider's VistA system with GT (Procedure Code) modifier.
BDETTSS8	The system shall build "pointer" note on Provider's VistA system indicating that there is clinical content on Veteran's VistA system.
BDETTSS9	The system shall apply an electronic signature to both notes.
BDETTSS10	The system shall allow for administrative closure of consults.
OWNRTSS17	The system shall have the ability to convert the date/time of the appointment across time zones so the correct date and time of the appointment is displayed on all media at the respective provider and patient sites, but will then assign the appropriate date/time on the provider and patient VISTA encounters for VERA workload matching purposes.
OWNRTSS18	The system shall provide a capability for patient self-scheduling.

2.6.2.3 Non-Functional Requirements:

ID	Requirement
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ID	Requirement
NONFTSS1	Interface with other systems: <ul style="list-style-type: none"> • Clinical Enterprise Video teleconferencing Network (CEVN) scheduling system to check availability of telecommunications connectivity • Data sources with rooms and designated purposes, e.g., calendar/tracking system(s)/MS Outlook • Identification of the equipment in the room • Video • Peripheral equipment • Status of mobile equipment, e.g., wheeled carts • Staff – VistA data on staff (contract staff would also have to be in VistA)
NONFTSS2	Urgent appointment request facility
NONFTSS3	A Memorandum of Understanding (MOU) and Service Level Agreement (SLA) between VHA and OI&T should specify service level requirements for a national TSS scheduling system.
NONFTSS4	An Operations and Maintenance Plan (O&M Plan) should specify operational support, system robustness, and help desk for a national TSS scheduling system.
NONFTSS5	A Continuity of operations plan (COOP) and disaster recovery plan should identify risks, mitigations, and contingencies for the national TSS scheduling system

2.7 Graphical User Interface (GUI) Specifications

MS Dynamics CRM 2011 provides the primary console interface that has been configured for TSS. When configuring entities within MS Dynamics for TSS, the MS Dynamics system generates GUIs for users to interact with the data. The user interfaces include lists with customizable views, find, advanced find, editors for all entities, lookup dialogues, and various multiple user interfaces. Please refer to the System Design Document (SDD) for further GUI specifications.

2.8 Multi-divisional Specifications

Data accessibility with the Dynamics CRM system is based on segmentation of permissions at multiple levels. The deployment is first organized into a Business Unit hierarchical structure, defining the business divisions at a top-level. At TSS, business units have been established for each VISN to segment their individual data, where appropriate. Users can be members of a specific business unit, enabling access to specific levels within and without that unit or Users may be members of the Parent Business Unit (VHA Telehealth Services), enabling cross-unit access.

At the next level down, records can be directly tied to Users or to Teams. The TSS system was designed to avoid individual ownership and instead attribute all ownership at the Team level in order to standardize divisional data access. Teams, in the case of TSS are actually VHA Facilities, within which, it is assumed that roles will be standardized. Members of the team will

be granted specific access levels to records owned by – or not owned by – that team based on their User Roles.

User Roles tie together the divisional specification by determining the specific access permissions (Create, Read, Write, Delete, Append, Append To) for any given entity at the User, Team, Business Unit, or Organizational level. This multi-tiered approach to divisional structuring enables CRM to fully meet both accessibility and security requirements while providing a seamless user experience.

2.9 Performance Specifications

Data volume for the CRM Base / TSS TSS system should start with 800 users in the first year, adding approximately that number each year thereafter. In the end, the system should be able to handle about 3000 concurrent users on average per year. TSS TSS will align with the performance requirements in the CRM/UD environment.

This document section is currently under development and will be finalized pending closure of a hosting agreement for the eventual production environment.

2.10 Quality Attributes Specification

MS Dynamics CRM 2012 contains native service scheduling capabilities perfectly suited to the needs of the TSS Scheduling process; allowing for the specified location tracking at facility and site levels, as well as the integration of diverse resource types from User to Room to Technology without any significant customization. The specific data points which must be tracked and the dichotomy between Patient Site and Provider Site determination, however, mandate the creation of a sort of ‘facade structure’ for the end-user interface which allows for the custom fields and divergent work processes of Individual and Group service activities.

In practice, this entails the duplication of certain system entities such as Facility, Site, and Service as ‘custom’ entities which then leverage plugins to create their corresponding system components.

By effectively wrapping the existing CRM Scheduling functionality in a TSS-specific layer the system is able to provide an effectively tailored environment for users, structured according to familiar conventions and systems while minimizing the degree of necessary custom coding by leveraging existing structure and capabilities.

This approach maximizes the future extensibility of the system by allowing for the greatest degree of configurability within those TSS entities. It also supports system supportability and maintainability through a bi-directional approach; minimizing custom code dependency on the technical end, and providing a context-tailored experience on the functional end to provide a familiar and intuitive interface to end users who will require reduced support assistance to work within it.

2.11 Reliability Specifications

This document section is currently under development and will be finalized pending closure of a hosting agreement for the eventual production environment.

- Creation of new Telehealth Service Agreement (TSA) - Save of new TSA data shall be no longer than five second response time from the production server.

- TSS program user shall not be presented with any SSL certificate errors in usage or at logon throughout the application.

2.12 Scope of Integration

For this increment of the TSS project integration with MVI, TMS, MASS/VistA are being planned. Interface details are listed in RSD and SDD documents.. .

2.13 Security Specifications

As noted in the SDD, no specific security or privacy considerations or requirements were outlined in the TSS Business Requirements Document (BRD). Details on the general security model of CRM, including Business Unit, Team, User, and Role construction as well as field-level security is available from the Microsoft Developer Network (MSDN) Library article, “The Security Model of Microsoft Dynamics CRM.” At <http://msdn.microsoft.com/en-us/library/gg309524.aspx>

As addressed in section 2.8 above, system records are segmented by Business Unit, Team, and User, with the specific permissions for their data intersections determined by User Security Roles. The table below provides a general overview of the security roles currently established for the TSS system and their general functional permissions.

Role	Primary Job Functions	Additive Roles
VISN Lead	<ul style="list-style-type: none"> • Manages Facilities, Sites, Resource Groups, Resources, Resource Calendars • General Application Administration, Updates Metadata Libraries 	<ul style="list-style-type: none"> • TSS User • TSS Application Administrator
Facility Telehealth Coordinator	<ul style="list-style-type: none"> • Manages Facilities, Sites, Resource Groups, Resources, Resource Calendars • Manages Master TSAs and TSAs 	<ul style="list-style-type: none"> • TSS User • Facility Telehealth Coordinator
Telehealth Clinical Technician	<ul style="list-style-type: none"> • Manages Facilities, Sites, Resource Groups, Resources, Resource Calendars • Schedules Service Activities (appointments) • Creates and Edits Patients 	<ul style="list-style-type: none"> • TSS User • Telehealth Clinical Technician • TSS Scheduler
TSS Scheduler	<ul style="list-style-type: none"> • Schedules Service Activities • Creates and Edits Patients 	<ul style="list-style-type: none"> • TSS User • TSS Scheduler
Telehealth Provider/Clinician	<ul style="list-style-type: none"> • Provides telehealth clinical services 	<ul style="list-style-type: none"> • TSS User
Telepresenter	<ul style="list-style-type: none"> • Clinical presenter of patient 	<ul style="list-style-type: none"> • TSS User
TSS User	<ul style="list-style-type: none"> • A User of the TSS Application • Owns calendar 	<ul style="list-style-type: none"> • TSS User • (base role)

2.14 System Features

Please refer to the SDD, sections 2.2: *Overview of the Business Process*, 3.3.4.2: *Conceptual Production String Diagram* and 6.2: *Software Detailed Design* for highly detailed breakdowns of the system features and operations.

2.15 Usability Specifications

Usability of the TSS system is ensured by presenting the entire UI through the Microsoft Dynamics CRM COTS interface, which conforms to Microsoft's Standards of Graphical User Interface style and design, further elaborated within the CRM 2012 sdk downloadable files, "The Microsoft Dynamics CRM UI Style Guide."

3 Applicable Standards

The following standards and regulations may apply to the design of this system:

- C.5 VAAR 852.219-10 VA NOTICE OF TOTAL SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS SET-ASIDE (DEC 2009)
- Federal Information Security Management Act (FISMA) of 2002
- Federal Information Processing Standard (FIPS) Pub 201, Personal Identity Verification for Federal Employees and Contractors, February 25, 2005
- VA Directive 6102, Internet/Intranet Services
- VA Handbook 6102, Internet/Intranet Services
- Electronic and Information Technology Accessibility Standards (36 CFR 1194)
- Office of Management and Budget (OMB) Circular A-130
- Sections 504 and 508 of the Rehabilitation Act (29 U.S.C. § 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220), August 7, 1998
- VA Directive 6500, Information Security Program
- VA Handbook 6500.3, Certification and Accreditation
- VA Handbook 6500.5, Incorporating Security and Privacy into the System Development Life Cycle
- Office of Enterprise Development (OED) ProPath Process Methodology
[REDACTED]
- PMAS portal [REDACTED] [pmas/Pages/default.aspx](#)
- Technical Reference Model (TRM)
- National Institute Standards and Technology (NIST) Special Publications
- VA Information Technology (IT) Program Management (VA Handbook 6062), no date
- VA Facility Directory [ht](#) [REDACTED]
- VA Enterprise Architecture (EA) - The P/PMS Contractor shall ensure that all projects adhere to the one VA EA [REDACTED] [g](#) [REDACTED]
- The Program Managers' Guide to the Integrated Baseline Review Process (Office of the Undersecretary of Defense), April 2003 [G]
- FISMA <http://csrc.nist.gov/groups/SMA/fisma/index.html>

Any regulations related to security may impose access restrictions or other protection related limitations on the system.

4 Interfaces

The CRM COTS product is the only user interface leveraged by this solution. No external systems currently interface with the TSS product. For detailed descriptions of the current solution architecture and anticipated future architecture in subsequent releases, please refer to the SDD.

4.1 Communications Interfaces

MS Dynamics CRM uses web services to access and manipulate data resources from outside data repositories and interact with enterprise tiered platform services. These services allow implementers to write applications using MS Visual Studio or other development tools by referencing the platform's web services. The MS Web Services are interoperable with non-MS platforms. The MS Dynamics CRM Software Development Kit (SDK) includes the following Web Services:

- Discovery Web Service - The Discovery Web Service is a mechanism to find the correct endpoint for the organization web service.
- Metadata Web Service - The Metadata web services provide methods to read and write metadata for an organization including definitions for entities, attributes, and relationships.

Extensible Markup Language (XML) Web and Software Services:

- Simple Object Access Protocol (SOAP) - SOAP is the communication protocol for XML Web Services. SOAP defines the XML format for messaging. SOAP also enables MS Dynamics CRM to perform remote procedure calls for applications built on COM or CORBA instead of the latest and more flexible document style messaging where SOAP is a wrapper around an XML document.
- XML Web Services - MS Dynamics CRM uses XML Web Services as a building block for distributed computing. XML Web Services are a flexible and interoperable vehicle to integrate and communicate with other applications regardless of the language or platform and is a key ingredient in a SOAP-based web-services environment.
- XML/SOAP Security - MS Dynamics CRM uses Web Services (WS) Security while using SOAP to exchange data via XML documents supporting various security models and encryption technologies. In brief, SOAP Security Web Services provide a vehicle for security related information targeted at a specific receiver using WS Routing.
- WSDL

Client Side Scripting

- JavaScript - Client-side scripting includes the capabilities to perform business logic and actions from the MS Dynamics CRM Web or Outlook clients. It also includes capabilities to add the user interface elements to integrate MS Dynamics CRM with other applications.

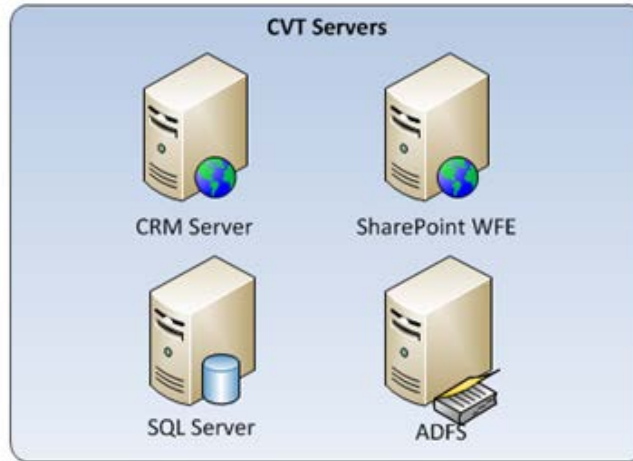
Other Protocols

- Hypertext Transfer Protocol (HTTP)/Hypertext Transfer Protocol Secure (HTTPS) - HTTP functions as a request-response protocol in the client-server computing model. HTTPS is a secure HTTP connection. Instructions in Section A.27

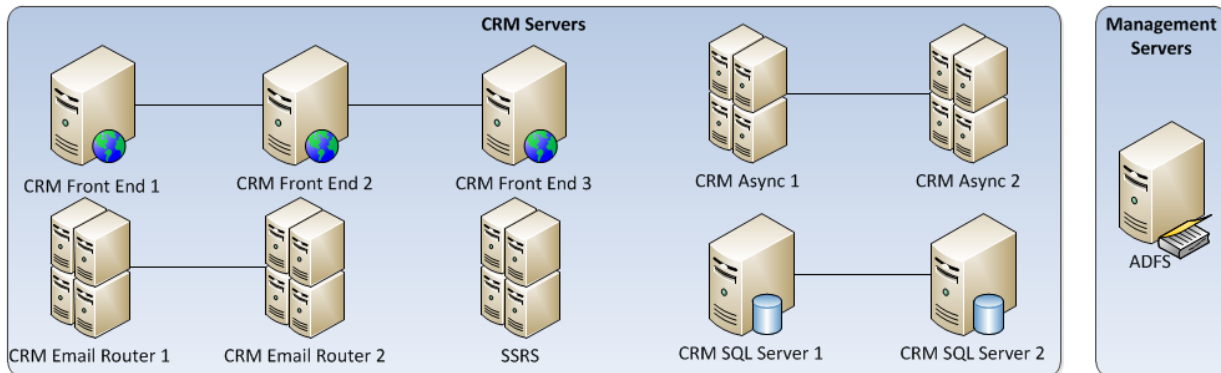
4.2 Hardware Interfaces

This document section is currently under development. The current, development & production environments are reflected in the diagrams below:

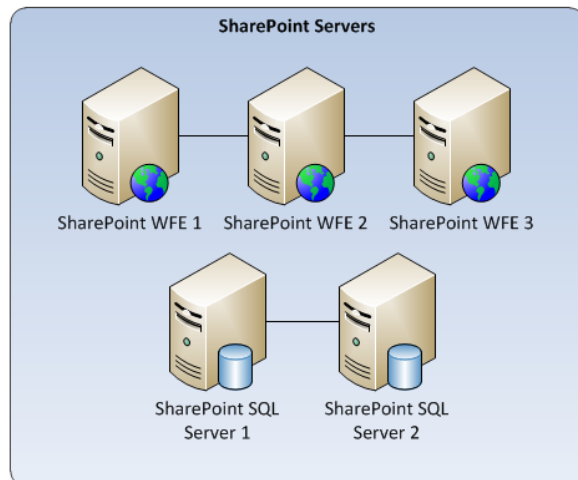
CRM Development Environment



CRM Production Environment



Name	Type	RAM (GB)	CPU	HD (GB)
		32	8	140
		32	8	140
		32	8	140
		32	8	140
		32	8	140
		8	1	100
		8	1	100
		28	16	2000
		28	16	2000
		32	4	140
		8	1	100
		28	8	170
		28	8	170
		28	8	170
		32	8	2000
		32	8	2000
Total		620	119	9650



4.3 Software Interfaces

The following is an approximate list of software that will be utilized with the TSS solution:

- MS Dynamics CRM 2011
- MS Internet Explorer (v9+)
- MS Windows 7
- MS Office Suite 2010
- MS SQL Server 2008 R2
- MS Windows Server

4.4 User Interfaces

In general, MS Dynamics CRM 2011 provides a primary console interface based on the look and feel of Internet Explorer that will be configured for VA CRM. When configuring entities within MS Dynamics for VA CRM, the MS Dynamics system generates GUIs for Users to interact with the data. The user interfaces include lists with customizable views, find, and advanced find, editors for all entities, lookup dialogs, and various multiple user interfaces.

The following list presents a few of the highlight user interface features of the CRM 2011 system:

- Seven user categories:
 - VISN Lead
 - FTC
 - TCT
 - TSS Scheduler
 - Telehealth Provider / Clinician
 - Telehealth Presenter
 - TSS User
- Types of interactions:
 - TSS Resource administration
 - Administering Facilities and Sites
 - Administering Resources and Resource Groups
 - Administering MTSAs and TSAs
 - TSS Scheduling
- Service Activity Creation
- Scheduling
- Reporting
 - Users are able to create their own Dashboards and Reports
- Office Productivity
 - MS Dynamics CRM integrates with MS Outlook, Word, Excel, etc.
- Advanced Find:
 - User-creatable ad-hock queries

- Option to save these queries as personal views with configurable columns and sorting criteria
- Option to share these personal views with other users
- User indicators on forms
 - Red asterisks denote required fields
 - Blue plus signs denote recommended fields
 - Magnifying glass icon indicates a lookup field
- Administrative User capabilities
 - Create/Modify system forms, views, charts, dashboards
 - Create/Modify Workflows and Dialog Processes

5 Legal, Copyright, and Other Notices

Not Applicable.

6 Purchased Components

TBD

7 User Class Characteristics

The specifications of the TSS solution, as defined in the SDD, are authored to be directly compliant with User Class characteristics set forth as guidelines by the VA Handbook 6102. The specific directives that are used to define the general characteristics of intended users of the TSS solution are as follows:

1. VA websites must be designed, developed, and tested for a broad range of visitors, including those with lower-end hardware and software capabilities, e.g., browsers that are one version older than current version ([REDACTED] 6102/, checklist item 9).
2. VA Web sites should be organized in a logical and useful way by subject (topic, tasks, services, life events), by audience group, by geographic location, or any combination of these factors as the primary navigation ([REDACTED] 6102/, checklist item 10).
3. VA Web sites must focus on helping the Web site's target audience(s) to efficiently find the services and information they seek from VA. VA home pages must help Web site visitors to get to the content they need and want most, with minimal complexity of navigation and the fewest drilldowns. Content must be easy to read and without excessive text and/or graphics. Web content managers must ensure that all VA Web content is spell-checked and grammatically correct prior to posting that content ([REDACTED] 6102/, checklist item 11).
4. VA Web managers must ensure that all home pages, all major entry points, and all navigational elements of their VA Web sites are written in plain language, which is language designed so a Web site's typical visitor can easily understand the material presented in one reading. Internet Web pages should be written at a seventh grade level whenever possible; all Web pages must be written at the most elementary level of understanding for the subject matter presented to the Web site's target audience. VA Web page content should be spell-checked and grammatically correct prior to posting that content ([REDACTED] 6102/, checklist item 12).
5. VA Web sites must include common terminology and placement where specified, using wording that is simple, straight forward, and concise to optimize comprehension of VA Web content and to ease use of navigational pathways. Pages must share common branding attributes such as agency logos, official seals, and other recognized attributes that identify the Department. Material

relevant only to the intranet must not appear on Internet pages; e.g., non-public information about VA employees, Intranet links on the Internet, links to internal VA resources (██████████ [6102/](#), checklist item 13).

8 Estimation

A Function Point Analysis was requested and closed on January 17, 2014. Per Chad Lynch, Project Management Service/Program Planning & Oversight Software Metrics & Estimation Team, function point sizing for a stand-alone COTS package that does not require modification to existing VistA applications is not needed. A second request will be submitted in the future once the TSS scheduling tool is integrated with VistA.

Project Software Functional Size and Size-Based Effort and Duration Estimate

Application

Item	A	B	C	D	E	Total
Counted Function Points	NA	NA	NA	NA	NA	NA
Estimated Scope Growth	NA	NA	NA	NA	NA	NA
Estimated Size at Release	NA	NA	NA	NA	NA	NA

Size-Based Effort Estimates	Labor Hours	Probability
Low-Effort Estimate – With indicated probability, project will consume no more than:	NA	NA
High-Effort Estimate – With indicated probability, project will consume no more than:	NA	NA

Size-Based Duration Estimates	Work Days	Probability
Low-Duration Estimate – With indicated probability, project will consume no more than:	NA	NA
High-Duration Estimate -- With indicated probability, project will consume no more than:	NA	NA

Figure 1: Cumulative Probability (“S-curve”) Chart

[Insert Cumulative Probability (“S-curve”) Charts here]

9 Approval Signatures

REVIEW DATE:

SCRIBE: 

Signed: _____



Date

Integrated Project Team (IPT) Chair & Project Manager

Signed: _____



Date

Business Sponsor, VHA Office Of Telehealth Services

Signed: _____



Date

IT Program Manager

Appendix A Use Case Specification

Not applicable; please see details on RTM for mapping between requirements and user stories.

Template Revision History

Date	Version	Description	Author
March 2013	1.1	Formatted to current ProPath documentation standards and edited to conform with latest Alternative Text (Section 508) guidelines	Process Management
January 2013	1.0	Initial Version	PMAS Business Office