

Caregiver Tool (CareT)

System Design Document



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Revision History

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Artifact Rationale

The System Design Document (SDD) is a dual-use document that provides the conceptual design as well as the as-built design. This document will be updated as the product is built to reflect the as-built product. Per the Project Management Accountability System (PMAS) Guide, the SDD, as a conceptual design, is required prior to the Milestone 1 Review. (Sections 1, 2, 3, 4, 5, 7, 9 need to be populated, as applicable.) The as-built design for each delivery must be incorporated prior to the Milestone 2 Review. (The entire document needs to be populated or updated, as applicable.)

Instruction

Activity	New Capability (1)	Feature Enhancement (2)
Field Deployment (A)	Yes	Yes
Cloud/Web Deployment (B)	Yes	Yes
Mobile Application (C)	No	No

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1. Introduction

This document is intended to complement the Business Requirements Change Document (BRCD), entitled “Caregivers and Veterans Omnibus Health Services Act of 2010: Title 1, Sections 101-104,” and the Caregiver Tool (CareT) Requirements Specification Document (RSD). The BRCD provides a good deal of background on the history of the Program of Comprehensive Assistance for Family Caregivers (PCAFC) and outlines the high-level requirements needed in a replacement for the system that currently supports the program, the Caregiver Application Tracker (CAT). The RSD then elaborates on those higher-level requirements and formally defines and documents both the business and user functional requirements that CareT will provide.

1.1. Purpose of the SDD

The purpose of this System Design Document (SDD) is to describe CareT’s conceptual design. The SDD translates the requirement specifications into a document that developers can reference in the development of CareT. It identifies the top-level system architecture, hardware, software, and interface components.

1.2. Identification

CareT will comply with all relevant standards and regulatory requirements, including, but not limited to:

- Federal Information Processing Standards (FIPS) Publication (PUB) 140-2, Security Requirements for Cryptographic Modules, for all voice and data traffic encryption;
- Section 508 Information Technology (IT) accessibility standards governed under 29 U.S.C 794d;
- FIPS PUB 200, Minimum Security Requirements for Federal Information and Information Systems, including controls for Access Control (AC), Audit and Accountability (AU), Configuration Management (CM), Identification and Authentication (IA), Maintenance (MA), Media Protection (MP), System and Communications Protection (SC), and System and Information Integrity (SI);
- FIPS PUB 199, Standards for Security Categorization of Federal Information and Information Systems;
- National Institute of Standards and Technology (NIST) Special Publication (SP) 800-30, 800-37, 800-53, 800-60 rev 1, 800-53 rev 3, and 800-111; and
- Business Requirements Document (BRD) for New Service Request (NSR) 20100829 Caregivers and Veterans Omnibus Act Title 101 to 104.

1.3. Scope

The scope of this document encompasses all of the functionality needed for CareT to provide support to primary, secondary, and general Caregivers, as well as to support the business needs of the Caregiver Support Line. In particular, this functionality will cover the end-to-end primary and secondary Caregiver process, from the submission of a Veteran and Caregiver application, to

providing ongoing Veteran and Caregiver support and monitoring, to the calculation and payment of stipend entitlements, to the revocation of a Caregiver from the program and termination of benefits. At the highest level, this includes functionality that will enable:

- Easier application submission (for applicants) and improved application processing (for VA staff);
- Streamlined stipend payment calculations, including the annual labor rate update process;
- Improved data tracking and information sharing among Department of Veterans Affairs (VA) personnel; and
- Improved data integrity and increased ability to respond to Congressional inquiries and reporting requirements.

CareT will not:

- Provide direct monitoring of Civilian Health and Medical Program of the Veterans Administration (CHAMPVA) benefits;
- Process and/or issue Caregiver ID cards; or
- Track the more granular steps taken by Caregiver Support Coordinators (CSCs) when visiting or assessing a Caregiver.

CareT will still provide more functionality, seamless integration of data, and improved data integrity than its predecessor, the CAT. The CAT was a short-term, limited-functionality remedy that was rapidly put in place to meet Congressional demand for a solution once the Caregivers and Veterans Omnibus Health Services Act of 2010 was enacted. While the CAT addressed the immediate need, ultimately the complexity of business needs and size of the program outgrew the system capabilities, and other tools/processes outside of CAT had to be put in place. Most prominently, this included the development of a separate stipend Access database that assisted with stipend payment processing. Data was pulled from the CAT, manually loaded into this database to determine the stipend payments for the month, and then the aggregated output was routed to the Financial Management Service (FMS) for further processing. Despite the benefits that the database provided, the overall process was still highly manual, time consuming, and increasingly inefficient as the program continued to grow.

In contrast, CareT will seamlessly process Caregiver applications, stipend payment calculations, and other Caregiver program requirements, using the data entered from an application to create a single Veteran's Caregiver (VCG) Record. Information on this record will then be used to determine the stipend payments for the Veteran's Caregiver (or Caregivers), before routing it to the appropriate VA personnel for review. Once the stipend payments have been reviewed and approved, CareT will then generate a monthly report that can be sent to the FMS.

This example highlights the key benefit that CareT will provide: an integrated, seamless solution that provides all relevant data in one place. This level of integration will help reduce the risk that inevitably arises from manually moving data, but also provide better coordination among VA Caregiver support personnel, and improve visibility into the needs of the population being served.

1.4. Constraining Policies, Directives and Procedures

CareT shall comply with the following policies, directives, and procedures:

- VA Handbook and Directive 6500
- VA Handbook and Directive 6513

Note that additional policies, directives, and procedures will be added to this list as they are discovered.

1.5. User Characteristics

CareT is intended for the current users of CAT, including Caregiver Support Coordinators (CSC), Chief Business Office Purchased Care (CBOPC) personnel, Caregiver Support Line (CSL) personnel, Health Resource Center (HRC) personnel, and Health Eligibility Center (HEC) personnel.

Any users who are currently comfortable with CAT will have a more-than-adequate grounding for use of CareT because the new system does not introduce any major new sophistication in relation to its predecessor. CareT will have an intuitive design that will require some training to operate, but not an extensive amount, and for any new functionality or changes that affect the usability of the application, additional training and/or updated user manuals will be provided accordingly.

For additional information about CareT's users, refer to the table in Section 2.15, System Features of the RSD, which describes the interactions (no access, read/write, etc.) that the different primary user groups (CSL users, CSCs, etc.) will have with the system.

1.6. Relationship to Other Documents and Plans

This SDD elaborates on the requirements that were documented for CareT and is intended to supplement the BRCD and the RSD.

1.7. Definitions, Acronyms, and Abbreviations

A full list of acronyms is provided in Appendix A.5.

1.8. References

- VA Handbook 6500 – Information Security Program
- VA Handbook 6102
- NSR 20100829 Caregivers and Veterans Omnibus Act Title 101-104
- BRD for NSR20100829
- CareT Requirement Specification Document
- FIPS PUB 140-2, Security Requirements for Cryptographic Modules, for all voice and data traffic encryption
- Section 508 IT accessibility standards governed under 29 U.S.C 794d
- FIPS PUB 200, Minimum Security Requirements for Federal Information and Information Systems, including controls for AC, AU, CM, IA, MA, MP, SC, and SI.

- FIPS PUB 199, Standards for Security Categorization of Federal Information and Information Systems
- NIST SP 800-30, 800-37, 800-53, 800-60 rev 1, 800-53 rev 3, and 800-111.
- Veterans Health Information Systems and Technology Architecture (VistA)-CPRS Text Integration Utilities (TIU) Generic HL7 Interface Handbook, Version 1.0, October 2006
- VA Business Architecture (BA) Conceptual Data Domain
- CI: 5.2.4-0002AF-2015-4-30-089 VA Enterprise Architecture (EA) Enterprise Technical Architecture (ETA) Compliance Criteria, Version 6.0, April 2015
- Enrollment System Core Service Definition Document, Version 1.7, August 2014.
- VA EA Business Reference Model (BRM)

Note that additional entries will be added to this list as new reference materials are identified and used.

2. Background

2.1. Overview of the System

Title I of Public Law 111-163, the Caregivers and Veterans Omnibus Health Services Act of 2010, was implemented by the VA in May of 2011. A significant part of Title I, VA's Program of Comprehensive Assistance for Family Caregivers (PCAFC), began accepting applications only a few days after an Interim Final Rule (IFR) was published. Because this program was implemented so quickly, an appropriate IT infrastructure could not be concurrently established. Short term solutions rapidly put into place were largely manual and were not integrated into existing VA systems. The result was a system and setup that had poor data integrity, lengthy processing times, and prone to error due to being highly manual. Compounded by the fact that the PCAFC has seen tremendous growth in the user population it serves, the risk that this inadequate infrastructure poses only continues to increase.

To address these concerns, the Caregivers Tool (CareT) will provide a more comprehensive and robust set of functionality for internal VA users, as well as the Caregivers and Veterans they support. CareT replaces the legacy CAT system, as well as an accompanying Access Database (DB) that provided some functionality for stipend calculations (prior to this database being implemented, all monthly stipend calculations were handled almost completely manually in spreadsheets). CareT will provide greater automation overall, including support for application entry, application processing, approval workflow, data tracking, information sharing, and administrative support. CareT will automate many of the current manual, or partially manual, processes (e.g. those for stipend processing), as well as ensure that data can easily be shared among the three primary stakeholder groups that will use the system. These stakeholder groups include members from the Caregiver Support Line (CSL), the Caregiver Support Program (CSP), and the Chief Business Office (CBO) Purchased Care (PC) division. As indicated earlier in this document, personnel from these groups who are currently using CAT should have no difficulty becoming familiar with CareT. It does not represent a major departure from the predecessor system, and existing roles of general users, administrators, etc. will largely remain in effect. As also indicated earlier, additional information about the roles of CareT users can be found in Section 2.15, System Features, of the Caregiver Tool (CareT) RSD.

2.2. Overview of the Business Process

The diagram embedded below provides a high-level depiction of the overall PCAFC business process that CareT will support. This covers from the time Veterans and their Caregivers initiate the process, all the way through until a Caregiver is revoked:

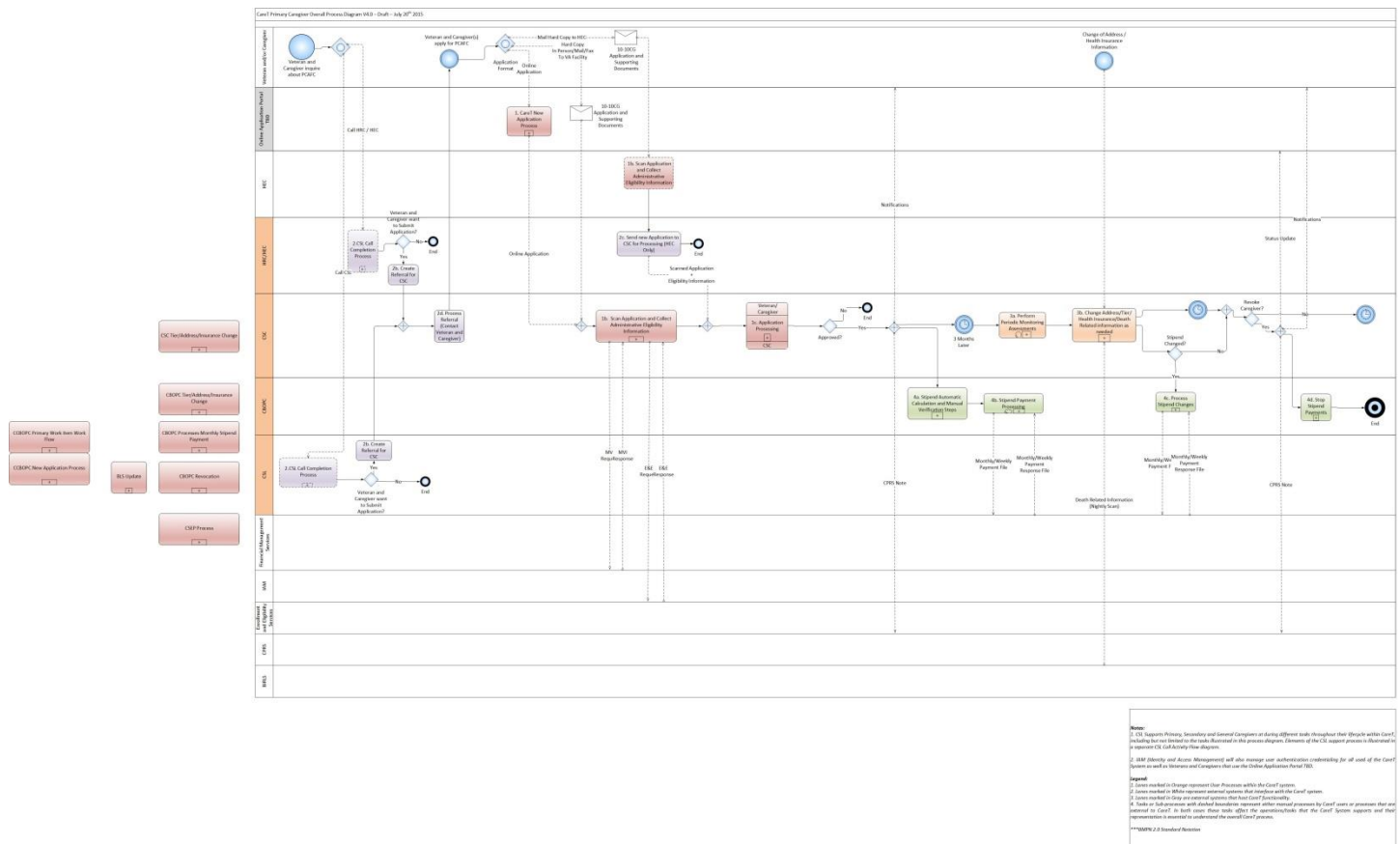


Figure 1: CareT Primary Caregiver Overall Business Process Diagram

Table 1: Business Process Descriptions

Business Process ID	Business Process Name	Type	Owner	Description
1	New Application Process Flow			This Process starts with the submission of 10-10CG application to application approval
1a	Submit Application Online	Modernized	Online Application Portal	Caregiver and Veteran apply for Caregiver Support Program by filling out the 10-10CG application online
1b	Scan Application and Collect Administrative Eligibility Information	Existing	CSC	Scan, collect and organization administrative eligibility and supporting documentation from applicants (Caregiver and/or Veterans). CSC will also collect and scan paper 10-10CG applications.
1c	Application Processing	Existing	CSC	CSC process 10-10CG application in accordance with relevant policies.
2	Referral Process			Caregiver and Veteran seek assistance from HEC, HRC, or CSL. These VA personnel, in turn, refer Caregivers and Veteran to appropriate resources, such as a CSC.
2a	Discuss PCAFC Application Options	Existing	HRC/HEC/CSL	HRC/HEC/CSL answers Caregiver and Veteran's questions and make referrals. HEC may also help Caregiver and Veteran fill out the 10-10CG application
2b	Create Referral for CSC	Existing	HRC/HEC/CSL	
2c	Send new Application to CSC for Processing	Existing	HEC	10-10CG application is sent to CSC for processing.
2d	Process Referral	Existing	CSC	HRC/HEC/CSC draft referrals and gather relevant material.
3	Veteran Record Management Process			Create/Replace/Update/Delete process of VCG record.
3a	Perform Periodic Monitoring Assessments	Existing	CSC	CSC visits Caregiver and Veteran periodically to check on Veteran's wellbeing. VCG record is updated based on findings from this periodically check.
3b	Change Address/Tier/Health Insurance/Death Related Information as needed	Existing	CSC	CSC update Caregiver and Veteran's record with current address, stipend payment tier, insurance information as necessary
4	Stipend Processing			This process starts with the approval of 10-10CG application to the transmission of payment files to FMS.

Business Process ID	Business Process Name	Type	Owner	Description
4a	Stipend Automatic Calculation and Manual Verification Steps	Existing	CBOPC	CareT, based on the approved 10-10CG application, automatically estimates the stipend amount. CBOPC personnel then verify information on the application in accordance with relevant policies, and make adjustments as needed.
4b	Stipend Payment Processing	Existing	CBOPC	Payment Files are created and sent to Financial Management System.
4c	Process Stipend Changes	Existing	CBOPC	Updates are made to stipend and stipend payment files based on changes made by CBOPC personnel
4c	Stop Stipend Payments	Existing	CBOPC	Stipend payments are terminated based on updates to eligibility.

2.3. Business Benefits

As indicated in both the RSD and BRCD, CareT is intended to address a critical IT need for VA. Without a robust solution to support management of PCAFC, the risk that the current, deficient IT support presents will only continue to increase. An integrated solution like CareT will not only address some of the inherent risks associated with a highly manual process, but will also provide the ability for the VA to more effectively respond to data calls and other inquiries by Congress and other watchdog entities. Given the high level of scrutiny the program faces, it is imperative that the supporting IT provides timely, accurate information, as well as be scalable to meet the growing size of the population it supports.

2.4. Assumptions and Constraints

This section describes the assumptions and constraints that impacted the design of the system.

2.4.1. Design Assumptions

In the course of CareT's design, some assumptions were made about CareT and its future environment:

- Other systems/services in development, such as the Online Application Entry Portal, will be available and deployed at the time of CareT's implementation.
- No changes will be made to the current legislation (e.g., in terms of the population that will be served through the PCAFC).
- Supporting elements, such as power, cooling, and other infrastructure is in place to fulfill system availability requirements.
- CareT SR-549 can be processed by IAM and approved IRSD (Integration Requirements Specification Document) can be provided by IAM for CareT use of the MVI services needed to support the CareT business requirements prior to the Development phase of CareT.
- CareT receives approval from IAM for local storage of Veteran and Caregiver ICNs with local associations between Veterans and their approved Caregivers.
 - Note: this local storage might require CareT to perform "refresh/validation" calls to MVI to confirm identities or replace revoked ICNs with new ones.
- CareT might have to support Caregivers that have NO authenticated identity. This would imply that the Caregiver doesn't have an identity within the MVI and ALL of the Caregiver traits would have to be maintained within the CareT local data storage.
- CareT ATO as well as PMAS milestone 2 approval is obtained prior to the Deployment phase of CareT.
- CAT Rescue is successfully deployed into AITC production with successful data migration from existing CAT systems to include Veteran applications and stipend information. This is required for the CareT data migration plan to migrate CAT RESCUE data from AITC databases into the CareT Oracle database.

2.4.2. Design Constraints

This section outlines the design constraints that must be considered before system development can move forward. At a high level, these include several factors:

- VA Security and Privacy rules and standards
- Time needed to thoroughly discuss requirements before proceeding into design
- Ability of other systems at the VA to support desired CareT functionality/interfaces
- Business owners' requests that certain parts of the process be kept manual, or for certain data to be related less strongly than it possibly could be

More detailed descriptions of these constraints are outlined in the table on the next page.

Table 2: CareT Design Constraints

ID	Design Constraint Title	Design Constraint Description	Additional Information`
1	Selection of Online Application Portal	<p>A suitable option for collecting online applications will need to be selected (or a portal built within CareT) that will then determine the scope of development needed for this piece of the effort. Although some comparison and analysis of options has been done to date (see appendix reference to right), further analysis is ongoing and will be incorporated here accordingly.</p> <p><i>Note: Also discussed in section 2.13. Scope Integration of the RSD.</i></p>	See Appendix B of the RSD for more information about the different functions needed in the portal and the different options currently identified.
2	Maintenance of Separate Veteran Call Record Data	<p>Given the nature of the calls that the CSL handles, it was indicated that call record info should be handled in a separate module, and therefore have a lower level of integration with the VCG. Call record info will only be associated with a VCG record, rather than (for example) being an actual part of the record itself. The major impact this could potentially have is on reporting, as joint reporting between the two systems will be entirely dependent on the manual connections that have (or have not) been made.</p>	As of April 2015, will move forward with the desired lower level of integration, and have CSL information held in a separate module.
3	Access to the Master Veteran Index (MVI) in Order to Check Veteran Enrollment in the Enrollment & Eligibility (E&E) web service.	<p>In order to determine a Veteran's enrollment/eligibility, CareT will need to first interface with the MVI in order to retrieve the Veteran's Master Veteran Index Internal Control Number (MVI_ICN). This number will then be sent to the E&E web service, which will use it to retrieve the Veteran's enrollment status. Since this is the only way to verify the Veteran's eligibility, then it must be accounted for accordingly.</p> <p><i>Note: Also discussed in section 2.13. Scope Integration of the RSD.</i></p>	As of May 2015, meetings have been held with representatives from the E&E web service, and a Service Request has been submitted with IAM. IAM is the Enterprise Shared Service that will provide the MVI_ICN

ID	Design Constraint Title	Design Constraint Description	Additional Information`
4	Inability to Check Veteran Eligibility without Veteran's Master Veteran Index Internal Control Number (MVI_ICN)	Note: Design constraint 4 is closely related to design constraint 3. See above for relevant information regarding this constraint.	

2.4.3. Design Trade-offs

Over the course of CareT conceptual design, numerous high-level design trade-offs were made:

1. System performance and ease of access is reduced in favor of security.

CareT will process an enormous amount of Personal Identifiable Information (PII). PII is governed by multiple VA policies, federal laws, and state laws. CareT, therefore, will implement the necessary security and privacy safeguards to ensure that it complies with the relevant rules and regulations. Security and privacy safeguards may hinder ease of access for the users and system performance.

2. Reliability requirement necessitate redundancy in hardware, software, and other components. This may affect performance and increase complexity of the system.

Several design approaches were taken to meet the stringent reliability and availability requirement, as documented in the BRCD; however, some of these design approaches, such as redundancy, increase the complexity of the system.

3. Automation of manual processes is reduced in favor of having VA personnel make the decision.

VA personnel, during the requirement analysis phase, made the request that some of the final decisions be made by VA users. To accommodate this request, some process will remain manual, whereas others were partially automated.

4. Separate Call Record and Call Entries – CSL specifically made the request that Call Record and underlying Call Entries for all callers to be maintained separate from the main VCG record.

Duplicate records of the same information may increase complexity in database design and reduced system performance and stability.

Note that this list is not exhaustive, and additional design tradeoffs may be identified, (and more detailed trade-off studies may be needed), as the system design is further refined.

2.5. Overview of the Significant Requirements

2.5.1. Overview of Significant Functional Requirements

For purposes of design and architecture, the Functional Requirements expand and elaborate upon the requirements outlined in the CareT BRCD. These elaborated requirements can be found in Section 2.3, Functional Specification, of the CareT RSD, and are organized in terms of epics and user stories. These stories represent the bulk of the analysis conducted to date, and cover the process, start-to-finish, for general, secondary, and primary Caregivers, as well as coverage of certain activities handled by the CSL. It is intended to be exhaustive and reflect all desired, in-scope requirements for CareT. The CareT RSD can be found at [REDACTED]

Below is a list of the CareT epic stories that have been defined with the CareT RSD.

CareT Epic Stories (Business Requirements)

- 2.3.1. CSC - 1010 CG Application Portal TBD, New Applications (Electronic and Paper)
- 2.3.2. CSC - Work Item Queues
- 2.3.3. CSC- Dashboards and Work Item Assignments
- 2.3.4. CSC - Create Veteran's Caregiver Record (VCG Record), Associate Work Items to VCG Record
- 2.3.5. CSC – Work Item Types
- 2.3.6. CSC - Application Processing
- 2.3.7. CSC - Application Disposition
- 2.3.8. CSC - Application Waivers and Appeals
- 2.3.9. CSC – Update Application Information
- 2.3.10. CSC – Update Application Disposition
- 2.3.11. CSC – Application Transfer
- 2.3.12. CSC – Ad-hoc Personalized Letters
- 2.3.13. CSC – Periodic Monitoring Assessment and Facility Calendar
- 2.3.14. CSC – Beneficiary Identification Records Locator Subsystem (BIRLS) Database Check
- 2.3.15. CSC/CBOPC – CareT Internal Messaging System
- 2.3.16. CSC – General Caregiver Information
- 2.3.17. HRC Referrals
- 2.3.18. HEC Referrals
- 2.3.19. CBOPC - Primary and Secondary Queues and Workflow
- 2.3.20. CBOPC - Primary Work Item Processing
- 2.3.21. CBOPC - Vendorization
- 2.3.22. CBOPC - Secondary Work Item Processing
- 2.3.23. CBOPC - Monthly and Weekly Payment Lists
- 2.3.24. CBOPC - Manual Payment, Post Payment Audit and Stipend Budget Amount
- 2.3.25. CBOPC - Yearly BLS Data Import
- 2.3.26. CSL - Call Lists
- 2.3.27. CSL - Call Record, Call Entry and VCG Record Association
- 2.3.28. CareT General Application Requirements

2.5.2. Overview of Functional Workload / Performance Requirements

The performance specifications identified for CareT are primarily based on previous data from the predecessor system, CAT. Adding in an online application capability may lead to higher enrollment than currently anticipated. Further information will be provided that elaborates on the minimum capacity needs for CareT.

The CareT Caregiver tracking tool is intended for VA staff use and the user population and workload are:

VA staff CSL, CSC, CBOPC, HEC, HRC – 3,600 users expected to grow to 7,200.
Capacity planning : accommodate 1,000 concurrent users
Current production application documents – 20,000
Projected new applications – 500 / month

Below are the minimum performance specifications identified for CareT:

- **No. of Simultaneous Users Supported:** The CAT currently supports approximately 3,600 users (CSCs, admins, etc.) and significant growth in this number is expected once CareT comes online. For scale, it is also important to note that there are currently ~21,000 active applications in the CAT, with this number also expected to increase significantly once CareT and the online application portal come online.
- **Peak Times:** Users will primarily be using the read, write, and report capabilities of CareT during the estimated peak hours of 8am –11pm MST, Monday through Friday, as well as weekends and Federal holidays.
- **Predicted Annual Growth in Users:** It is anticipated that the number of simultaneous users who will need to be supported by CareT could double in two years to ~7200.

In terms of capacity specifications:

- **Business Transaction Size:** The predicted average size of a business transaction is 30 KB per transaction.
- **Current CAT Data Size (for Reference):** 136 GB.
- **No. of Transactions per Day and Response Time:** Normal user loads will be 1,000 simultaneous user requests, with peak number of transactions expected to grow as enrollment increases.
- **Response Time:** For normal user loads, the system will be expected to respond to user actions within three seconds (or less) 95 percent of the time, and within 5 seconds or less 90 percent of the time during peak loads.

Additional details about the performance requirements for CareT can be found in Section 2.10, Performance Specifications, of the CareT RSD.

2.5.3. Overview of Operational Requirements

Table 3: CareT Operational Requirements

ID	Requirement
New1	System response times shall be minimized and page load times shall be consistent with MyHealthVet and VA like-system standards.
New2	Maintenance, including maintenance of externally developed software incorporated into the CareT application, shall be scheduled during off-peak hours on Sundays only, and in conjunction with relevant maintenance schedules.
NONF1608	Information about response time degradation resulting from unscheduled system outages and other events that degrade system functionality and/or performance shall be disseminated to the user community within 30 minutes of the occurrence. The notification shall include the information described in the current Automated Notification Reporting (ANR) template maintained by the VA Service Desk. The specific business impact must be noted in order for Office of Information and Technology (OI&T) to provide accurate data in the service impact notice of the ANR.
NONF1609	Provide a real-time monitoring solution to report agreed/identified critical system performance parameters.
NONF2820	Critical business performance parameters shall be consistent with current industry standards in relation to transaction speed, response time for screen display/refresh, data retrieval, etc. in a manner that data capture can occur to support metric reporting and support the OI&T performance dashboard display.
NONF1610	Notification of scheduled maintenance periods that require the service to be offline or that may degrade system performance shall be disseminated to the business user community a minimum of 48 hours prior to the scheduled event.

2.5.4. Overview of the Technical Requirements

Below is an overview of technical requirements that drive conceptual design of CareT. This information is also available in Section 2.5, Non-Functional and Enterprise Requirements, of the CareT RSD.

Table 4: CareT Technical Requirements

ID	Requirement
ENTR104	Application/Services shall use the VA Enterprise Terminology Services (VETS) as the authoritative source to access clinical reference terminology.

ID	Requirement
ENTR105	Applications recording the assessments and care delivered in response to an Emergency Department visit shall conform to standards defined by the Veterans Health Administration (VHA)-endorsed version of C 28 – Health Information Technology Standards Panel (HITSP) Emergency Care Summary Document Using Integrating the Healthcare Enterprise (IHE) Emergency Department Encounter Summary (EDES) Component.
ENTR106	Applications exchanging data summarizing a patient's medical status shall conform to standards defined by the VHA-endorsed version of C 32 – HITSP Summary Documents Using Health Level Seven (HL7) Continuity of Care Document (CCD) Component.
ENTR103	Application/services shall reference the Standard Data Services (SDS) as the authoritative source to access non-clinical reference terminology.
NONF2229	A monitoring process shall be provided to ensure that data is accurate and up-to-date and provides accurate alerts for malfunctions while minimizing false alarms.
NEW	Data protection measures, such as back-up intervals and redundancy shall be consistent with systems categorized as mission essential.
NONF1614	The IT solution shall be designed to comply with the applicable approved Enterprise Service Level Agreement (SLA).

2.5.5. Overview of the Security or Privacy Requirements

Below is an overview of security and privacy requirements that drive conceptual design of CareT.

Table 5: CareT Security Requirements

ID	Requirement
ENTR100	<p>All VA security requirements will be adhered to. Based on FIPS 199 and NIST SP 800-60, recommended Security Categorization is Moderate.</p> <p>The Security Categorization will drive the initial set of minimal security controls required for the information system. Minimum security control requirements are addressed in NIST SP 800-53 and VA Handbook 6500, Appendix D.</p>
ENTR10	<p>All VA Privacy requirements will be adhered to. Efforts that involve the collection and maintenance of individually identifiable information must be covered by a Privacy Act system of records notice.</p>
ENTR95	<p>All Section 508 requirements will be adhered to. Compliance with Section 508 will be determined by fully meeting the applicable requirements as set forth in the VHA Section 508 checklists (1194.21, 1194.22, 1194.24, 1194.31 and 1194.41, or as otherwise specified. Checkpoints will be established to ensure that accessibility is incorporated from the earliest possible design or acquisition phase and successfully implemented throughout the project.</p>
ENTR8	<p>All Enterprise Identity Management requirements will be adhered to. These requirements are applicable to any application that adds, updates, or performs lookups on persons.</p>
<p>Health Insurance Portability and Accountability Act (HIPAA) Security Rule Requirement Text</p>	<p>Specific HIPAA Guidance/Reference</p> <p>Risk Management - Implement security measures sufficient to reduce risks and vulnerabilities to a reasonable and appropriate level to comply with §164.306(a)</p> <p>HIPAA Security Series 6 (Basics of Risk Analysis & Risk Management), HIPAA Security Series 2 (Security Standards: Administrative Safeguards)</p>
<p>HIPPA Volume 2 Paper 4 -1</p>	<p>Information Systems shall validate a user's right of access (authorization) to Electronic Protected Health Information (ePHI)</p>
<p>NIST Special Publication 800-53 – 1</p>	<p>Information System shall monitor user log-in attempts</p>
<p>NIST Special Publication 800-53 – 2</p>	<p>Information system shall notify user of invalid log-in attempts</p>
<p>NIST Special Publication 800-53 - 3</p>	<p>Information Systems shall enforce a limit to the number of consecutive invalid user log-in attempts during a specified time period</p>

ID	Requirement
NIST Special Publication 800-53 - 4	Information Systems shall log user log-in attempts
NIST Special Publication 800-53 - 5	Information System shall provide capability to create passwords
NIST Special Publication 800-53 - 6	Information System shall provide capability to change passwords
NIST Special Publication 800-53 - 7	Information System shall safeguard passwords
HIPAA Security Series Volume 2 Paper 4 -2	Information System shall implement an electronic mechanism that allows only authorized entities access to ePHI
HIPAA Security Series Volume 2 Paper 4 -3	Information System shall assign a unique name and/or number to identify a user
HIPAA Security Series Volume 2 Paper 4 -4	Information System shall use a unique name and/or number to track a user
HIPAA Security Series Volume 2 Paper 4 -5	Information System shall implement a process to allow access to necessary ePHI during an emergency
HIPAA Security Series Volume 2 Paper 4 -6	Information System shall implement electronic mechanism to terminate an electronic session after a predetermined time of inactivity
HIPAA Security Series Volume 2 Paper 4 -7	Information System shall implement mechanism to encrypt and decrypt electronic protected health information

ID	Requirement
HIPAA Security Series Volume 2 Paper 4 -8	Information System shall record activity in information systems that contain or use electronic protected health information.
HIPAA Security Series Volume 2 Paper 4 -9	Information System shall examine activity in information systems that contain or use electronic protected health information.
HIPAA Security Series Volume 2 Paper 4 -10	Information System shall implement an electronic mechanism to protect ePHI from improper alteration
HIPAA Security Series Volume 2 Paper 4 -11	Information System shall implement an electronic mechanism to protect ePHI from improper destruction
HIPAA Security Series Volume 2 Paper 4 -12	Information System shall implement electronic mechanism to verify that ePHI has not been altered in an unauthorized manner
HIPAA Security Series Volume 2 Paper 4 -13	Information System shall implement electronic mechanism to verify that ePHI has not been destroyed in an unauthorized manner
HIPAA Security Series Volume 2 Paper 4 -14	Information System shall implement electronic mechanisms to authenticate a user
HIPAA Security Series Volume 2 Paper 4 -15	Information System shall implement mechanisms to guard against unauthorized access to electronic protected health information during transmission.
HIPAA Security Series Volume 2 Paper 4 -16	Information System shall implement mechanisms to verify that electronically transmitted electronic protected health is not improperly modified during transmission.

ID	Requirement
HIPAA Security Series Volume 2 Paper 4 -17	Information System shall implement mechanisms to encrypt electronic protected health information during transmission
HIPAA Security Series Volume 2 Paper 4 -18	Information system shall implement electronic mechanisms to authenticate an interfacing system or other entity
HIPAA Security Series Volume 2 Paper 4 -19	Information system shall implement mechanisms to encrypt electronic protected health information at rest on mobile devices or removable electronic media

2.5.6. Overview of System Criticality and High Availability Requirements

CareT, as specified in the BRCD, shall maintain availability for 365 days a year, 24 hours a day, 7 days a week, except for scheduled maintenance. This translates to system operational availability (A_0) of 99.9%, with a maximum allowable (non-scheduled) down time of 43.2 minutes/month, or 518.4 minutes/year. The Mean Time between Failures (MTBF) of CareT should at least be comparable to the current tool – CAT. Further information will be made available in the Disaster Recovery Plan (DRP) once available.

As the CareT solution approaches the production deployment phase the EO AITC will provide details required for specifying the CareT disaster recovery plan.

2.5.7. Single Sign-on Requirement

Identity and Access Management (IAM) will be used for the credentialing and authentication of CareT users. Additional detail will be provided at a later date, pending further engagement with the IAM team.

2.5.8. Requirement for Use of Enterprise Portals

Below is an overview of requirement for use of enterprise portals that drive conceptual design of CareT. AccessVA, Vets.gov, and MyHealtheVet are potential enterprise portals that may be used in the future.

Table 6: CareT Enterprise Portal Usage Requirements

ID	Requirement
NONF1614	The IT solution shall be designed to comply with the applicable approved Enterprise SLA.

2.5.9. Special Device Requirements

No Special Device is expected to be used for CareT.

2.6. Legacy System Retirement

As indicated previously, CareT is a replacement to CAT. CAT is currently still operational and will be for the foreseeable future. In conjunction with the development of CareT, it will be deprecated, however, and this section will be updated accordingly:

Table 7: CareT Proposed Legacy System Retirements

Legacy System or Legacy System Component	System Retired or Workload Reduced	Quantify the Workload Reduction
CAT	CAT	100% reduction in workload

3. Conceptual Design

This section of the SDD provides details about the following topics:

- Conceptual Application Design
- Conceptual Data Design
- Conceptual Infrastructure Design

3.1. Conceptual Application Design

This section provides the conceptual design of CareT.

3.1.1. Application Context

The following figure represents the context in which the CareT system will exist, and how it will work with actors, systems, and other enterprise shared services to achieve the goals that have been outlined (e.g., improved data integrity, ease of reporting, etc.). This can be thought of as a “black-box” view of CareT.

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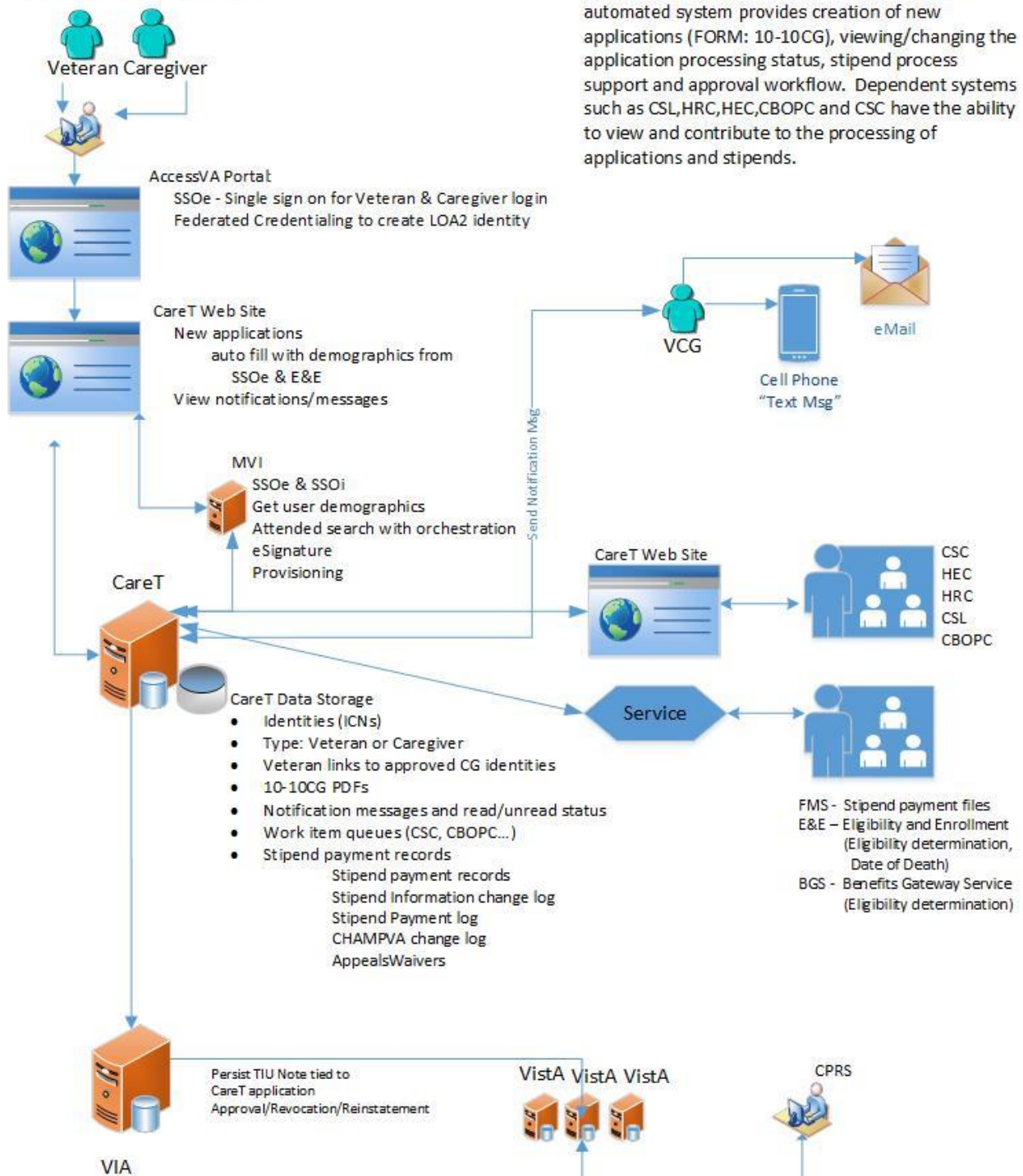


Figure 2: CareT System Context Diagram

CareT System Context Diagram Narrative: Applicants (Veterans/Caregivers) will fill out the 10-10CG application via the Online Application Portal. An application can also be submitted via mail, fax, and in-person at various VA medical centers. Once the application is completed, the 10-10CG application is sent to CareT for processing. CareT will then retrieve applicant information such as eligibility, enrollment, and insurance information from other systems. CSC will evaluate the application and approve (or disapprove) based on the 10-10CG application and other relevant information. CSC may also get referrals from the CSL, the HRC or the HEC. These referrals are translated into work items for the CSC. Once the 10-10CG application is approved by the CSC, they will create a stipend work item and notify CBOPC. Then CBOPC will begin to process the stipend work item and set up stipend payments for the applicant. In addition to CSCs and CBOPC personnel, CSL personnel will provide application assistance and referrals to Veteran/Caregivers via CareT.

The table below describes the information in the System Context Diagram in four sections. Note that the system for which this design applies is represented by a single object (typically in the center of the diagram). Therefore, it is not referred to in the table below:

Table 8: CareT System Context Diagram - Object Descriptions

Name	Description	Interface Name	Interface System
<<System>> Online App Portal	Online Application Portal is a “to-be” system that enables applicants (Veteran/Caregivers) to fill out and submit 10-10CG applications	CareT/ Online App Portal (AccessVA/Vets.gov/MyHealthet)	Online App Portal
<<User>> CSL	CSL is one of the primary users of the CareT system.	User Interface	CareT
<<User>> CBOPC	CBOPC is one of the primary users of the CareT system.	User Interface	CareT
<<User>> HRC	HRC sends Veterans referrals to CSCs via CareT.	User Interface	CareT
<<User>> CSC	CSC is one of the primary users of the CareT system. The CSC is responsible for the processing and approval of the 10-10CG application.	User Interface	CareT
<<System>> Computerized Patient Record System (CPRS)	CareT sends CPRS notes to VistA via 10-10CG Application status changes and call to VIA for TIU Note data persistence at the Veteran’s facility.	CareT/VIA/VistA-CPRS	VIA/VistA
<<System>> Financial Management System (FMS)	This system, or group of systems, is responsible for the processing and distribution of stipend payments to Veteran/Caregivers.	CareT/Payment Source (FMS or Other Systems)	FMS

Name	Description	Interface Name	Interface System
<<Service>> Identity and Access Management (IAM)	<p>This system /service will provide CareT with applicant's MVI_ICN. This number enables CareT to retrieve the applicant's enrollment status. In addition, IAM will also provide user authentication and credentialing.</p> <p>CareT Online Portal SSOe AccessVA Login AccessVA Federated Credentialing SearchPerson eSignature</p> <p>CareT SSOi SearchPerson getCorrespondingIDs Provisioning</p> <p>Future: subscribe for Veteran trait updates Future: Relationship management service</p>	CareT/IAM	IAM
<<Service>> Eligibility and Enrollment	This system provides applicant enrollment/eligibility information to CareT.	CareT/ Eligibility and Enrollment	Enrollment & Eligibility Service
<<User>> HEC	HEC sends Veteran referrals to CSCs via CareT.	User Interface	CareT
<<System>> Benefit Gateway Service (BGS)	BGS provides VBA eligibility information	CareT/BGS	BGS
<<System>> CDW	CareT provides Caregiver Status to BeneTravel via the CareT/VIA/VistA persistence of TIU notes for application approval/revocation/reinstatement	CareT/VIA/VistA/CDW	CDW

Table 9: Interfaces External to OIT

Name	Related Object	Input Messages (to CareT)	Output Messages (from CareT)	External Party

Name	Related Object	Input Messages (to CareT)	Output Messages (from CareT)	External Party
CareT/ Financial Management System	<<Systems>> Financial Management System (FMS)	Stipend Payment File	Stipend Payment Response File	Financial Management System (FMS)
CareT/Identity and Access Management	<<System>> Identity and Access Management	SSOe/SSOi or traits	MVI_ICN	IAM
CareT/Eligibility and Enrollment	<<Service>> Eligibility and Enrollment	MVI_ICN	Applicant Eligibility and Enrollment Information And Date of death	Enrollment & Eligibility Service
CareT/BGS	<<Service>> BGS	VBA id	VBA eligibility	BGS
CareT/VistA/BeneTravel/CDW	<<System>> CDW		TIU Note and Caregiver Status	CDW

Table 10: Interfaces Internal to OIT

Name	Related Object	Input Messages (to CareT)	Output Messages (from CareT)	Internal Party
CareT/ Online App Portal	<<System>> Online App Portal (AccessVA)	10-10CG Application.	10-10CG Application Veteran and CG Notifications	AccessVA/Vets.gov
User Interface	<<User>> CSL	User Commands Call Records/Call Entry	VCG Records Call Record, CareT Configuration	CSL

Name	Related Object	Input Messages (to CareT)	Output Messages (from CareT)	Internal Party
User Interface	<<User>> CBOPC	VCG Record Modification User Cmds. Yearly Bureau of Labor Statistics (BLS) Rate File	VCG Records Work Item CareT Configuration	CBOPC
User Interface	<<User>> HRC	HRC Referral		HRC
User Interface	<<User>> CSC	Application Processing Information Application Information User Commands	Application Status VCG Records Work Item CareT Configuration	CSC
CareT/VistA-CPRS	<<System>> VistA-CPRS		CPRS Notes	VistA
User Interface	<<User>> HEC	HEC Referral		HEC

3.1.2. High-Level System Design

The High-Level System Design/Functional Hierarchy diagram below identifies the major functions of the CareT system and their respective interactions with internal and external entities. These major functions are based on CSC, CBOPC, HRC, HEC, and CSL’s needs as articulated in the BRCD and the RSD, and there are additional, more granular layers of functions that can be found in diagrams in the appendix. Unlike the previous diagram, this one shows a “gray-box” view of CareT, decomposing the single entity in the CareT System Context diagram into its relevant pieces. These pieces are further described in a table below the diagram:

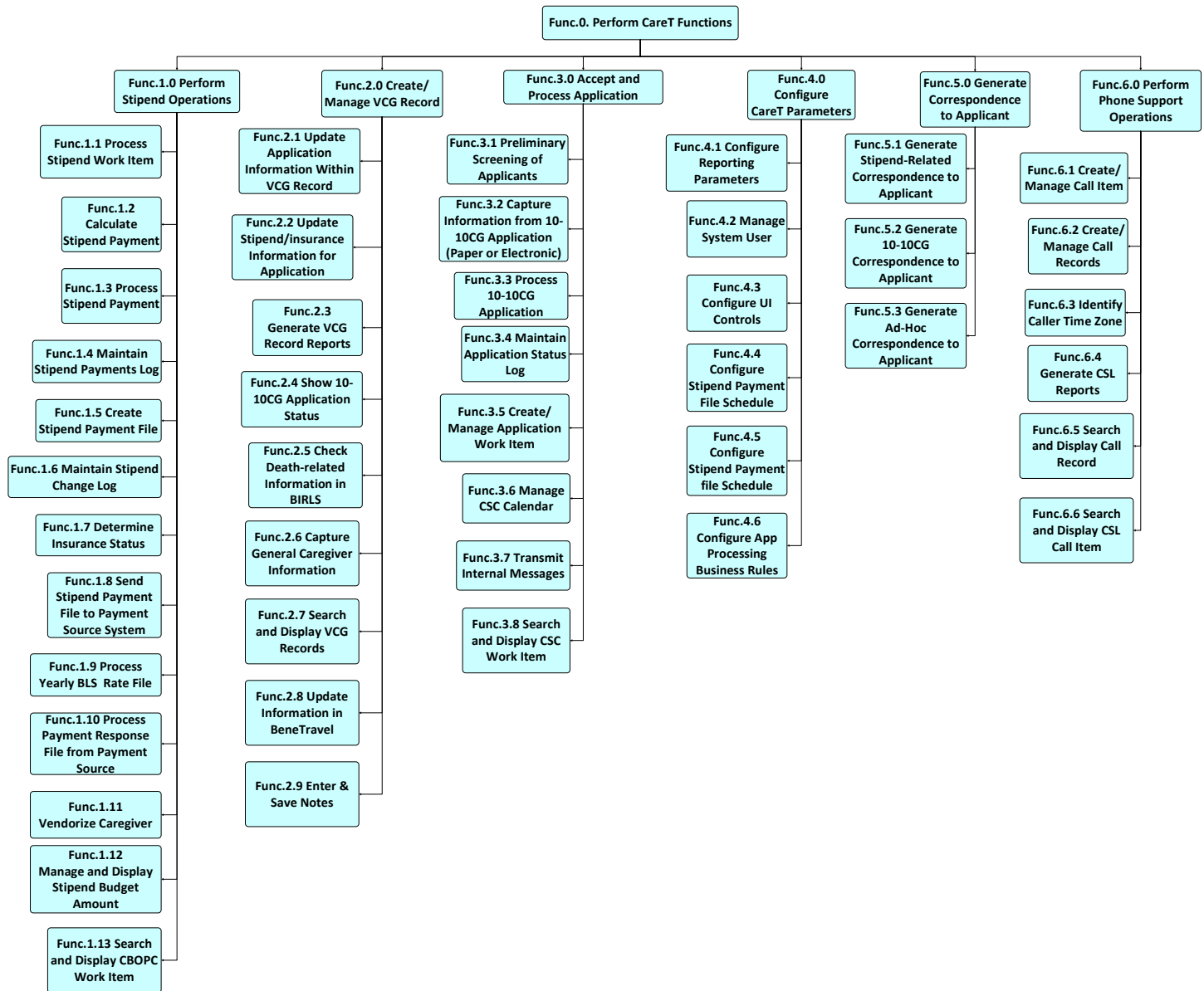


Figure 3: CareT High-Level System Design/Functional Hierarchy Diagram

Table 11: CareT Functions in the High-Level Functional Hierarchy Diagram

ID	Name	Description	Input	Output	Interface
Func.1.0	Perform Stipend Operations	This function includes CareT functionalities that enable CBOPC to perform stipend operations. The functional areas are stipend payment calculation, stipend payment processing, stipend payments history, payment schedule, determine CHAMPVA status, and correspondence history. This function requires Veteran/Caregiver records and application approval information as input. The output of this function is stipend payment files and stipend correspondence.	Applicant Status Stipend Work Item Stipend Payment Response File Yearly BLS File Stipend Payment Response File	Stipend Payment File Correspondence Request Stipend Payment Information CPRS Notes Vendorized Caregiver Information	CareT/FMS CareT/VistA-CPRS Func.2.0 (Internal) Func.3.0 (Internal) Func.5.0 (Internal)
Func.2.0	Create/Manage VCG Record	This function covers CareT's ability to create, modify, and manage Veteran and Caregiver Records. In addition, CareT will also capture demographic, eligibility, and military service information from the paper 10-10CG application and other sources. The input of this function is the 10-10CG application and data from other information systems. The output of this function is Veteran/Caregiver records/record modification and work items.	Application Info & Status VCG Record Information Stipend Payment Information Correspondence CSL Referral	Work Item (to D1) VCG Records Caregiver Status	Users (CSC, CBOPC, CSL) Func.1.0 (Internal) Func.3.0 (Internal) Func.5.0 (Internal) Func.6.0 (Internal) D1 (internal storage)

ID	Name	Description	Input	Output	Interface
Func.3.0	Accept and Process 10-10CG Application	<p>This function covers the acceptance and preliminary processing of electronic and paper 10-10CG applications. CareT will extract and store information from electronic and paper 10-10CG applications. In addition, CareT will provide application work items to VA personnel and application submission confirmation to applicants. The input of this function is applicant information and data from other information systems. The output of this function is the 10-10CG application and applicant work items.</p> <p>This function also covers CareT's ability to assist VA personnel in processing 10-10CG applications. CareT will provide capabilities such as preliminary screening of applicants, a comprehensive application processing dashboard, and a work queue for each line of business (CSC, CBOPC, and CSL). The input of this function is the 10-10CG application and data from other information systems. The output of this function is application approval/status changes and applicant information.</p>	10-10CG Application Applicant Information Application Processing Information Veteran MVI_ICN Veteran Eligibility & Enrollment Information HRC Referral HEC Referral Veteran Death Related Information	VCG Record Information Correspondence Request Application Information & Status Applicant MVI_ICN Stipend Work Item Work Item Application Status SSN	CareT/Online App Portal CareT/Eligibility & Enrollment CareT/Identity and Access Management Users (CSC, HRC, HEC) Func.1.0 (Internal) Func.3.0 (Internal) Func.5.0 (Internal) D1 (internal storage)
Func.4.0	Configure CareT Parameters	<p>This function enables VA personnel to configure CareT system parameters. This function is pertinent to all lines of business, as user interface configuration is performed via Func.4.0. The input for this function is user commands. The output is the desired CareT system configurations.</p>	User Commands	CareT Configuration	Users (CSC, CBOPC, CSL)

ID	Name	Description	Input	Output	Interface
Func.5.0	Generate Correspondence to Applicant	This function covers the CareT capability to auto-generate correspondence to Applicants (Caregivers and/or Veteran). Correspondences are typically generated when a 10-10CG is approved; when a new Monthly Stipend Payment is approved and each time a stipend payment is processed; when a Caregiver's status is changed; or for other, ad-hoc reasons, as outlined in the RSD. Note that VA personnel also have the ability to modify the auto-generated correspondence and tailor it for a given purpose. The inputs for this function are action triggers, such as application status change (approval/disapproval) or change in stipend payment. The output is correspondence to applicant.	Correspondence Request	Correspondence	Func.1.0 (Internal) Func.2.0 (Internal) Func.3.0 (Internal)
Func.6.0	Perform Phone Support Operations	This function covers CareT functionalities that enable the CSL to provide phone support for Veterans and Caregivers. CareT will provide CSLs with the ability to record caller disposition, make notes, accept Call Items from Call Lists., and refer callers to appropriate VA personnel for further assistance. The input for this function is call entries and referrals. The output is CSL records.	Call Entry	Call Record/Call Entry CSL Referral	User (CSL) Func.2.0 (Internal) D2 (Internal Storage)

Table 12: CareT Internal Data Stores

ID	Name	Data Stored	Steward	Access
D1	VCG and Work Item Database	Veteran/Caregiver Records and Work Item	CareT, CSC, CBOPC	Create/Modify/Update/Delete
D2	Call Record & Call Item Database	Call Record and Call Item	CareT, CSL	Create/Modify/Update/Delete

Based on the functional hierarchy, models were created to describe how these abstract functions will interact with each other, and what information is transformed by them. The outcome of this analysis is aggregated in the Data Flow Diagram below. Note that the definitions and functional flow diagrams (FFDs) for lower-level functions are documented in Appendix A.4.

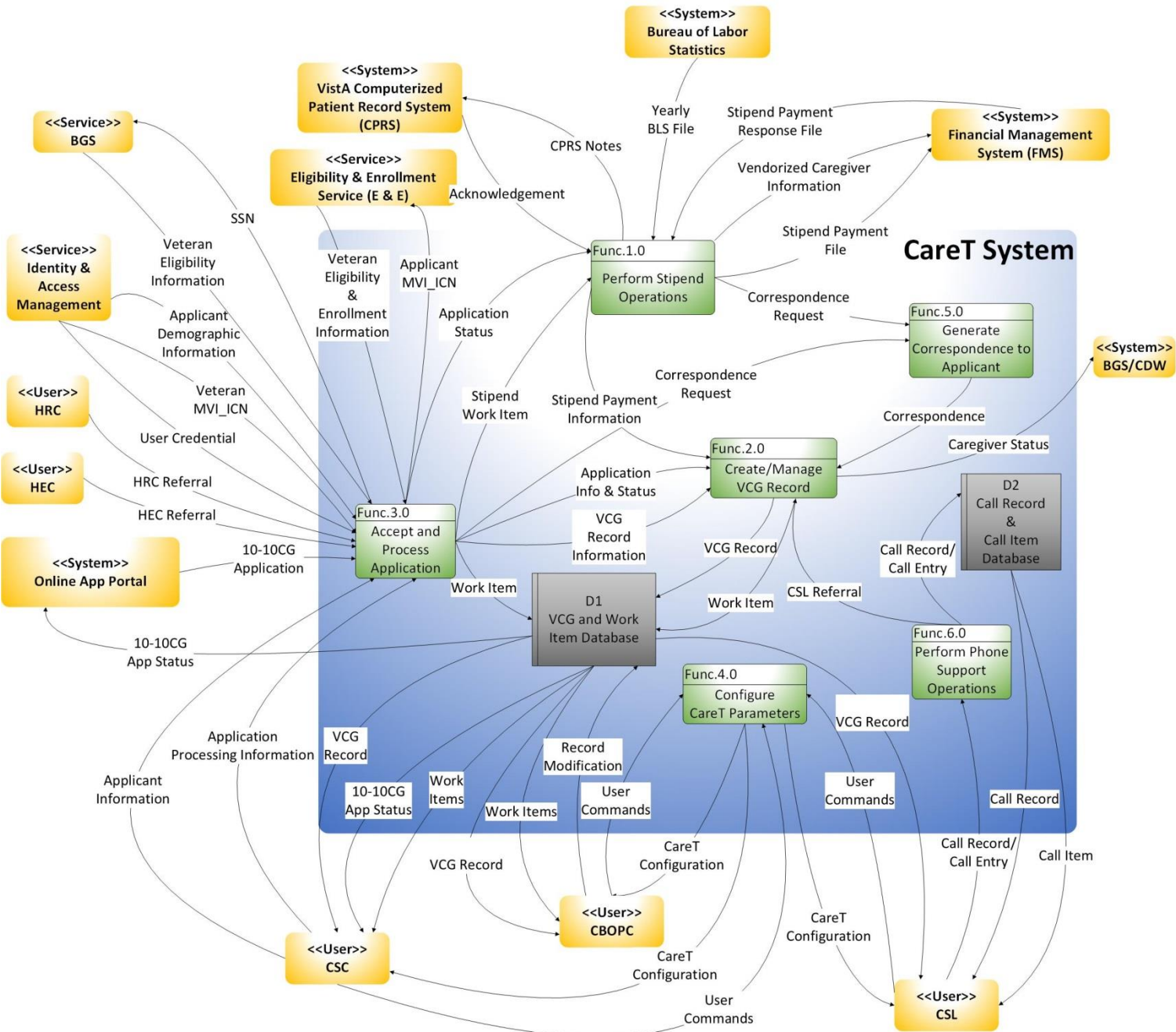


Figure 4: CareT Data Flow Diagram

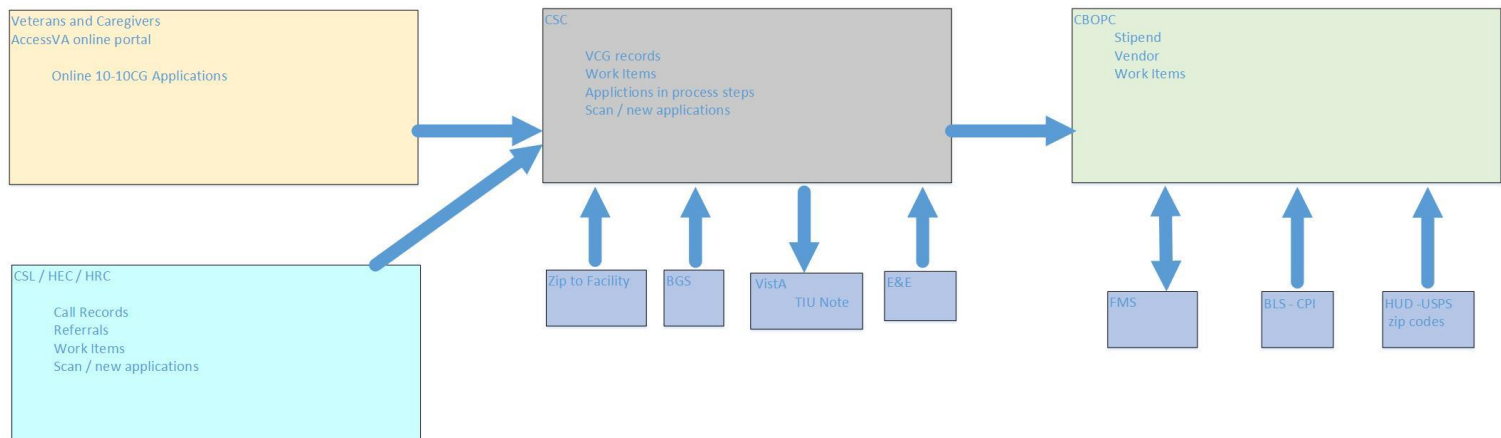


Figure 6: CareT Data Flow Between Business Segments

3.1.3. Application Locations

Additional details will be provided at a later date, pending VA input and review.

Table 10: CareT Application Locations

Application Component	Description	Location at Which Component is Run	Type
CareT online Portal	Supports the CareT business requirements for Veterans and Caregivers to submit electronic 10-10CG forms	AITC	Web Portal
CareT Portal	Supports the CareT business requirements for VA staff to support the processing of 10-10CG applications and stipend payments	AITC	Web Portal

Figure 5: CareT Project Conceptual Data Model demonstrates how data objects within the CareT system are (or will be) used and how they are (or will be) related to one another. [Section 5.0 Data Design](#) provides a more detailed view of the CareT data elements.

Stipend Payment Information, and Correspondence largely resemble those between Benefits Data entities.

3.2.2. Database Information

The CareT data model contains the various data structures and relationships needed to fulfill the CareT RSD requirements and in support of the CareT architectural design of both the CareT online portal and the CareT application. Table 13 list the major database inventory items.

Table 13: CareT Database Inventory

Database Name	Description	Type (C/R/U/D)	Steward
Online portal applications	Storage needed to capture the multi stage data entry required for the 10-10CG form	Create/Modify/Update/Delete	CareT
VCG Database	Primary repository for all VCG Records	Create/Modify/Update/Delete	CareT/CBOPC/CSC
Call Records Database	Primary repository for Call	Create/Modify/Update/Delete	CSL
Referral Records	Repository for referral work items to CSC	Create/Modify/Update/Delete	CSL/HEC/HRC/CSC
Stipend records	Repository of the Caregivers that have been approved for stipend payments	Create/Modify/Update/Delete	CBOPC
Stipend Payments	Audit of all of the FMS processed CareT stipend payments	Create/Modify/Update/Delete	CBOPC
BLS Records	Stipend payment rates for Caregivers based on Veteran zip code	Create/Modify/Update/Delete	CBOPC
CareT work items	All inter role messaging related to processing applications and stipend payments	Create/Modify/Update/Delete	CSL/HEC/HRC/CSC/CBOPC

3.2.3. User Interface Data Mapping

This section describes and defines the format and information that will be available for users of the product to be able to enter data into the database or to retrieve information from the database, if applicable. User Interface (UI) wireframes for CareT are currently being developed and will be outlined in the CareT RSD, Section 2.8, Graphical User Interface (GUI) Specifications. These will provide mocked-up versions of the screens and progression through the system that users can expect to see.

Below is a table of the existing user interface wireframes and how these screens impact the CareT data model.

User Interface	SDD Section	Data Mapping
CSP-CareT UI Wireframes - CBOPC Monthly and Weekly Stipend Processing UI	8.4.1.1	VCG, Stipend, Stipend Payments, BLS, Work Items
CSP-CareT UI Wireframes - CBOPC Work Item and Dashboard UI	8.4.1.2	VCG, Stipend, Stipend Payments, BLS, Work Items
CSP-CareT UI Wireframes - CSC Application Enter Search and Process	8.4.1.3	Applications, VCG, Call Records, Referral Records, Work Items
CSP-CareT UI Wireframes - CSC Create VCG Record	8.4.1.4	Applications, VCG, Call Records, Referral Records, Work Items
CSP-CareT UI Wireframes - CSC Work Item and Dashboard UI	8.4.1.5	Applications, VCG, Call Records, Referral Records, Work Items
CSP-CareT UI Wireframes - CSL Call Record Entries and Referral UI	8.4.1.6	VCG, Call Records, Referral Records, Work Items
CSP-CareT UI Wireframes - CSL Centralized Call List UI	8.4.1.7	VCG, Call Records, Referral Records, Work Items
CSP-CareT UI Wireframes - HRC-HEC Referral UI	8.4.1.8	VCG, Call Records, Referral Records, Work Items
CSP-CareT UI Wireframes - Veteran and Caregiver Online Portal UI	8.4.1.9	Applications

3.3. Conceptual Infrastructure Design

3.3.1. System Criticality and High Availability

CareT, as specified in the BRCD, shall maintain availability for 365 days a year, 24 hours a day, 7 days a week, except for scheduled maintenance. This translates to system operational availability (A_0) of 99.9%, with a maximum allowable (non-scheduled) down time of 43.2 minutes/month, or 518.4 minutes/year. The MTBF of CareT should be at least comparable to the current tool, CAT.

To ensure that CareT meets these reliability and availability requirements, CareT may utilize several design strategies:

- 1) Redundancy in both hardware components and software processing modules.
- 2) Conduct fault-tree analysis and determine potential failure modes for CareT.
- 3) Reuse of implemented service/code/database.

Redundancy enables CareT to perform its functions in the event of error/failure in one or more parts of the system. This applies to both hardware and software of CareT. Hardware that supports CareT (workstations, servers, etc.) should be redundant to guard against failure of critical equipment. The same logic applies to the software portion of CareT as well. Software components that perform critical CareT system functions should also have redundant or alternative pathways to complete these functions.

In order to mitigate the possibility of software failure, fault-tree analysis should also be conducted to identify potential failure modes of CareT. These potential failure modes should be tracked and mitigated as the system development progresses.

Finally, reuse of implemented services/code/databases should be done to minimize development time and integration difficulty. CareT should reuse services, database, and other software/hardware components as much as feasible.

In addition to system availability, CareT will follow VA guidance on contingency planning and disaster recovery. Detailed specifications can be found in the CareT RSD, Section 2.4, Disaster Recovery Specifications.

3.3.2. Special Technology

CareT application stack

1. Red Hat Linux 6 (64-bit OS)
2. Java version 1.6
3. Weblogic 12.c application server
4. Liferay 6.2 portal framework
5. Oracle DB 12c

Tools, Technologies and Uses

Tool	Used For	Ver.	Type	License #	License Administered By
Ant	Building software	1.6.5	Development Only	Apache Software License	Apache - http://ant.apache.org/
Ant Apache RegEx	Regular Expressions	1.6.5	Development Only	Apache Software License	Apache - http://ant.apache.org/
Commons-beanutils	Easy-to-use wrappers around the Java reflection and introspection APIs.	1.7.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-chain	"Chain of Responsibility" pattern implementation.	1.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-cli	Command Line arguments parser.	1.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-codec	General encoding/decoding algorithms (for example phonetic, base64, URL).	1.3	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-collections	Extends or augments the Java Collections Framework.	3.2	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-dbcp	Database connection pooling services.	1.2.1	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-digester	XML-to-Java-object mapping utility.	1.8	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-discovery	Tools for locating resources by mapping service/reference names to resource names.	0.2	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-el	Interpreter for the Expression Language defined by the JSP 2.0 specifications.	1.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-email	Library for sending e-mail from Java.	1.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-fileupload	File upload capability for your servlets and web applications.	1.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-httpclient	Framework for working with the client-side of the HTTP protocol.	3.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-io	Collection of I/O utilities.	1.2	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-lang	Provides extra functionality for classes in java.lang.	2.1	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-logging	Wrapper around a variety of logging API implementations.	1.1	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-pool	Generic object pooling component.	1.2	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Commons-validator	Framework to define validators and validation rules in an xml file.	1.3.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Eclipse	IDE	3.2	Development Only	Eclipse Public License - v 1.0	http://www.eclipse.org/org/documents/epl-v10.php
Itext	Java PDF Utility	1.3.1	Development Only	GNU Affero General Public License version 3.	http://info.itextpdf.com/licensing

Tool	Used For	Ver.	Type	License #	License Administered By
Java	Programming language	1.5.0 (Dev Builds) 1.6.0 Build#71 (Dev & production)	Development, Production	Proprietary	http://www.oracle.com/technetwork/java/javase/terms/license/index.html
Jmock	create mock objects to support unit testing of java code	1.0.1	Development Only	jMock Project License	http://jmock.org/license.html
JMS (Sun)	Java messaging	1.0.2	Development, Production	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Junit & Junit-addons	Unit testing	3.8.2 / 1.4	Development Only	Common Public License Version 1.0	http://opensource.org/licenses/eclipse1.0.txt
Liferay enterprise	Portal framework	6.2	Development, Production	Liferay license	Obtainable through AITC
Log4j	Process logging	1.2.14	Development, Production	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Pull Parser	incremental XML parser	2.0	Development Only	LGPL license	http://www.extreme.indiana.edu/xgws/oap/xpp/download/PullParser2/LICENSE.txt
Quartz	Job scheduling utility	1.5.0-RC1	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Rational Team Concert (Jazz)	Change Management Tool	4.0.5	Development Only	Client Access License	VA Rational Tools Team
Rational Quality Manager	Change Management Tool	4.0.5	Development Only	Client Access License	VA Rational Tools Team
Rational Requirements Composer	Change Management Tool	4.0.5	Development Only	Client Access License	VA Rational Tools Team
RedHat	Operating System	6.0	Development, Production	Obtainable through Terremark	Obtainable through Terremark
WebLogic Platforms	WL Application Server, Portal Server, Workshop IDE	10.3.2 (MHV) 10.3.5 (SM) 12.1.2.0.0 (PHR-R)	Development, Production	Obtainable through Terremark	Obtainable through Terremark
Woodstox	StAX-compliant (JSR-173) Open Source XML-processor	3.0.1	Development Only	BSD License	http://www.opensource.org/licenses/license.php
Xalan	XSLT processor	2.6.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
Xerces	XML processing utilities	2.0.2	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
XMLbeans	XML binding framework	2.3.0	Development Only	Apache License, Version 2.0	http://www.apache.org/licenses/LICENSE-2.0.txt
XMLSchema (Apache)	manipulate and generate XML schema representations	1.1	Development Only	GNU Lesser General Public License LGPL v3	http://www.gnu.org/licenses/lgpl-3.0

3.3.3. Technology Locations

Additional details will be provided at a later date by the developer, pending VA input and review.

3.3.4. Conceptual Infrastructure Diagram

The CareT EO AITC infrastructure diagram is pending EO SLAM processing and will be available prior to the CareT PMAS milestone 1 review.

3.3.4.1. Location of Environments and External Interfaces

Below is a table of the CareT and external system environment locations:

System	Location
CareT online portal	AITC (Austin Information Technology Center)
CareT	AITC (Austin Information Technology Center)
FMS	AITC (Austin Information Technology Center)
BGS	Corporate Franchise Data Center
E&E	AITC (Austin Information Technology Center)
IAM	AITC (Austin Information Technology Center)
VIA	PITC (Philadelphia Information Technology Center) AITC (Austin Information Technology Center)
VistA	All VAMCs

3.3.4.2. Conceptual Production String Diagram

The CareT EO AITC Conceptual Production String Diagram is pending EO SLAM processing and will be available prior to the CareT PMAS milestone 1 review.

4. System Architecture

The CareT system architecture is represented by software, hardware, and network architectures. The software architecture describes the software layers and components of CareT; the hardware architecture describes the physical components that will run the software components; and the network architecture describes the connections between the hardware components.

4.1. Hardware Architecture

CareT will be hosted in the Enterprise Operation Environment. The developer will formulate CareT's hardware architecture when the details of the Enterprise Operation Environment/platform are made available.

The CareT EO AITC hardware architecture is pending EO SLAM processing and will be available prior to the CareT PMAS milestone 1 review.

Below is a table description of the CareT hardware specifications across all environments supported by EO AITC.

CareT EO AITC Hardware Specifications									
Environment	Specifications								
Development	Type	OS	OS Size	Memory	CPUs	OS Hard Drive	Additional Hard Drive	Database Storage	Notes
	Application	Red Hat Linux 6	64 Bit	16GB	2	30GB	5GB		
	Admin	Red Hat Linux 6	64 Bit	16GB	2	30GB	5GB		
	DB	Oracle	64 Bit	16GB	2	30GB		1GB	
Test(SQA)	Type	OS	OS Size	Memory	CPUs	OS Hard Drive	Additional Hard Drive	Database Storage	Notes
	Application	Red Hat Linux 6	64 Bit	16GB	2	30GB	5GB		
	Admin	Red Hat Linux 6	64 Bit	16GB	2	30GB	5GB		
	DB	Oracle	64 Bit	16GB	2	30GB		1GB	

Load and Performance	Type	OS	OS Size	Memory	CPU's	OS Hard Drive	Additional Hard Drive	Database Storage	Notes
	Application	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		Clustered F5 load balanced
	Application	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	Admin	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	DB	Oracle	64 Bit	64GB	8	30GB		5GB	
Pre-Production	Type	OS	OS Size	Memory	CPU's	OS Hard Drive	Additional Hard Drive	Database Storage	Notes
	Application	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		Clustered F5 load balanced
	Application	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	Admin	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	DB	Oracle	64 Bit	64GB	8	30GB		250GB	
Production	Type	OS	OS Size	Memory	CPU's	OS Hard Drive	Additional Hard Drive	Database Storage	Notes
	Application	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		Clustered F5 load balanced
	Application	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	Admin	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	DB	Oracle	64 Bit	64GB	8	30GB		250GB	

4.2. Software Architecture

The CareT software architecture (Figure 7) consists of four layers – the Presentation, Business, Information Service, and Underlying layers. The Business layer is further dividing into four sub-layers – Process, Business Application, Utility Service and Information Service. The architectural layers are formulated based on SOA design patterns published by Architecture, Strategy, & Design (ASD). Section 4.4 of this document will go further in depth on which design patterns are applied and their rationale. The architecture layers, and the modules contained within, implement the abstract functions identified in A.9 Service Capability.

In the Presentation layer, CareT users carry out and manage their tasks via dashboards and work item queues. These dashboards and work item queues are tailored to the user's line of business. For example, the Work Item Queues (respectively) assist CSP users in tracking PCAFC applicants, and CBOPC users in tracking yet-to-be processed stipend payments. The Call List modules then assist CSL users in tracking calls. As a complement to the Work Item Queues, processing modules – Work Item Processing, Stipend Payment Processing, and Call Item/Call Entry – allow users to make disposition entries, verify applicant documentations, or process stipend payments.

The Business layer is the core of the CareT system. The modules within this layer are organized along a user's line of business, complemented by common toolset modules. Each organization's business rules are realized in this layer. The 10-10CG Application Processing module retrieves and parses incoming electronic applications and makes the data contained in the applications available for search, modification, and storage. In addition, this module will also verify the applicant's enrollment status and retrieve other information needed for the disposition of the 10-10CG application. The creation of the VCG record will also be done via this module.

The Stipend Payment module of the Business layer handles stipend payment calculation, payment file creation, and payment response processing. After an application is approved, the Stipend Payment module calculates the appropriate Stipend amount and then creates a payment file. This payment file is sent to the Payment Source for further processing. If the Payment Source rejects the payment, the Payment Response Processing module will update the CBOPC's Work Item Queue accordingly. Stipend payment information is then subsequently added to the VCG record.

The Call Management module supports the creation of call records, call entries, and associations with VCG records. Information captured via the Call Item/Call Entry module in the GUI layer is transformed here into Call Records. The Call Records are stored in a database separate from the VCG Record.

The Utility Service sublayer also contains three common service modules – Report Generator, Correspondence Generator, and Reporting Parameter Configuration. These modules provide automated administrative support to all CareT users.

The Information sublayer contains database management and data validation modules. The VCG Record Management module is used to manage information in the VCG database (includes VCG records, CSC and CBOPC Work Item Records, and Call Entry Associations), while the Call Record Management module is used to manage the Call Records and Call Item Records. The Data Validation and Processing module supports the verification and reconfiguration of incoming data from the Business/Application layer.

The Underlying layer contains service interfaces. These interfaces are used in the communication and access of Enterprise Shared Services and other external systems.

Identity Access Management SSOi/e and provisioning services will be used to support the creation of user accounts for applicants, assignment of roles, and access privileges to the CareT system.

Below is a list of the layers and capabilities with links between layers and links to the business requirements and Figure 7 is a graphic depiction of these layers and capabilities.

4.2.1. CareT Epic Stories (Business Requirements)

- 2.3.1. CSC - 1010 CG Application Portal TBD, New Applications (Electronic and Paper)
- 2.3.2. CSC - Work Item Queues
- 2.3.3. CSC- Dashboards and Work Item Assignments
- 2.3.4. CSC - Create Veteran's Caregiver Record (VCG Record), Associate Work Items to VCG Record
- 2.3.5. CSC – Work Item Types
- 2.3.6. CSC - Application Processing
- 2.3.7. CSC - Application Disposition
- 2.3.8. CSC - Application Waivers and Appeals
- 2.3.9. CSC – Update Application Information
- 2.3.10. CSC – Update Application Disposition
- 2.3.11. CSC – Application Transfer
- 2.3.12. CSC – Ad-hoc Personalized Letters
- 2.3.13. CSC – Periodic Monitoring Assessment and Facility Calendar
- 2.3.14. CSC – Beneficiary Identification Records Locator Subsystem (BIRLS) Database Check
- 2.3.15. CSC/CBOPC – CareT Internal Messaging System
- 2.3.16. CSC – General Caregiver Information
- 2.3.17. HRC Referrals
- 2.3.18. HEC Referrals
- 2.3.19. CBOPC - Primary and Secondary Queues and Workflow
- 2.3.20. CBOPC - Primary Work Item Processing
- 2.3.21. CBOPC - Vendorization
- 2.3.22. CBOPC - Secondary Work Item Processing
- 2.3.23. CBOPC - Monthly and Weekly Payment Lists
- 2.3.24. CBOPC - Manual Payment, Post Payment Audit and Stipend Budget Amount
- 2.3.25. CBOPC - Yearly BLS Data Import
- 2.3.26. CSL - Call Lists
- 2.3.27. CSL - Call Record, Call Entry and VCG Record Association
- 2.3.28. CareT General Application Requirements

4.2.2. Application/Solution Capabilities

- 1. Veteran
 - a. Self Service - Online Portal
- 2. Caregiver
 - a. Self Service - Online Portal

3. VA Staff – CSL
 - a. Support Line – Delivered Application
4. VA Staff – CSC
 - a. 10-10CG Approval – Delivered Application
5. VA Staff – HEC
 - a. Referral – Delivered Application
6. VA Staff – HRC
 - a. Referral – Delivered Application
7. VA Staff – CBOPC
 - a. Stipend Process – Delivered Application
8. VA Staff - CSP Admin
 - a. Admin Monitor – Delivered Application

Application/Solution Capabilities -> Business Epic Story Mapping		
Capability		Epic Story
1.	Veteran	1
2.	Caregiver	1
3.	VA Staff - CSL	26,27
4.	VA Staff - CSC	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
5.	VA Staff - HEC	18
6.	VA Staff - HRC	17
7.	VA Staff - CBOPC	19,20,21,22,23,24,25
8.	VA Staff - CSP Admin	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16

Application/Solution Capabilities -> Presentation Layer Mapping		
Capability		Presentation Layer
1.	Veteran	1 CareT online portal Controller
2.	Caregiver	1 CareT online portal Controller
3.	VA Staff - CSL	3 Call Record Controller 4 Referral Controller
4.	VA Staff - CSC	3 Call Record Controller 4 Referral Controller
5.	VA Staff - HEC	4 Referral Controller
6.	VA Staff - HRC	4 Referral Controller
7.	VA Staff - CBOPC	6 Stipend Controller
8.	VA Staff - CSP Admin	5 Management Controller

4.2.3. Presentation Layer / Interaction Capabilities

1. CareT (external) - Online portal Controller

2. CareT (internal) - 10-10CG Controller
3. CareT (internal) - Call Record Controller
4. CareT (internal) - Referral Controller
5. CareT (internal) - Management Controller
6. CareT (internal) - Stipend Controller
7. Export Controller
8. Spell checker
9. Zip code to VAMC mapping
10. Generate Caregiver notice letter
11. Upload BLS + CPI

Presentation Layer -> Business Epic Story Mapping		
Capability		Epic Story
1.	CareT online portal Controller	1
2	CareT Internal – 10-10CG Controller	1,6,7,9,10
3	CareT Internal – Call Record Controller	26,27
4	CareT Internal – Referral Controller	17,18,26,27
5	CareT Internal – Management Controller	1,28
6	CareT Internal – Stipend Controller	19,20,21,22,23,24,25
7	Export Controller	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28
8	Spell Checker	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28
9	Zip code to VAMC mapping	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28
10	Generate Caregiver notice letter	19,20,21,22,23,24
11	Upload BLS + CPI	25

Presentation Layer -> Business Layer - Process Capabilities Mapping		
Capability		Process Capabilities
1.	CareT online portal Controller	1. 10-10CG Form Persistence 2. 10-10CG Application supporting documents persistence 3. 10-10CG Form Submission
2	CareT Internal – 10-10CG Controller	1. 10-10CG Form Persistence 2. 10-10CG Application supporting documents persistence 3. 10-10CG Form Submission 4. 10-10CG Form Scanning
3	CareT Internal – Call Record Controller	17. Call Record Processing
4	CareT Internal – Referral Controller	18. Referral Processing
5	CareT Internal – Management Controller	19. Management Processing
6	CareT Internal – Stipend Controller	1. Stipend Eligibility Monitoring 2. Stipend Eligibility Changes

		Processing 3. Stipend Payment Calculation and Verification 4. Stop Stipend Payments 5. End of day process - Veteran deceased Assessment 6. End of month process 7. Caregiver periodic monitoring assessments 8. Stipend changed assessment 9. Revoke Caregiver assessment 10. Stipend lost check assessment 11. End of year process - Update stipend rate process (BLS + CPI)
7	Export Controller	20. Export Process
8	Spell Checker	21. Spell checker Process
9	Zip code to VAMC mapping	22. Zip code to VAMC mapping Process
10	Generate Caregiver notice letter	23. Generate Caregiver notice letter Process
11	Upload BLS + CPI	24. Upload BLS + CPI Process

Presentation Layer -> Business Layer - Business Application Capabilities Mapping		
Capability		Business Application Capabilities
1.	CareT online portal Controller	
2	CareT Internal – 10-10CG Controller	
3	CareT Internal – Call Record Controller	
4	CareT Internal – Referral Controller	
5	CareT Internal – Management Controller	
6	CareT Internal – Stipend Controller	1. Stipend Payments
7	Export Controller	
8	Spell Checker	
9	Zip code to VAMC mapping	
10	Generate Caregiver notice letter	
11	Upload BLS + CPI	

Presentation Layer -> Business Layer - Information Capabilities Mapping		
Capability		Information Capabilities
1.	CareT online portal Controller	
2	CareT Internal – 10-10CG Controller	
3	CareT Internal – Call Record Controller	
4	CareT Internal – Referral Controller	
5	CareT Internal – Management Controller	
6	CareT Internal – Stipend Controller	
7	Export Controller	

8	Spell Checker	
9	Zip code to VAMC mapping	
10	Generate Caregiver notice letter	
11	Upload BLS + CPI	

Presentation Layer -> Business Layer - Utility Capabilities Mapping		
Capability		Utility Capabilities
1.	CareT online portal Controller	
2	CareT Internal – 10-10CG Controller	
3	CareT Internal – Call Record Controller	
4	CareT Internal – Referral Controller	
5	CareT Internal – Management Controller	
6	CareT Internal – Stipend Controller	
7	Export Controller	
8	Spell Checker	
9	Zip code to VAMC mapping	
10	Generate Caregiver notice letter	
11	Upload BLS + CPI	

4.2.4. Business Layer / Process Capabilities

1. 10-10CG Form Persistence
2. 10-10CG Application supporting documents persistence
3. 10-10CG Form Submission
4. 10-10CG Form Scanning
5. Caregiver Application Processing
6. Update Caregiver Identity Information
7. Caregiver Eligibility Determination
8. Caregiver Eligibility Monitoring
9. Stipend Payment Processing
 - a) New applications
 - b) Address change
 - c) Tier change
 - d) Insurance change
 - e) Primary CG revocation
 - f) Primary CG reinstatement
 - g) Primary CG recoupment
 - h) Primary CG Lost Check
 - i) Rejected Payment
 - j) Primary CG Held payment
 - k) Duplicate Payment
 - l) Manual Payment
 - m) Post Payment Audit
10. Stipend Eligibility Monitoring
11. Stipend Eligibility Changes Processing

12. Stipend Payment Calculation and Verification
13. Stop Stipend Payments
14. End of day process
 - a. Veteran deceased assessment
15. End of month process
 - a. Caregiver periodic monitoring assessments
 - b. Stipend changed assessment
 - c. Revoke Caregiver assessment
 - d. Stipend lost check assessment
16. End of year process
 - a. Update stipend rate process (BLS + CPI)
17. Call Record Processing
18. Referral Processing
19. Management Processing
20. Export Process
 - a. Generate Excel format
 - b. Generate PDF format
21. Spell checker Process
22. Zip code to VAMC mapping Process
23. Generate Caregiver notice letter Process
24. Upload BLS + CPI Process

Business Layer / Process Capability -> Epic Story Mapping		
Capability		Epic Story
1	10-10CG Form Persistence	1,6,7,9,10
2	10-10CG Application supporting documents persistence	1,6,7,9,10
3	10-10CG Form Submission	1
4	10-10CG Form Scanning	1,4,5,6
5	Caregiver Application Processing	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
6	Update Caregiver Identity Information	4,9
7	Caregiver Eligibility Determination	6,14
8	Caregiver Eligibility Monitoring	13
9	Stipend Payment Processing	19,20,21,22,24
10	Stipend Eligibility Monitoring	19,20,22
11	Stipend Eligibility Changes Processing	19,20,22
12	Stipend Payment Calculation and Verification	24
13	Stop Stipend Payments	19,20,22,28
14	End of day process	14,28
15	End of month process	28
16	End of year process	25
17	Call Record Processing	26,27
18	Referral Processing	17,18,26,27
19	Management Processing	2,3,4,5,6,7,8,9,10,11,12,13,14,15,16

20	Export Process	
21	Spell checker Process	
22	Zip code to VAMC mapping Process	
23	Generate Caregiver notice letter Process	
24	Upload BLS + CPI Process	

Business Layer / Process Capability -> Information Capabilities Mapping		
Capability		Information Capabilities
1	10-10CG Form Persistence	1. 10-10CG Form Persistence
2	10-10CG Application supporting documents persistence	2. 10-10CG Application supporting documents persistence
3	10-10CG Form Submission	3. VCG Record
4	10-10CG Form Scanning	3. VCG Record
5	Caregiver Application Processing	3. VCG Record 4. VistA Record Information 5. Identity Management 6. Veteran VHA Eligibility Information 7. Veteran VBA Eligibility Information
6	Update Caregiver Identity Information	3. VCG Record 4. VistA Record Information 5. Identity Management 6. Veteran VHA Eligibility Information 7. Veteran VBA Eligibility Information
7	Caregiver Eligibility Determination	6. Veteran VHA Eligibility Information 7. Veteran VBA Eligibility Information
8	Caregiver Eligibility Monitoring	6. Veteran VHA Eligibility Information 7. Veteran VBA Eligibility Information
9	Stipend Payment Processing	8. Stipend Calculations 9. Stipend Payments 11. Stipend Record 12. Vendor Record
10	Stipend Eligibility Monitoring	8. Stipend Calculations 9. Stipend Payments 11. Stipend Record 12. Vendor Record
11	Stipend Eligibility Changes Processing	8. Stipend Calculations

		9. Stipend Payments 11. Stipend Record 12. Vendor Record
12	Stipend Payment Calculation and Verification	8. Stipend Calculations 11. Stipend Record 12. Vendor Record
13	Stop Stipend Payments	8. Stipend Calculations 11. Stipend Record 12. Vendor Record
14	End of day process	6. Veteran VHA Eligibility Information
15	End of month process	3. VCG Record 6. Veteran VHA Eligibility Information 7. Veteran VBA Eligibility Information 8. Stipend Calculations 9. Stipend Payments
16	End of year process	3. VCG Record 6. Veteran VHA Eligibility Information 7. Veteran VBA Eligibility Information 8. Stipend Calculations 9. Stipend Payments
17	Call Record Processing	
18	Referral Processing	10. CG Referral Forms
19	Management Processing	
20	Export Process	
21	Spell checker Process	
22	Zip code to VAMC mapping Process	
23	Generate Caregiver notice letter Process	
24	Upload BLS + CPI Process	

Business Layer / Process Capability -> Utility Capabilities Mapping		
Capability		Utility Capabilities
1	10-10CG Form Persistence	5. SSOi Process
2	10-10CG Application supporting documents persistence	5. SSOi Process
3	10-10CG Form Submission	5. SSOi Process
4	10-10CG Form Scanning	5. SSOi Process
5	Caregiver Application Processing	1. Record Locator 2. Applicant Messaging 3. VA Staff Messaging 5. SSOi Process
6	Update Caregiver Identity Information	1. Record Locator 5. SSOi Process
7	Caregiver Eligibility Determination	1. Record Locator 5. SSOi Process
8	Caregiver Eligibility Monitoring	1. Record Locator

		5.	SSOi Process
9	Stipend Payment Processing	1. 5.	Record Locator SSOi Process
10	Stipend Eligibility Monitoring	1. 5.	Record Locator SSOi Process
11	Stipend Eligibility Changes Processing	1. 5.	Record Locator SSOi Process
12	Stipend Payment Calculation and Verification	1. 5.	Record Locator SSOi Process
13	Stop Stipend Payments	1. 5.	Record Locator SSOi Process
14	End of day process	1. 5.	Record Locator SSOi Process
15	End of month process	1. 5.	Record Locator SSOi Process
16	End of year process	1. 5.	Record Locator SSOi Process
17	Call Record Processing	1. 5.	Record Locator SSOi Process
18	Referral Processing	1. 5.	Record Locator SSOi Process
19	Management Processing	1. 5.	Record Locator SSOi Process
20	Export Process		
21	Spell checker Process		
22	Zip code to VAMC mapping Process		
23	Generate Caregiver notice letter Process		
24	Upload BLS + CPI Process		

4.2.5. Business Layer / Business Application Capabilities

1. Stipend Payment Calculation

Business Layer / Business Application Capability -> Epic Story Mapping		
Capability		Epic Story
1	Stipend Payment Calculation	23,24

4.2.6. Business Layer / Information Capabilities

1. 10-10CG Form Persistence
2. 10-10CG Application supporting documents persistence
3. VCG Record
 - a. Create VCG Record
 - b. Find VCG Record
 - c. Update VCG Record
 - d. Delete VCG Record

4. VistA Record Information
 - a. Write TIU Note
5. Identity Management
 - a. SSO
 - b. eSignature
 - c. Provisioning
 - d. Create Person
 - e. Find Person by Traits
 - f. Retrieve Person
 - g. getCorrespondingIDs
6. Veteran VHA Eligibility Information
 - a. Get Veteran Death Record from E&E
 - b. Get VA Health Enrollment Eligibility from E&E
 - c. Get Priority Group from E&E
 - d. Get Veteran Address from E&E
 - e. Store Eligibility Info from E&E
7. Veteran VBA Eligibility Information
 - a. Get Service Connection from BGS
 - b. Get Date Approved from BGS
 - c. Get Disability Percentage from BGS
 - d. Store Eligibility Info from BGS
8. Stipend Calculations
9. Stipend Payments
 - a. Send payment request file to FMS
 - b. Receives payment response file from FMS
10. CG Referral Forms
11. Stipend Record
12. Vendor Record

Business Layer / Information Capability -> Epic Story Mapping		
Capability		Epic Story
1	10-10CG Form Persistence	1,6,7,9,10
2	10-10CG Application supporting documents persistence	1,6,7,9,10
3	VCG Record	4
4	VistA Record Information	7
5	Identity Management	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28
6	Veteran VHA Eligibility Information	4,14
7	Veteran VBA Eligibility Information	4,14
8	Stipend Calculations	24
9	Stipend Payments	23

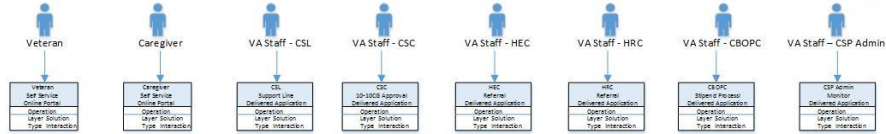
10	CG Referral Forms	17,18,27
11	Stipend Record	23,24
12	Vendor Record	23,24

4.2.7. Business Layer / Utility Capabilities

1. Record Locator
2. Applicant Messaging
 - a. Send Veteran/Caregiver email
 - b. Send Veteran/Caregiver txt msg
 - c. Send Veteran/Caregiver Online portal msg
3. VA Staff Messaging
4. SSOe Process
 - a. searchPerson
 - b. getCorrespondingIds
 - c. MVI eSignature
5. SSOi Process
 - a. searchPerson
 - b. getCorrespondingIds
 - c. Provisioning

Business Layer / Utility Capability -> Epic Story Mapping		
Capability		Epic Story
1	Record Locator	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28
2	Applicant Messaging	1,2,3,4,5,6,7,8,9,10,11
3	VA Staff Messaging	9,10,28
4	SSOe Process	1
5	SSOi Process	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28

Application/Solution Capabilities



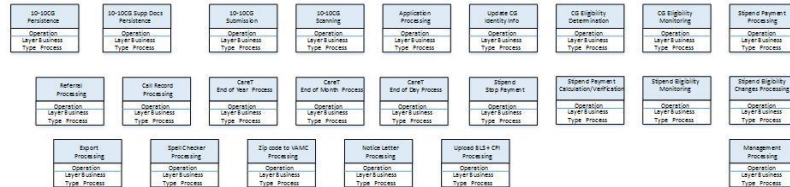
Presentation Layer

Interaction Capabilities



Business Layer

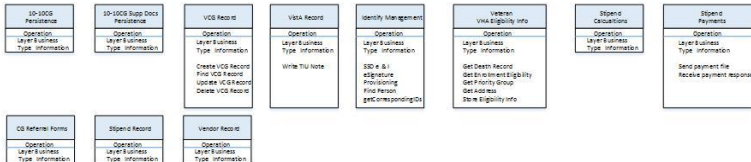
Process Capabilities



Business Application Capabilities



Information Capabilities



Utility Capabilities



Figure 6: CareT Service Capability Architecture

4.3. Network Architecture

This section will describe the network setup in support of CareT. The developer will formulate the network architecture based on the hardware architecture and operational environment, and then update this section accordingly.

The CareT EO AITC network architecture is pending EO SLAM processing and will be available prior to the CareT PMAS milestone 1 review.

4.4. Service Oriented Architecture / ESS

Based on interviews and question and answer (Q&A) sessions with Business Subject Matter Experts (SMEs), CareT, initially, will not provide services to other entities at the VA. However, as VA moves toward Service Oriented Architecture (SOA), CareT may be expected to provide some services to other systems/organizations, as needed. These potential services are depicted in the Service Capabilities Architecture diagram in Appendix A.6 and outlined in Section 4.4.10, below.

Overall, CareT uses the design pattern outlined in the SOA Design Patterns for VistA Evolution – Non-commercial-off-the-shelf (COTS) Applications. The design pattern reveals the enterprise shared services CareT will need. The below diagram depicts CareT in relation with enterprise-level services in this design pattern.

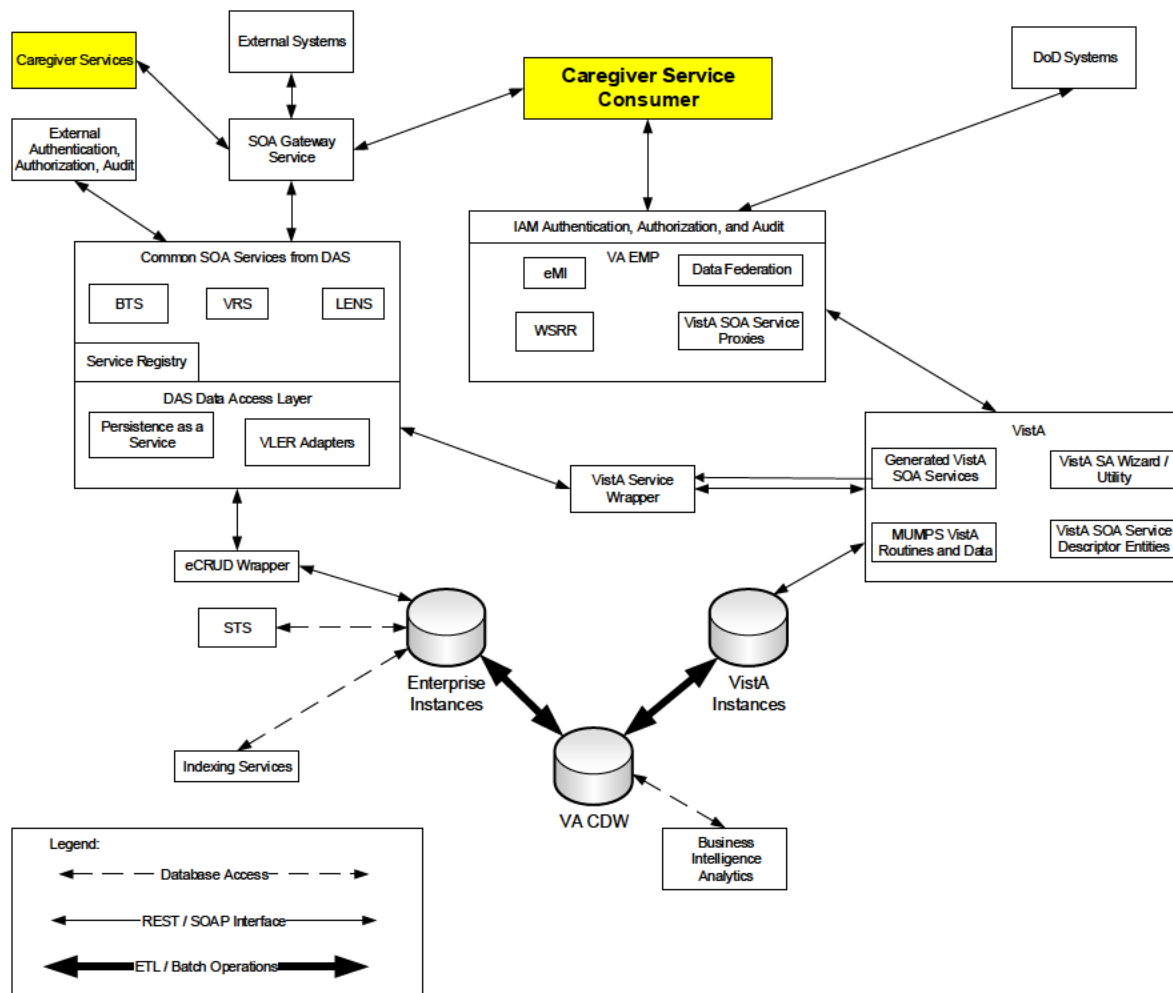


Figure 7: CareT SOA Design Pattern

Based on the design pattern, CareT will consume and utilize:

1. VistA Integration Adapter (VIA) Services;
2. SOA gateway;
3. Veterans Health Information Systems and Technology Architecture (VistA) – CPRS;
4. Online Application Portal;
5. Eligibility and Enrollment (E&E);
6. Benefit Gateway Services (BGS);
7. Identity and Access Management (IAM) Services.

4.4.1. SOA Gateway

The SOA gateway service provides access to the systems outside VA's firewall. All communications to and from external systems is accepted, processed, and filter by the SOA gateway service. As previously mentioned, data retrieval from external systems will be handled by this service. Information, such as Yearly Bureau of Labor Statistics (BLS) Rate and Stipend Payment Files, are exchanged via this gateway.

4.4.2. Online Application Portal Web Service

CareT is dependent on an Online Application Portal AccessVA or Vets.gov for electronic 10-10CG applications from Veterans and Caregivers. The use of AccessVA will provide the IAM SSOe services and capabilities to the CareT online portal. The portal will then capture and transmit information on the 10-10CG application to CareT. The CareT tool used by VA staff will rely of AccessVA and the IAM SSOi services and capabilities. Coordination is needed to ensure that integration with the eBenefit/Vets.gov/MyHealtheVet-like portal. Although CareT will still accept 10-10CG applications via other venues, the electronic application capability will provide a significant improvement to the current submission and processing capabilities of the PCAFC application process.

4.4.3. Identity and Access Management (IAM) Services

CareT will leverage IAM Services and the MVI to streamline and automate the application process for a more Veteran-centered experience that will allow Veterans and their Caregivers to submit their applications electronically and also receive limited correspondence and status updates. It is also envisioned that Veterans who do not apply online can still create online accounts later in the application process so that they can receive limited correspondence and status updates. The IAM services requested through IAM Service Request SR-549 that will be used are:

- Single Sign On internal/external (SSOi/e)
- E-Signature
- MVI AccessVA
- SearchPerson

- getCorrespondingIDs
- Provisioning

SSOi/e provides identity management, authentication, and credentials for both external (Veteran and Caregiver) and internal (VA) users. IAM provisioning service will enable credentialed users to access CareT, in accordance with the user's role and privileges. E-signature service enables users to provide an electronic signature on the 10-10CG application and other documents, as needed. MVI access enables CareT to look up enrollment and eligibility information of Veterans.

4.4.4. CareT Service Capability

In the future, CareT may provide Caregiver information look-up, reference, and association services to authorized systems. Based on the Service Capability Architecture in Appendix A.9 and in section [Software Architecture](#), several CareT capabilities can be offered as a service:

- 1) Data – Authority Data Source
- 2) Common UI
- 3) Application Processing capability
- 4) Stipend Processing related capabilities

While CareT retrieves applicant information, mostly for other authoritative sources, it is the authoritative publisher for two information items – Caregiver Status and Stipend Payment. These two information items are aggregated into the VCG record along with other applicant/Caregiver information. Through the VCG record, CareT can serve as the authoritative publisher of information on Caregiver Status and Stipend Payment. Other VA systems/services could then associate VCG records to other information, as needed, via relevant ESS or web service.

CareT will provide users (CSC, CBOPC, and CSL), with tailored user interfaces based on a common dashboard/work-item queue template. This common template may be re-used in other similar systems.

In addition to data and user interface, several business processes-related capabilities, such as application and stipend processing capabilities, can be exposed as a service. Application processes capabilities encapsulate CareT's abilities to accept an electronic application, supporting documentation, VA review, data management, and correspondence. Stipend processing capabilities include payment calculation, record update, and eligibility status monitoring and modification.

4.5. Enterprise Architecture

CareT is expected to conform to VA's Enterprise Architecture, in accordance with the questions posed and the areas outlined in the ETA Compliance Document and ETA Checklist. The preliminary ETA Checklist can be found in Appendix A.1, A.2, A.3 and A.4. Further updates will be made to this document via the Caregivers IPT as the project continues to progress.

5. Data Design

This section will provide an in-depth look at the data entities describe in [Section 3.2 Project Conceptual Data Model](#).

The CareT portal is designed to have a complete separation between business processing and data access and delivery services, such that the business logic has no visibility into the physical structure of the data. Any data stored locally at the application level presents barriers to information sharing across the enterprise and should not be permitted.

The current data model for the CareT effort consists of the following tables:

5.1. CareT database tables

Table Name	Description
VCG_APP_FORM	Contains CareT online application information
VCG_DOCS	Contains supporting documents such as POA for VCG records
CALL_RECORD	Contains all of the CSL call record information
CARET_LOOKUP	CareT key value pairs
VCG	Veteran and Caregiver association and information
VCG_WORKITEM	CareT inter role communication work item details
VENDOR	Caregiver vendor information
VCG_STIPEND	Caregiver stipend information
VCG_STIPEND_PAYMENT	CareT stipend payment request
VCG_STIPEND_PAY_RESPONSE	FMS stipend payment responses
CAREGIVER_STIPEND	Payment details for each Caregiver qualified for stipend payments
TRANSACTION_AUDIT_LOG	Audit log of all CareT data modifications
CALL_RECORD_SURVEY	CSL Call Satisfaction reports

STIPEND_PAYMENT_LOG	CareT stipend payment request details
BLS_RATE	Caregiver stipend payment amounts based on Veteran zip code
VCG_STIPEND_APPEAL	CareT appeal information
WORK_ITEM_CALLRECORD_REFERRAL	CSL call record information
WORK_ITEM_NEW_APPLICATION	CareT inter role work item message details
VCG_PERSON	CareT person information, Veteran and Caregiver
WORK_ITEM_STIPEND	Caregiver stipend details

5.2. DBMS Files

Here are the current DBMS files for the CareT effort.



5.3. Non-DBMS Files

Currently there are no non-DBMS files developed for the CareT effort.

5.4. Data View

Currently there are no data views developed for the CareT effort.

6. Detailed Design

Additional details will be provided at a later date by the developer, pending VA input and review.

6.1. Hardware Detailed Design

The CareT EO AITC hardware detailed design is pending EO SLAM processing and will be available prior to the CareT PMAS milestone 1 review.

Below is a table description of the CareT hardware specifications across all environments supported by EO AITC.

CareT EO AITC Hardware Specifications										
Environment	Specifications									
Development	Type	OS	OS Size	Memory	CPUs	OS Hard Drive	Additional Hard Drive	Database Storage	Notes	
	Application	Red Hat Linux 6	64 Bit	16GB	2	30GB	5GB			
	Admin	Red Hat Linux 6	64 Bit	16GB	2	30GB	5GB			
	DB	Oracle	64 Bit	16GB	2	30GB		1GB		
Test(SQA)	Type	OS	OS Size	Memory	CPUs	OS Hard Drive	Additional Hard Drive	Database Storage	Notes	
	Application	Red Hat Linux 6	64 Bit	16GB	2	30GB	5GB			
	Admin	Red Hat Linux 6	64 Bit	16GB	2	30GB	5GB			
	DB	Oracle	64 Bit	16GB	2	30GB		1GB		
Load and Performance	Type	OS	OS Size	Memory	CPUs	OS Hard Drive	Additional Hard Drive	Database Storage	Notes	

	Applicati on	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		Clustered F5 load balanced
	Applicati on	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	Admin	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	DB	Oracle	64 Bit	64GB	8	30GB		5GB	
Pre- Production	Type	OS	OS Size	Memory	CPU's	OS Hard Drive	Additional Hard Drive	Database Storage	Notes
	Applicati on	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		Clustered F5 load balanced
	Applicati on	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	Admin	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	DB	Oracle	64 Bit	64GB	8	30GB		250GB	
Production	Type	OS	OS Size	Memory	CPU's	OS Hard Drive	Additional Hard Drive	Database Storage	Notes
	Applicati on	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		Clustered F5 load balanced
	Applicati on	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	Admin	Red Hat Linux 6	64 Bit	64GB	8	30GB	10GB		
	DB	Oracle	64 Bit	64GB	8	30GB		250GB	

6.2. Software Detailed Design

The CareT software design consists of providing these Application Solution Capabilities:

1. Veteran
 - a. Self Service - Online Portal that provides the Veteran the ability to submit new 10-10CG applications electronically.

2. Caregiver
 - a. Self Service - Online Portal that provides the Caregivers the ability to submit new 10-10CG applications electronically.
3. VA Staff – CSL
 - a. Support Line – Delivered Application that supports the CSL business requirements for capturing Call Records and sending Referrals.
4. VA Staff – CSC
 - a. 10-10CG Approval – Delivered Application that supports the CSC business requirements for inputting paper 10-10CG forms on behalf of the Veteran, creating VCG records to track the Veteran Caregiver associations and status, send stipend related messages to CBOPC.
5. VA Staff – HEC
 - a. Referral – Delivered Application that supports the HEC business requirements for sending Referrals to CSC.
6. VA Staff – HRC
 - a. Referral – Delivered Application that supports the HRC business requirements for sending Referrals to CSC.
7. VA Staff – CBOPC
 - a. Stipend Process – Delivered Application that supports the CBOPC business requirements for processing stipend payments, monitoring payment related activities.
8. VA Staff - CSP Admin
 - a. Admin Monitor – Delivered Application that supports the CareT administrator's business requirements for monitoring the CareT system and making appropriate data corrections.

The CareT software design consists of providing these Presentation Layer Interaction Capabilities:

1. CareT (external) - Online portal Controller
2. CareT (internal) - 10-10CG Controller
3. CareT (internal) - Call Record Controller
4. CareT (internal) - Referral Controller
5. CareT (internal) - Management Controller
6. CareT (internal) - Stipend Controller
7. Export Controller
8. Spell checker
9. Zip code to VAMC mapping
10. Generate Caregiver notice letter
11. Upload BLS + CPI

The CareT software design consists of providing these Business Layer Process Capabilities:

1. 10-10CG Form Persistence

2. 10-10CG Application supporting documents persistence
3. 10-10CG Form Submission
4. 10-10CG Form Scanning
5. Caregiver Application Processing
6. Update Caregiver Identity Information
7. Caregiver Eligibility Determination
8. Caregiver Eligibility Monitoring
9. Stipend Payment Processing
 - n) New applications
 - o) Address change
 - p) Tier change
 - q) Insurance change
 - r) Primary CG revocation
 - s) Primary CG reinstatement
 - t) Primary CG recoupment
 - u) Primary CG Lost Check
 - v) Rejected Payment
 - w) Primary CG Held payment
 - x) Duplicate Payment
 - y) Manual Payment
 - z) Post Payment Audit
10. Stipend Eligibility Monitoring
11. Stipend Eligibility Changes Processing
12. Stipend Payment Calculation and Verification
13. Stop Stipend Payments
14. End of day process
 - a. Veteran deceased assessment
15. End of month process
 - a. Caregiver periodic monitoring assessments
 - b. Stipend changed assessment
 - c. Revoke Caregiver assessment
 - d. Stipend lost check assessment
16. End of year process
 - a. Update stipend rate process (BLS + CPI)
17. Call Record Processing
18. Referral Processing
19. Management Processing
20. Export Process
 - a. Generate Excel format
 - b. Generate PDF format
21. Spell checker Process
22. Zip code to VAMC mapping Process
23. Generate Caregiver notice letter Process
24. Upload BLS + CPI Process

The CareT software design consists of providing these Business Layer Business Application Capabilities:

1. Stipend Payment Calculation

The CareT software design consists of providing these Business Layer Information Capabilities:

1. 10-10CG Form Persistence
2. 10-10CG Application supporting documents persistence
3. VCG Record
 - a. Create VCG Record
 - b. Find VCG Record
 - c. Update VCG Record
 - d. Delete VCG Record
4. VistA Record Information
 - a. Write TIU Note
5. Identity Management
 - a. SSO
 - b. eSignature
 - c. Provisioning
 - d. Create Person
 - e. Find Person by Traits
 - f. Retrieve Person
 - g. getCorrespondingIDs
6. Veteran VHA Eligibility Information
 - a. Get Veteran Death Record from E&E
 - b. Get VA Health Enrollment Eligibility from E&E
 - c. Get Priority Group from E&E
 - d. Get Veteran Address from E&E
 - e. Store Eligibility Info from E&E
7. Veteran VBA Eligibility Information
 - a. Get Service Connection from BGS
 - b. Get Date Approved from BGS
 - c. Get Disability Percentage from BGS
 - d. Store Eligibility Info from BGS
8. Stipend Calculations
9. Stipend Payments

- a. Send payment request file to FMS
 - b. Receives payment response file from FMS
- 10. CG Referral Forms
- 11. Stipend Record
- 12. Vendor Record

The CareT software design consists of providing these Business Layer Utility Capabilities:

- 1. Record Locator
- 2. Applicant Messaging
 - a. Send Veteran/Caregiver email
 - b. Send Veteran/Caregiver txt msg
 - c. Send Veteran/Caregiver Online portal msg
- 3. VA Staff Messaging
- 4. SSOe Process
 - a. searchPerson
 - b. eSignature
- 5. SSOi Process
 - a. searchPerson
 - b. getCorrespondingIds
 - c. Provisioning

6.2.1. CareT Screens

Role	Application Capability	Screens
CBOPC	Stipend	Manual payment entry Current monthly payment file Weekly payment file Monthly payment response file Weekly payment response file Monthly payment file lookup
CBOPC	CBOPC work item	Dashboard Primary work item queue New application Address change Tier change Insurance change Primary CG revocation Primary CG reinstatement

		Primary CG recoupment Primary CG Lost Check Rejected Payment Primary CG Held payment Duplicate Payment
CSC	Application	Search Application summary Application entry Application status Stipend insurance Supporting documents Correspondence/Letters Periodic Monitoring Assessments Appeals Waivers
CSC	Work item	Dashboard Create new application CSL Referral CSC HRC/HEC Referral CSC Transfer CSC CBOPC Correction
CSL	Call Record	Create new call record Call Record view/edit New Call Entry Call Entry Summary
CSL	Centralized call list	Call list Lookup call record
HRC/HEC	Referral	Referral entry form
Veteran/CG	Online portal	Preliminary questions 10-10CG Veteran Info 10-10CG Primary Caregiver Info 10-10CG Secondary Caregiver 1 Info 10-10CG Secondary Caregiver 2 Info 10-10CG supporting documents 10-10CG Application summary 10-10CG Application confirmation Veteran dashboard – My Applications Veteran Dashboard – My Notifications Veteran Dashboard – Application Details Veteran Dashboard – Notification Details Veteran Dashboard – Status History Caregiver Dashboard – My Payment logs Caregiver Dashboard – Application Details Caregiver Dashboard - Status History Caregiver Dashboard – My Notifications Caregiver Dashboard - Notifications Details

6.2.2. CareT Dashboards

CareT Dashboards	Application Capabilities
Veteran Dashboard	<p>Main view</p> <ul style="list-style-type: none"> Current Caregiver Status Primary filled type (Caregiver,general) status (approved,revoked,reinstated) secondary #1 filled status (approved,revoked,reinstated) secondary #2 filled status (approved,revoked,reinstated) Read Messages <p>Information Tab</p> <p>Pre-Screening Tab</p> <p>10-10CG – Step 1</p> <ul style="list-style-type: none"> Veteran Info Selection of Caregivers <ul style="list-style-type: none"> Search MVI identities Selection Primary, Secondary #1, Secondary #2 Email CG and copy Veteran for notification of 10-10CG submit <p>View 10-10CG (current and previous)</p>
Caregiver Dashboard	<p>Main view</p> <ul style="list-style-type: none"> List of pending and previous 10-10CG forms Read messages <p>Informational Tab</p> <p>10-10CG – Step 1 (View only)</p> <p>10-10CG – Step 2, 3, 4</p> <ul style="list-style-type: none"> Caregiver information submit
CSL Dashboard	<p>Main view</p> <ul style="list-style-type: none"> create new call record search for existing call record view/edit/update call record create referral work item

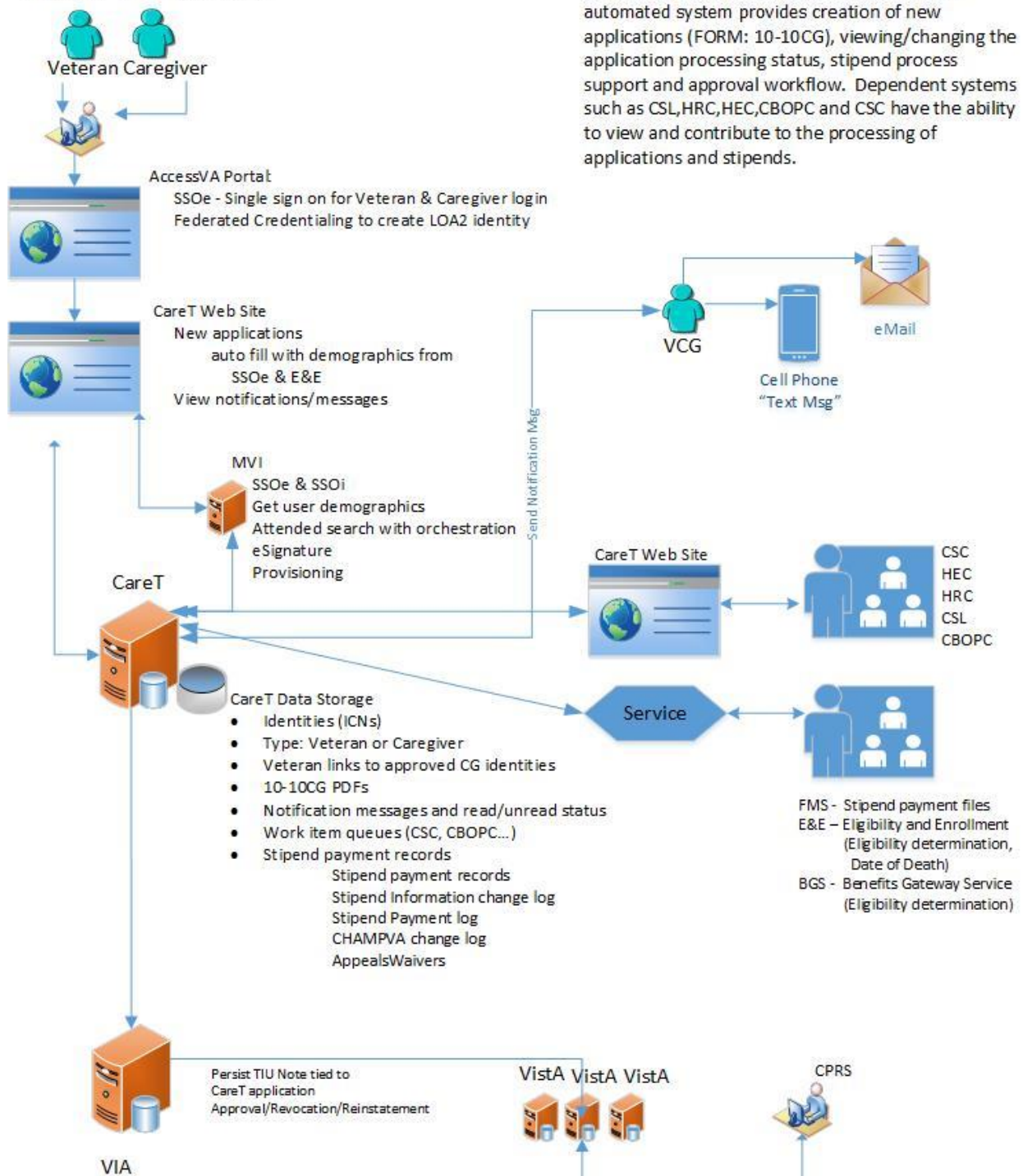
	<ul style="list-style-type: none"> • view CSL referrals • create/read/reply internal messaging
HEC Dashboard	Main view <ul style="list-style-type: none"> • create referral <ul style="list-style-type: none"> ○ update LOD section • search/view referrals • search/view VCG • associate referrals with VCG • create/read/reply internal messaging
HRC Dashboard	Main view <ul style="list-style-type: none"> • create referral • search/view referrals • search/view VCG • associate referrals with VCG • create/read/reply internal messaging
CSC Dashboard	Main view <ul style="list-style-type: none"> • create and process online applications work items • search/view referrals • search/view/create VCG • associate work item with VCG • create CBOPC work items • create/read/reply internal messaging
CSC Admin Dashboard	Main view <ul style="list-style-type: none"> • create and process online applications work items • search/view referrals • search/view/create VCG • associate work item with VCG • create CBOPC work items • create/read/reply internal messaging • impersonation of CSC user
CBOPC Dashboard	Main view <ul style="list-style-type: none"> • search/view/create stipend record

	<ul style="list-style-type: none"> • search/view VCG • search/view Stipend payments • search/view Vendor records • search/view BLS rate table • create/read/reply internal messaging
CBOPC Admin Dashboard	Main view <ul style="list-style-type: none"> • search/view/create stipend record • search/view VCG • search/view Stipend payments • search/view Vendor records • search/view BLS rate table • create/read/reply internal messaging • impersonation of CBOPC user

6.2.3. Conceptual Design

Below is a diagram depicting the CareT conceptual design:

Caregiver Tool – 2016 01 15



CareT Automation: Caregiver Support Program automated system provides creation of new applications (FORM: 10-10CG), viewing/changing the application processing status, stipend process support and approval workflow. Dependent systems such as CSL,HRC,HEC,CBOPC and CSC have the ability to view and contribute to the processing of applications and stipends.

6.2.3.1. Product Perspective

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.3.1.1. User Interfaces

1. AccessVA single sign on VA portal
2. CareT online application portal. Veteran and Caregiver access to 10-10CG application.
3. CareT internal VA tool CSL, CSC, HEC, CBOPC access to track call records, application processing and stipend payments.

6.2.3.1.2. Hardware Interfaces

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.3.1.3. Software Interfaces

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.3.1.4. Communications Interfaces

1. HTTPS
2. SFTP
3. Web service

6.2.3.1.5. Memory Constraints

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.3.1.6. Special Operations

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.3.2. Product Features

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.3.3. User Characteristics

Below is a table of the CareT user roles and functions:

Role	Function
Veteran	Use CareT online portal to submit 10-10CG form
Caregiver	Use CareT online portal to submit 10-10CG form
CSL	Use CareT to enter/track Call and Referral records and view VCG records
HEC	Use CareT to enter/track Call and Referral records and view VCG records
HRC	Use CareT to enter/track Call and Referral records and view VCG records
CSC	Use CareT to enter/track Applications and

	VCG records. Send work items to CBOPC
CSC-Admin	Monitor CareT data and make corrections
CBOPC-Triage	Process stipend work items and enter stipend/vendor records
CBOPC-Input	Process stipend work items and enter stipend/vendor records
CBOPC-Leads	Process stipend work items and enter stipend/vendor records
CBOPC-Supervisors	Monitor and make corrections to stipend and vendor records
CBOPC-Admin	Monitor and make corrections to stipend and vendor records

6.2.3.4. Dependencies and Constraints

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.3.5. Database Repository

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.3.6. System Features

Additional details will be provided at a later date by the developer, pending VA input and review. Note that the list of CareT system features (as they stand currently) can be found in the CareT RSD, in section 2.15.

6.2.3.7. Design Element Tables

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.4. Specific Requirements

As the RSD is further elaborated by the developer, this section will be updated accordingly.

6.2.4.1. Database Repository

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.4.2. System Features

Additional details will be provided at a later date by the developer, pending VA input and review. Note that the list of CareT system features (as they stand currently) can be found in the CareT RSD in section 2.15.

CareT scheduled processes

1. CSC
 - a. 3 month

- i. Caregiver periodic monitoring assessments
 - ii. Verification of need to change stipend
 - iii. Verification of need to revoke Caregiver
 - b. End of day process to move in process work item to overdue work item queue
- 2. CBOPC schedule trigger
 - a. Stipend lost check – 60 day reminder send work item queue entry
- 3. Nightly process – check E&E death notifications
 - a. CareT will call E&E getEESummary for each Veteran with approved Caregiver stored within the CareT VCG record. The E&E getEESummary response will include a Veteran date of death that will be used to trigger CareT work items to stop stipend payments for Caregivers approved for Veterans that have deceased.
- 4. Nightly process – check “due” date for assessments >30 mark as “not-complete”

6.2.4.3. Design Element Tables

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.4.3.1. Routines (Entry Points)

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.4.3.2. Mail Groups

Additional details will be provided at a later date by the developer, pending VA input and review.

6.2.4.3.3. Security Keys

Additional details will be provided at a later date by the developer, pending VA input and review.

7. External System Interface Design

This section provides details on interfaces external to CareT. For a listing of all systems/services that interact with CareT, refer to the table in [Conceptual Application Design - Application Context](#) of this document.

In general, CareT will utilize SOAP to interface systems/services internal to the OIT. CareT will communicate with external system based on the interface specifications of associated systems.

7.1. Interface Architecture

This section describes the numerous interfaces that CareT will utilize to interact with other systems and services.

7.1.1. CareT/IAM/MVI

CareT will leverage IAM Services and the MVI to streamline and automate the application process for a more Veteran-centered experience that will allow Veterans and their Caregivers to submit their applications electronically and also receive limited correspondence and status updates. It is also envisioned that Veterans who do not apply online can still create online accounts later in the application process so that they can receive limited correspondence and status updates. The IAM services requested through IAM Service Request SR-549 that will be used are:

- Single Sign On internal/external (SSOi/e)
- E-Signature
- MVI AccessVA
- SearchPerson
- getCorrespondingIDs
- Provisioning

SSOi/e provides identity management, authentication, and credentials for both external (Veteran and Caregiver) and internal (VA) users. IAM provisioning service will enable credentialed users to access CareT, in accordance with the user's role and privileges. E-signature service enables users to provide an electronic signature on the 10-10CG application and other documents, as needed. MVI access enables CareT to look up enrollment and eligibility information of Veterans.

7.1.2. CareT/FMS

The Financial Management System (FMS) refers to the organization and systems that process and issue stipend payments. It consists of FMS servers, located in Austin, Texas.

CareT has submitted a service request (FMS R6439910FY16) to FMS for the request for integration between CareT and FMS services for CareT stipend payments.

Table 14: CareT/FMS Interface

Interface Name	CareT/Payment Source
External Party	Financial Management System
Configuration Document/Format	Payment file and response are XML format
Interface Description	CareT/FMS interface will be a system to system interface that transfers payment files and payment response files back and forth between CareT and FMS mainframe. Files are transmitted via Secure File Transfer Protocol (SFTP).
Trigger Event	Monthly CareT scheduled event Weekly CareT scheduled event
Outgoing Information (from CareT)	Stipend Payment Files
Incoming Information (to CareT)	Stipend Payment Response Files

7.1.3. FMS Data file transmissions

CARE T -> FMS FILES					
Drop Location	CARE T /FMS Environments	CARE T File Name	MAINFRAME FILE NAME	DESTINATION	VLTRADER SENT MESSAGE
PUSH	CARE T Development	CARET_FMS_CHECKEFT_NNNNNN.NNNNNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.E OB.CHECKS(+1)	FMS TEST	<div></div> <div></div> <div>Email Group ???</div>
	Integration	CARET_FMS_NOCHECK_NNNNNN.NNNNNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.E OB.NOCHKS (+1)	FMS TEST	
		CARET_FMS_ZERO_NNNNNNNN.NNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.E OB.ZERO (+1)	FMS TEST	
		CARET_FMS_PAYMENTS_NNNNN.NNNNNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.P AYMENTS (+1)	FMS TEST	
		CARET_FMS_VTEXT_NNNNNNNN.NNNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.V TEXT (+1)	FMS TEST	
PUSH	AITC/FSC	CARET_FMS_CHECKEFT_NNNNNN.NNNNNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.E OB.CHECKS(+1)	Treasury Test	<div></div> <div></div> <div>CareT Developing Email Group ???</div>
	TEST	CARET_FMS_NOCHECK_NNNNNN.NNNNNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.E OB.NOCHKS (+1)	Treasury Test	
		CARET_FMS_ZERO_NNNNNNNN.NNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.E OB.ZERO (+1)	Treasury Test	
		CARET_FMS_PAYMENTS_NNNNN.NNNNNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.P AYMENTS (+1)	FMS SQAS	
		CARET_FMS_VTEXT_NNNNNNNN.NNNN.TXT	FMSTST.FMS.CHVTOFMS.LINK.V TEXT (+1)	FMS SQAS	
PUSH	Pre-Production	CARET_FMS_CHECKEFT_NNNNNN.NNNNNN.TXT	FMSPRD.FMS.CHVTOFMS.LINK.E OB.CHECKS (+1)	TREASURY	<div></div> <div></div> <div></div>

- | | | | | | |
|---------------|-----------------------------------|--|---|--|---|
| | AITC/FSC | CARET_FMS_NOCHECK_NNNNNN
NNNNNN.TXT
CARET_FMS_ZERO_NNNNNNNN
NNN.TXT
CARET_FMS_PAYMENTS_NNNN
NNNNNNN.TXT
CARET_FMS_VTEXT_NNNNNNN
NNNN.TXT | FMSPRD.FMS.CHVTOFMS.LINK.E
OB.NOCHKS (+1)
FMSPRD.FMS.CHVTOFMS.LINK.E
OB.ZERO (+1)
FMSPRD.FMS.CHVTOFMS.LINK.P
AYMENTS (+1)
FMSPRD.FMS.CHVTOFMS.LINK.V
TEXT (+1) | TREASUR
Y
TREASUR
Y
FMS/SQA
S
FMS/SQA
S | |
| PUSH | Production | CARET_FMS_CHECKEFT_NNNNN
NNNNNN.TXT
CARET_FMS_NOCHECK_NNNNN
NNNNNN.TXT
CARET_FMS_ZERO_NNNNNNNN
NNN.TXT
CARET_FMS_PAYMENTS_NNNN
NNNNNNN.TXT
CARET_FMS_VTEXT_NNNNNNN
NNNN.TXT | FMSPRD.FMS.CHVTOFMS.LINK.E
OB.CHECKS (+1)
FMSPRD.FMS.CHVTOFMS.LINK.E
OB.NOCHKS (+1)
FMSPRD.FMS.CHVTOFMS.LINK.E
OB.ZERO (+1)
FMSPRD.FMS.CHVTOFMS.LINK.P
AYMENTS (+1)
FMSPRD.FMS.CHVTOFMS.LINK.V
TEXT (+1) | TREASUR
Y
TREASUR
Y
TREASUR
Y
FMS
FMS | <div></div>
CareT Developing Email Group ??? |
| Drop Location | CARET/
FMS
Environm
ents | MAINFRAME FILE NAME | CARE T FILE NAME | Destinati
on | Schedule |
| PULL | AITC/FSC | ACCEPTED/REJECTED HVs or TBD | | CARE T
Test | <div></div> |
| | TEST | FMSTST.FMS.FMSTOCHV.LINK.S
USFRPT (+1) | TBD | | <div></div>
CareT Program Manager Group??? |
| | | | | | <div></div>
CareT Developing <div></div> |
| PULL | AITC/FSC | ACCEPTED/REJECTED HVs or TBD | | CARE T
Test | <div></div> |
| | Pre-
Producti
on | FMSTST.FMS.FMSTOCHV.LINK.S
USFRPT (+1) | TBD | | <div></div>
<div></div> |
| | | | | | CareT Program Manager
CareT Developing Email Group ??? |
| PULL | Production | ACCEPTED/REJECTED HVs or TBD
FMSPRD.FMS.FMSTOCHV.LINK.S
USFRPT (+1) | CHV_CARET_NNNNNNNNNNN.T
XT | CARE T | <div></div>
<div></div>
Manager Email??? |

7.1.5. CareT/BeneTravel

BeneTravel – (BTSSS) BeneTravel Self Service System

BeneTravel will have access to CG status (approved, revoked, reinstated) via CareT persistence of TIU note to VistA via the VIA web services.

7.1.6. CareT/Zip codes to facilities

Further research required

7.1.7. CareT/VIA/VistA - CPRS

The VistA service is an enterprise-wide information service used throughout the VA medical system. The core of this service is the aggregation of health record data from various sources – the Department of Defense (DoD), the VA, and other partners. CPRS is part of the VistA constellation of software applications, and is the graphical user interface for the end users at Veteran Health Administration (VHA) facilities. CareT provides notes to the Electronic Health Records stored in the Computerized Patient Record System (CPRS) in VistA for the events of Caregiver Approval, Revocation, and Reinstatement. This ensures that the health records contain the most up-to-date Caregiver-related information. CareT will call the enterprise services in VIA to persist a TIU Note with preformatted Caregiver status information into the Veteran’s health record.

Table 15: CareT/VIA/VistA-CPRS Interface

Interface Name	CareT/VIA/VistA-CPRS
Configuration Document/Format	TIU Note for Application Approval/Revocation/Reinstatement
Interface Description	<p>CareT/VIA/VistA-CPRS interface is an application to application interface that enables CareT to attached notes to Electronic Health Record in VistA – CPRS.</p> <p>The TIU note will be marked as written by the CSC user that is performing the application status change in the CareT tool. The CareT system will prompt the CSC user for their VistA access/verify codes and pass this information to VIA services. CareT will use VIA to connect to the VistA system using the CSC user A/V information for TIU note persistence.</p> <p>TIU Note Example: Veteran: First Middle Last Veteran: SSN</p>

Interface Name	CareT/VIA/VistA-CPRS					
	<p>Veteran Assessment Completed: 2015-10-25 Caregiver-Primary Assessment Completed: 2015-10-25 Caregiver-Primary Training Completed: 2015-10-25 Caregiver-Primary In-Home Visit Completed: 2015-10-25 Caregiver-Primary Approval Date: 2015-10-25 Caregiver-Primary Name: First Middle Last Caregiver-Primary Phone: Caregiver-Secondary#1 Approval Date: 2015-10-25 Caregiver-Secondary#1 Assessment Completed: 2015-10-25 Caregiver-Secondary#1 Training Completed: 2015-10-25 Caregiver-Secondary#1 Name: First Middle Last Caregiver-Secondary#1 Phone: Caregiver-Secondary#2 Approval Date: 2015-10-25 Caregiver-Secondary#2 Assessment Completed: 2015-10-25 Caregiver-Secondary#2 Training Completed: 2015-10-25 Caregiver-Secondary#2 Name: First Middle Last</p> <table><tr><td>VIA Services for CareT</td></tr><tr><td>TIU Create Record RPC for writeNote</td></tr><tr><td>TIU Authorization</td></tr><tr><td>TIU Unlock Record</td></tr><tr><td>TIU Set Administrative Closure</td></tr></table>	VIA Services for CareT	TIU Create Record RPC for writeNote	TIU Authorization	TIU Unlock Record	TIU Set Administrative Closure
VIA Services for CareT						
TIU Create Record RPC for writeNote						
TIU Authorization						
TIU Unlock Record						
TIU Set Administrative Closure						
Trigger Event	Status changes for applications					
Outgoing Information (from CareT)	CPRS Notes					
Incoming Information (to CareT)	Success or failure between CareT and VIA					

7.1.8. CareT/Eligibility and Enrollment

E&E is an enterprise shared service that provides Veteran E&E status to various VA programs and services. E&E uses only MVI_ICN (Master Veteran Index_ Internal Control Number) to look up E&E status. Below is a brief description of the E&E interface.

Table 16: CareT/E&E Interface

Interface Name	CareT/E&E
External Party	Eligibility & Enrollment
Configuration Document/Format	WSDL, XML
Interface Description	CareT/E&E is a web service interface. It responds to queries regarding E&E information. Queries can be tailored to a requestor's information

Interface Name	CareT/E&E														
	<p>needs. Service is invoked via SOAP over Hypertext Transmission Protocol Secure (HTTPS). All queries must be made in reference to the MVI_ICN. The MVI_ICN is obtained from Identity and Access Management service.</p> <p>E&E web service interfaces:</p> <p>1) getEESummary – this interface provides the current information on Veteran’s enrollment and eligibility information. This is an existing interface but has been modified to include additional data elements for ESR-IVM bidirectional data sharing interface.</p> <table> <tr> <td>Service Invocation Type</td><td>SOAP over HTTPS</td></tr> <tr> <td>Service Interface Type</td><td>WSDL via Web Service 2.0</td></tr> <tr> <td>Service Name</td><td>Enrollment and Eligibility Service</td></tr> <tr> <td>Interface</td><td>[REDACTED]</td></tr> <tr> <td>Schema</td><td>[REDACTED]</td></tr> <tr> <td>End Points</td><td> Development: [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] </td></tr> <tr> <td></td><td></td></tr> </table> <p>getEESummary Request for CareT Either VPID or the set of identity traits are required. In this release of E&E, only VPID is supported.</p> <p>VPID: VPID value (Veteran’s unique identifier – 17 Characters) VPID is the same as the MVI ICN value.</p>	Service Invocation Type	SOAP over HTTPS	Service Interface Type	WSDL via Web Service 2.0	Service Name	Enrollment and Eligibility Service	Interface	[REDACTED]	Schema	[REDACTED]	End Points	Development: [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]		
Service Invocation Type	SOAP over HTTPS														
Service Interface Type	WSDL via Web Service 2.0														
Service Name	Enrollment and Eligibility Service														
Interface	[REDACTED]														
Schema	[REDACTED]														
End Points	Development: [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]														

Interface Name	CareT/E&E
	Response Summary is comprised of other complex types as follows. Veteran Death Notice VHA Eligibility Enrolled in VA Health Care Priority group – identify benefits that a Veteran is eligible Veteran Address
Trigger Event	Submission of 10-10CG application
Outgoing Information (from CareT)	Applicant MVI_ICN
Incoming Information (to CareT)	Veteran E&E Summary

7.1.9. CareT/Online Application Portal

The Online Application Portal is a web site that enables applicants to access and fill out the 10-10CG application. The Online Application Portal most likely will reside in the existing AccessVA, Vets.gov or MyHealtheVet websites.

Table 17: CareT/Online Application Portal Interface

Interface Name	CareT/Online Application Portal
External Party	AccessVA/Vets.gov
Configuration Document/Format	TBD
Interface Description	The CareT/Online Application Portal interface is an application to application interface between the host system of the portal and CareT.
Trigger Event	Update to 10-10CG Application Update to 10-10CG Application Status
Outgoing Information (from CareT)	10-10CG Application Status
Incoming Information (to CareT)	10-10CG Application

7.1.10. CareT/BGS

Beneficiary Identification Records Location Subsystem is used by Veteran Benefits Administration (VBA) to verify whether an applicant is a Veteran. In addition, BGS tracks the various benefits to which a Veteran applied.

Table 18: CareT/BIRLS Interface

Interface Name	CareT/BIRLS
External Party	BGS
Configuration Document/Format	TBD
Interface Description	This interface enables CareT to request the following information: VBA Eligibility Service Connection Date Approved Disability Percentage And store the Veteran Caregiver status in CDW
Trigger Event	User Commands
Outgoing Information (from CareT)	MVI supplied Corporate Participant ID for the Veteran And Veteran Caregiver status
Incoming Information (to CareT)	Veteran Death Information

7.1.11. CareT/USPS

USPC interface to look up and validate address & zip. CareT has a business requirement to perform validation of the Veteran or Caregiver zip code based on address information entered into the CareT system. This public web service is being considered for satisfying this function need.

<http://www.webserviceX.net/uszip.asmx?op=GetInfoByCity>

Request

```
<?xml version="1.0" encoding="utf-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-
envelope">
  <soap12:Body>
    <GetInfoByCity xmlns="http://www.webserviceX.NET">
      <USCity>string</USCity>
```

```
</GetInfoByCity>
</soap12:Body>
</soap12:Envelope>
```

Response

```
<?xml version="1.0" encoding="utf-8"?>
<soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-
envelope">
  <soap12:Body>
    <GetInfoByCityResponse xmlns="http://www.webserviceX.NET">
      <GetInfoByCityResult>xml</GetInfoByCityResult>
    </GetInfoByCityResponse>
  </soap12:Body>
</soap12:Envelope>
```

7.2. Interface Detailed Design

Additional details will be provided at a later date by the developer pending VA input and review. More specifically, configuration files will be added here or in a separate Interface Control Document (ICD), as applicable.

8. Human-Machine Interface

Additional details will be provided at a later date by the developer, pending VA input and review.

8.1. Interface Design Rules

The CareT portal will implement the following design rules:

- All displays will follow the VA supplied logos and color display features supplied
- All displays will adhere to the VA 508 compliance guidelines
- All displays will present tabular data that can be sorted/filtered/printed/exported to PDF or Excel

8.2. Inputs

Additional details will be provided at a later date by the developer, pending VA input and review.

8.3. Outputs

Additional details will be provided at a later date by the developer, pending VA input and review.

8.4. Navigation Hierarchy

Additional details will be provided at a later date by the developer, pending VA input and review.

8.4.1. Screen [x.1]

Below is a list of the current GUI wireframes. The CareT development team will deliver a working prototype of the CareT online portal and CareT application for business owner review prior to the start of the CareT development phase. This prototype will be a working system that is supported by a CareT database and will provide a refinement of the existing wireframes.

8.4.1.1. CSP-CareT UI Wireframes - CBOPC Monthly and Weekly Stipend Processing UI



CSP-CareT UI
Wireframes - CBOPC

8.4.1.2. CSP-CareT UI Wireframes - CBOPC Work Item and Dashboard UI



CSP-CareT UI
Wireframes - CBOPC

8.4.1.3. CSP-CareT UI Wireframes - CSC Application Enter Search and Process



CSP-CareT UI
Wireframes - CSC Ap

8.4.1.4. CSP-CareT UI Wireframes - CSC Create VCG Record



CSP-CareT UI
Wireframes - CSC Cre

8.4.1.5. CSP-CareT UI Wireframes - CSC Work Item and Dashboard UI



CSP-CareT UI
Wireframes - CSC Wc

8.4.1.6. CSP-CareT UI Wireframes - CSL Call Record Entries and Referral UI



CSP-CareT UI
Wireframes - CSL Cal

8.4.1.7. CSP-CareT UI Wireframes - CSL Centralized Call List UI



CSP-CareT UI
Wireframes - CSL Cer

8.4.1.8. CSP-CareT UI Wireframes - HRC-HEC Referral UI



CSP-CareT UI
Wireframes - HRC-HE

8.4.1.9. CSP-CareT UI Wireframes - Veteran and Caregiver Online Portal UI



CSP-CareT UI
Wireframes - Veteran

9. Security and Privacy

9.1. Security

Access to CareT and user privilege will be based on a user's credentials. CareT will utilize Identity and Access Management (IAM) services to ensure that users have the appropriate privileges to access only that information for which they should be able. Additional details will be provided at a later date in the Privacy Impact Assessment (PIA) and other security documentation that is currently being developed. Pending review by the VA, this section will then be updated accordingly.

9.2. Privacy

PRIVACY IMPACT ASSESSMENT: Use of the information

Describe any types of controls that may be in place to ensure that information is handled in accordance with the uses described above. Example: Describe if training for users of the project covers how to appropriately use information. Describe the disciplinary programs or system controls (i.e. denial of access) that are in place if an individual is inappropriately using the information.

Consider the following FIPPs below to assist in providing a response:

Principle of Transparency: Is the PIA and SORN, if applicable, clear about the uses of the information?

Principle of Use Limitation: Is the use of information contained in the system relevant to the mission of the project?

All VA security requirements will be adhered to. Based on Federal Information Processing Standard (FIPS) 199 and National Institute of Standards and Technology (NIST) SP 800-60, recommended Security Categorization is **Moderate**.

The Security Categorization will drive the initial set of minimal security controls required for the information system. Minimum security control requirements are addressed in NIST SP 800-53 and VA Handbook 6500, Appendix E and Appendix F. All VA Privacy requirements will be adhered to. Efforts that involve the collection and maintenance of individually identifiable information must be covered by a Privacy Act system of records notice.

The CareT application falls under 147VA16. In addition, the governing Caregiver Support Program is covered under 5410NB3.

The full Privacy Impact Assessment document can be found at:


[REDACTED]

Attachment A – Approval Signatures

This section is used to document the approval of the System Design Document. The review should be conducted face to face where signatures can be obtained ‘live’ during the review. If unable to conduct a face-to-face meeting, then it should be held via LiveMeeting and concurrence captured during the meeting. The Scribe should add /es/name by each position cited. Example provided below.

The Chair of the governing Integrated Project Team (IPT), Business Sponsor, IT Program Manager, and Project Manager are required to sign.

Signed:

Integrated Project Team (IPT) Chair and IT Project Manager	Date
 Caregivers Product Development (PD) Program Manager	

Signed:

Business Sponsor	Date
------------------	------

Signed:

Project Manager	Date
-----------------	------

Signed:

IT Program Manager	Date
--------------------	------

A. Additional Information

A.1. Enterprise Technical Architecture – General

ETA Compliance for PMAS Milestone 1

			Project Name:	
	Reviewed By:	<i>[Enter Reviewer name here]</i>	Review Date:	<i>[Enter Review Date here]</i>
Sl.No.	ETA Compliance Reference Information (Use to help answer the Compliance Questions)	ETA Compliance Question	IPT Compliance Assertion (Yes, No, N/A)	IPT Comments
General-1: Q1	2.1.1. Veteran-Centric Solutions	Does the business need support integrated strategic goals and objectives defined in VA FY 2014-2020 Strategic Plan?	Yes	CareT provides an enterprise portal solution for Veteran and Caregiver ability to submit 10-10CG Form electronically

				through single VA portal solutions such as AccessVA and Vets.gov.
General-1: Q2	2.1.1. Veteran-Centric Solutions	Does the solution support Veteran-centric mission needs and/or capabilities?	Yes	CareT online portal supports the Veteran-centric mission and capabilities by providing easy access to the Caregiver Support Program benefits with electronic form submittal and availability to important messaging from the Caregiver Support Coordinator staff.

General-2	2.1.2. Business Architecture	Has the leaf-level business sub-function of the VA EA Business Architecture that the solution aligns to been identified?	Yes	The CareT SDD identifies the SOA and SCA solution.
General-3: Q1	2.2.7. Scalability	Is the application designed to scale out and to operate on a series of loosely-coupled commodity platforms? {Applicability: Infrastructure}	Yes	The CareT development team in coordination with the EO AITC team has designed a solution that is scaleable and loosely-coupled. These details are available in the CareT SDD.
General-3: Q2	2.2.7. Scalability	Can the application scale-out without requiring code changes? {Applicability: Custom Application Development – Cloud/Web Deployment}	Yes	The CareT development team in coordination with the EO AITC team has designed a solution that is scaleable, load balanced and capacity changes to

				the environment will not require software coding changes. These details are available in the CareT SDD.
General-4	2.3.5. VA Data Inventory (VADI)	Have the related authoritative data schemas/domain vocabularies in the VADI been identified?	Yes	The CareT development team has provided a data model and data inventory in support of the CareT portals. These details are available in the CareT SDD.
General-5	2.4.3. Standard Databases	Are the Relational Databases and Object Oriented Databases published in the current OIT Infrastructure Architecture sufficient to meet solution needs?	Yes	The CareT requirements fall within the published Relational Database and Object Oriented Database

				specifications .
General-6: Q1	2.4.8. TCP/IP V6	Is the solution designed to comply with VA's guidance on IPv6 policy and guidelines as specified in the current OIT Infrastructure Architecture? {Applicability: Infrastructure Interoperability}	Yes	The CareT SDD sections Network Detailed Design and External System Interface Design documents compliance.
General-6: Q2	2.4.8. TCP/IP V6	Is the application code free of hard-coded IP addresses? {Applicability: Software Solutions}	Yes	The CareT development team will comply with these requirements .
General-7: Q1	2.5.1. Security Regulations	Has the required security and privacy documentation addressing specific security requirements, applicable controls, potential vulnerabilities, and risks been developed and approved?	Yes	The CareT Privacy Impact Assessment (PIA) and Privacy Threshold Analysis (PTA) are in process and expected to be

				completed as per the PMAS schedule requirements .
General-7: Q2	2.5.1. Security Regulations	Have all applicable Information Security rules been adhered to?	Yes	Pending development of the CareT portal. The CareT solution will comply with all security regulations, EO AITC security scans and the VA Fortiy software scans.
General-8	2.5.3. Secure Access Paths	Are established secure access paths followed for application and database access?	Yes	Pending development of the CareT portal. The CareT solution will comply with all secure access requirements .

General-9: Q1	2.5.4. Secure Information Sharing	Does the solution document specify reasons for all (or limited) external access to data, including the need to know along with security, privacy, or other legal restrictions?	Yes	Pending development of the CareT portal. The CareT solution will comply with all external secure access requirements .
General-9: Q2	2.5.4. Secure Information Sharing	Will the solution employ automated audit logs for external data access?	Yes	Pending development of the CareT portal. The CareT solution will audit all data access and capture user ids and timestamps.
General-10: Q1	2.5.5. PII and PHI	Has required analysis been performed to identify the PII or PHI the solution/service needs to handle?	Yes	The CareT solution has no PHI and the PII identified is for Veterans and Caregivers participating in the Caregiver Support

				<p>Program. The CareT portal will support the requirements for protecting the PII information and only provide access to such data based on approved business and OI&T requirements and guidelines.</p>
General-10: Q2	2.5.5. PII and PHI	If the solution/service handles PII or PHI, can the solution/service log the details of the access of PII and PHI?	Yes	<p>Pending development of the CareT portal. The CareT solution will audit all data access and capture user ids and timestamps.</p>

General-11: Q1	2.5.6. HSPD-12	Has the solution been smart-card enabled to handle logical logon using PKI?	No	The CareT solution is dependent on the existing AccessVA portal and currently that solution is not supporting PKI login. As this feature is supported in AccessVA or in Vets.gov in the future, CareT will be able to take full advantage of this feature and be compliant with PKI requirements .
General-11: Q2	2.5.6. HSPD-12	Has the solution been designed to support PIV-based authentication (smart-card enabled or integrated with Enterprise Single Sign-On Internal [IAM SSOi])?	Yes	The CareT portal has an existing IAM SR-549 which captures the details of the CareT

				solutions dependence on SSOi and SSOe.
General-12: Q1	2.6.13. Identity and Access Management Service	Has the required analysis been performed to leverage Enterprise IAM capabilities for the solution's authentication, authorization, and auditing needs?	Yes	The CareT portal has an existing IAM SR-549 which captures the details of the CareT solutions dependence on SSOi and SSOe.
General-12: Q2	2.6.13. Identity and Access Management Service	Have the integration RSD, consuming application SDD and User Acceptance and Integration Test Plans been reviewed and approved by IAM (as signatory)?	Yes	The CareT portal has an existing IAM SR-549 has been approved by IAM and we have received our IAM iRSD that captures all of the integration agreements.

General-12: Q3	2.6.13. Identity and Access Management Service	Has the Consuming Application Project team provided the IAM Service Request recommendation from the Governance Review that provides guidance on when IAM capabilities will be ready for consumption?	Yes	All of the CareT required IAM Services currently exist within the VA production solution. We have identified two future services for IAM Relationship Management Service and IAM Identity Traits Update Subscription Service. These will be considered as future CareT portal solutions.
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General-13	2.6.15. Technical Reference Model	<p>Has the required analysis been performed to determine that the solution will be supported by the permissible products and standards and their respective versions in TRM? <i>[Applicable to PD, OOR PMAS Projects]</i></p> <p>[NOTE: Any technology in use in VA's production operating environment that is non-compliant with the TRM or does not have a valid waiver will be removed from the production operating environment.]</p>	Yes	The CareT SDD sections Conceptual Infrastructure Design and Special Technologies documents compliance.
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A.2. Enterprise Technical Architecture – Software Solutions

ETA Compliance for PMAS Milestone 1

			Project Name:	
	Reviewed By:	<i>[Enter Reviewer name here]</i>	Review Date:	<i>[Enter Review Date here]</i>
Sl.No.	ETA Compliance Reference Information (Use to help answer the Compliance Questions)	ETA Compliance Question	IPT Compliance Assertion (Yes, No, N/A)	IPT Comments
SW-SOL-1: Q1	2.2.1. N-Tier Architecture	Is the application design functionally organized into Presentation, Business Logic, and Data Access layers?	Yes	The CareT SDD sections System Architecture and Software Architecture documents compliance.
SW-SOL-1: Q2	2.2.1. N-Tier Architecture	Does the application design ensure that secure communication between the layers happens via loosely coupled interface components?	Yes	The CareT SDD sections System Architecture and Software

				Architecture documents compliance.
SW-SOL-2	2.2.2. Data Independence	Does the application logic access and manage data via a data access layer or established services instead of directly accessing the database?	Yes	The CareT SDD sections Conceptual Data Design and Data Design documents compliance.
SW-SOL-3	2.2.4. Data Persistence	Has required analysis been performed to ensure the permanent storage of sensitive data (PII / PHI) will not happen on the end user devices?	Yes	Pending development of the CareT portal. The CareT solution will comply with all PII data storage requirements . CareT has no access to PHI.
SW-SOL-4	2.2.5. Test Driven Development	Does the solution leverage automated unit testing (i.e. Junit for Java-based testing or Nunit for .net-based testing)?	Yes	Pending development of the CareT portal. The CareT solution will comply with all unit testing and

				test driven development requirements .
SW-SOL-5	2.2.6. Exception Handling	Has the development of a Production Operations Manual, which includes error handling, been identified and properly resourced in the IPT Integrated Master Schedule (IMS)?	Yes	The CareT POM has been identified as a deliverable and is captured in the CareT IMS.
SW-SOL-6	2.2.8. Stateless Business Logic	Has required analysis been performed to ensure user session information is not stored within the business logic?	Yes	The CareT SDD sections Software Architecture, Conceptual Data Design and Data Design documents compliance.
SW-SOL-7	2.2.9. Accessibility Requirements	Does the solution comply with Section 508 of the Rehabilitation Act of 1998, as amended, 29 USC 794(d)?	Yes	The CareT portal will comply with 508 requirements and will be presented to 508 compliance review prior to production

				release.
SW-SOL-8: Q1	2.4.12. Thin Client	Is the solution either browser or "thin client" -based?	Yes	The CareT portal is a browser based solution.
SW-SOL-8: Q2	2.4.12. Thin Client	Has the required analysis been performed to leverage Enterprise IAM Capabilities for the solution's authentication, authorization, and auditing needs?	Yes	The CareT portal has an existing IAM SR-549 has been approved by IAM and we have received our IAM iRSD that captures all of the integration agreements.
SW-SOL-9: Q1	2.6.16. COTS Products	Is the vendor company stable and likely to remain so to support the COTS product as long as VA needs it?	Yes	The CareT development contract vendor "ManTech" and the Application Portal Framework "Liferay" are both stable companies

				and likely to remain so in support of the CareT program needs.
SW-SOL-9: Q2	2.6.16. COTS Products	Are all COTS products used in the solution from mature companies large enough to support those products over the expected life of the product at all locations at which they may be installed?	Yes	Liferay is a product used by other VA programs such as MyHealtheVet and is a mature large company.
SW-SOL-10	2.6.17. VA Systems Inventory (VASI)	Is the VA IT System being built or enhanced during this solution development registered in VASI and the associated system information validated?	Yes	The CareT portal will be registered with the VASI.
SW-SOL-11: Q1	2.6.19. Open Source Software (OSS)	Have OSS solutions been thoroughly evaluated where the solution requires the acquisition of COTS products?	Yes	The only CareT portal OSS component is the Liferay Application portal framework.
SW-SOL-11: Q2	2.6.19. Open Source Software (OSS)	Have OSS development practices been considered for VA-developed software solutions?	N/A	The CareT portal doesn't fit the VA needs for OSS.

SW-SOL-12	2.6.20. Standardized National Software	If this solution will result in local modifications to a certified Gold Disk instance of Protected National Software , has an approved waiver been received from the Software Modification Waiver Committee (SMWC)?	N/A	The CareT portal doesn't fit the VA needs for a certified Gold Disk instance.
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A.3. Enterprise Technical Architecture – Infrastructure Interoperability

**ETA
Compliance for
PMAS
Milestone 1**

			Project Name:	
	Reviewed By:	<i>[Enter Reviewer name here]</i>	Review Date:	<i>[Enter Review Date here]</i>

Sl.No.	ETA Compliance Reference Information (Use to help answer the Compliance Questions)	ETA Compliance Question	IPT Compliance Assertion (Yes, No, N/A)	IPT Comments
Interop-1: Q1	2.4.1. Cloud First	Has the required analysis been performed to identify the pertinent cloud delivery model, i.e., IaaS, PaaS, or SaaS?	N/A	The CareT portal would follow the AccessVA or Vets.gov adoption of the Cloud First delivery model.
Interop-1: Q2	2.4.1. Cloud First	If so, have relevant policies and procedures been established to ensure delivery of effective and secure cloud computing services to support VA's infrastructure, information systems, and data repositories?	N/A	Not currently applicable for the CareT portal solution.
Interop-2	2.4.2. Standard OS Images	Are end user devices and servers used by the solution configured using the standard system images published in the current OIT Infrastructure Architecture?	N/A	Not currently applicable for the CareT portal solution.

Interop-3	2.4.4. Virtualization	Is the solution designed to run in virtual environments without the need for modification?	Yes	The CareT portal EO AITC solution is based on virtual server environments.
Interop-4	2.4.5. Infrastructure Capacity	Have infrastructure capacity requirements been assessed and has an infrastructure impact analysis been performed?	Yes	This will be performed but hasn't be completed at this time. This analysis will be performed by the CareT development team in coordination with the EO AITC support team.
Interop-5	2.4.6. Storage	Are storage capacity requirements based on detailed capacity analysis and/or models?	Yes	This will be performed but hasn't be completed at this time. This analysis will be performed

				by the CareT development team in coordination with the EO AITC support team.
Interop-6	2.4.7. Network Configurations	Is the solution designed to operate within the current VA LAN and WAN network configurations?	Yes	The CareT EO AITC solution will operate within the VA LAN and WAN network configurations. This will be documented in the CareT SDD in sections System Architecture and Network Architecture .
Interop-7	2.4.9. System Monitoring	Does the deployment environment meet the performance, downtime and security monitoring requirements of the solution?	Yes	The CareT EO AITC solution will meet the performance , downtime and security

				monitoring requirements.
Interop-8: Q1	2.4.10. Disaster Recovery	Has the applicable DR Service Tier been identified based on the business continuity requirements?	Yes	The CareT EO AITC SLAM specifies the DR requirements.
Interop-8: Q2	2.4.10. Disaster Recovery	Has a disaster recovery plan been developed and provisioned?	Yes	This will be performed but hasn't be completed at this time. This analysis will be performed by the CareT development team in coordination with the EO AITC support team.
Interop-8: Q3	2.4.10. Disaster Recovery	Are critical infrastructure components (including Data) located at multiple (physical) locations?	N/A	The CareT infrastructure will only be hosted out of the AITC environment

Interop-9	2.4.11. Backup and Restore	Will the backup and restore solution meet objective data recovery requirements (RPOs and RTOs)?	Yes	The CareT EO AITC SLAM specifies the DR requirements and these will be met within the CareT EO AITC solution for DR.
Interop-10: Q1	2.5.2. External Hosting	Have all guidelines for using commercial partners been communicated to the hosting provider?	N/A	Not currently applicable for the CareT portal solution.
Interop-10: Q2	2.5.2. External Hosting	Have all guidelines for using commercial partners been followed?	N/A	Not currently applicable for the CareT portal solution.

A.4. System Features to Requirements Traceability Matrix

Table 19: System Features to Requirements Traceability Matrix

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CareT and Online Application Portal	SF001	Allow Veteran and Caregiver to submit Online Joint Applications	CARET-EP-1	Func.3.0 Accept and Process Application	Func.3.2 Capture Information from 10-10CG Application (Paper or Electronic)	
CareT and Online Application Portal	SF002	Push Application-related status updates to Veteran and Caregivers' Online Account	CARET-EP-2	Func.2.0 Create/Manage Veteran Records	Func.2.4 Show 10-10CG Application Status	
CareT and Online Application Portal	SF003A	Send submitted online applications to CareT	CARET-EP-1	Func.3.0 Accept and Process Application	Func.3.2 Capture Information from 10-10CG Application (Paper or Electronic)	
CareT and Online Application Interface	SF003B	Receive online applications in CareT and populate them as work items in VA facility work-item queues	CARET-EP-4	Func.3.0 Accept and Process Application	Func.3.2 Capture Information from 10-10CG Application (Paper or Electronic)	

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CSC Application Processing	SF004	Allow applications submitted as hard copies (US Mail/Fax/In-person) to be scanned and added as work items to the appropriate VA facility work item queue. Other kind of CSC work items will have their own queues within the facility.	CARET-EP-3	Func.3.0 Accept and Process Application	Func.3.2 Capture Information from 10-10CG Application (Paper or Electronic)	
CSC Application Processing	SF005	Allow Facility supervisor to assign work items from the facility queues to Caregiver Support Coordinators (CSC) for processing	CAERT-EP-5 CARET-EP-6 CARET-EP-7	Func.3.0 Accept and Process Application	Func.3.5 Create/Manage Application Work Item	
CSC Application Processing	SF006	Have a Dashboard Feature for the CSCs to keep track of (1) their ongoing tasks (2) display notifications for near due, due and past due tasks (3) show CSC calendar for their home visit schedule	CARET-EP-8 CARET-EP-30	Func.3.0 Accept and Process Application	Func.3.6 Manage CSC Calendar	

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CSC Application Processing	SF007	Create a VCG record for the Veteran listed on the application form	CARET-EP-9	Func.2.0 Create/Manage Veteran Records		
CSC Application Processing	SF008	Add a submitted application from a Veteran to his/her VCG Record	CARET-EP-9 CARET-EP-10	Func.2.0 Create/Manage Veteran Records		
CSC Application Processing	SF009	Process Applications through several steps to Approval. <u>Note:</u> Application Processing is primarily a manual process and only status updates and their dates are entered in CareT.	CARET-EP-10 CARET-EP-11 CARET-EP-12 CARET-EP-14 CARET-EP-15 CARET-EP-16 CARET-EP-17 CARET-EP-18 CARET-EP-19 CARET-EP-20 CARET-EP-22 CARET-EP-23 CARET-EP-24 CARET-EP-25	Func.3.0 Accept and Process Application	Func.3.3 Process 10-10CG Application	
CSC Application Processing	SF010	Process Updates to Approved applications over time	CARET-EP-26 CARET-EP-27	Func.3.0 Accept and Process Application	Func.3.3 Process 10-10CG Application	Func.3.3.2 Perform Status Updates

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CSC Application Processing	SF011	Allow General Caregiver information to be stored in the VCG Record	CARET-EP-33	Func.2.0 Create/Manage Veteran Records	Func.2.6 Capture General Caregiver Information	
CSC Application Processing	SF012	Allow transferring a Caregiver Entry (within the VCG record) to another facility	CARET-EP-13 CARET-EP-21 CARET-EP-28	Func.2.0 Create/Manage Veteran Records	Func.2.1 Update Application Information within VCG Record	Func.2.1.4 Transfer Application to Other Facility
CSC Application Processing	SF013	Search and view VCG records, their underlying Application Information and General Caregiver information	CARET-EP-10	Func.2.0 Create/Manage Veteran Records	Func.2.7 Search and Display VCG Records	
CSC Application Processing	SF014	Internal messaging feature for the CSC, CSC Admin and CBOPC users.	CARET-EP-32	Func.3.0 Accept and Process Application	Func.3.7 Transmit Internal Messages	
CSC Application Processing	SF015	Nightly scan of SSNs for Veterans with Approved Caregivers against E&E database to check if any Veterans have deceased so their Caregivers can be revoked.	CARET-EP-31	Func.2.0 Create/Manage Veteran Records	Func.2.5 Check Death-related Information in E&E	

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CBOPC Stipend Processing	SF016	Create Stipend Processing Work Items in the CBOPC queue based on Application approval and updates. Other CBOPC work items will have their own queues.	CARET-EP-22 CARET-EP-26 CARET-EP-37 CARET-EP-38 CARET-EP-39 CARET-EP-40 CARET-EP-41 CARET-EP-42	Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item	
CBOPC Stipend Processing	SF017	CBOPC team members can process work items from the CBOPC queue in a First come first serve basis	CARET-EP-36 CARET-EP-37	Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item	
CBOPC Stipend Processing	SF018	Automatically calculate stipend payments.	CARET-EP-37 CARET-EP-39 CARET-EP-40 CARET-EP-41 CARET-EP-42	Func.1.0 Perform Stipend Operations	Func.1.2 Calculate Stipend Payment	
CBOPC Stipend Processing	SF019	Manually Edit automatic calculation results if needed	CARET-EP-47	Func.1.0 Perform Stipend Operations	Func.1.2 Calculate Stipend Payment	

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CBOPC Stipend Processing	SF020	Process each stipend work item through a review step and a approve step (and an additional supervisor approval step if the stipend amount within the work item is over \$35,000)	CARET-EP-36	Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item	
CBOPC Stipend Processing	SF021	Save verified stipend processing work items in a monthly payment list	CARET-EP-43	Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item	
CBOPC Stipend Processing	SF022	Send Monthly payment list to a payment source on a predefined and configurable schedule	CARET-EP-43	Func.1.0 Perform Stipend Operations	Func.1.10 Process Payment Response File from Payment Source	Func.1.8.2 Send Monthly Stipend Payment File
CBOPC Stipend Processing	SF023	Receive and process monthly payment response list from the payment source	CARET-EP-44	Func.1.0 Perform Stipend Operations	Func.1.10 Process Payment Response File from Payment Source	

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CBOPC Stipend Processing	SF024	Save processed 'rejected payment work items' in a weekly payment list	CARET-EP-45	Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item	Func.1.1.3 Process/Manage Rejected/Held Payment Work Item
CBOPC Stipend Processing	SF025	Send Weekly payment list to a payment source on a predefined and configurable schedule	CARET-EP-45	Func.1.0 Perform Stipend Operations	Func.1.8 Send Stipend Payment File to Payment Source System	Func.1.8.1 Send Weekly Stipend Payment File
CBOPC Stipend Processing	SF026	Receive and process weekly payment response from the payment source	CARET-EP-46	Func.1.0 Perform Stipend Operations	Func.1.10 Process Payment Response File from Payment Source	
CBOPC Stipend Processing	SF027	Automatically create a new Vendor Record when a new Primary Caregiver is approved in the System	CARET-EP-38	Func.1.0 Perform Stipend Operations	Func.1.11 Vendorize Caregiver	Func.1.11.1 Manage Vendor Records
CBOPC Stipend Processing	SF028	Update BLS rates for stipend payment yearly (rates are based on zip code)	CARET-EP-50	Func.1.0 Perform Stipend Operations	Func.1.9 Process Yearly BLS Rate File	

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CSL Support	SF029	Have a Daily Centralized Callback List consisting of Call items.	CARET-EP-51 CARET-EP-52	Func.6.0 Perform Phone Support Operations	Func.6.1 Create/Manage Call Item	Func.6.1.2 Create/Manage Call-back Call Item
CSL Support	SF030	Populate Call Items when they are (1) manually entered (2) automatically generated by existing call entries	CARET-EP-51 CARET-EP-57	Func.6.0 Perform Phone Support Operations	Func.6.1 Create/Manage Call Item	
CSL Support	SF031	Create Call Record based on caller information	CARET-EP-54	Func.6.0 Perform Phone Support Operations	Func.6.2 Create/Manage Call Records	
CSL Support	SF032	Add a Call Entry in the caller's call record and enter and save call information in the call entry	CARET-EP-55 CARET-EP-57	Func.6.0 Perform Phone Support Operations	Func.6.2 Create/Manage Call Records	
CSL Support	SF033	Send Call Referrals to CSC as work items in their facility queue	CARET-EP-56	Func.6.0 Perform Phone Support Operations	Func.6.1 Create/Manage Call Item	
CSL Support	SF034	Associate a call entry with the VCG record if needed	CARET-EP-58 CARET-EP-59	Func.6.0 Perform Phone Support Operations	Func.6.2 Create/Manage Call Records	

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
CSL Support	SF035	Search call records and view call history	CARET-EP-53	Func.6.0 Perform Phone Support Operations	Func.6.5 Search and Display Call Record	
General Features	GF001	Allow printing and exporting grid information throughout the application	CARET-EP-66	Func.2.0 Create/Manage Veteran Records	Func.2.3 Generate VCG Record Reports	
General Features	GF002	Allow Sort and Filter for any grid data within the CareT UI		Func.2.0 Create/Manage Veteran Records	Func.2.3 Generate VCG Record Reports	
General Features	GF003	Allow admin rights over e-form controls (mark as mandatory, change control type [radio button, dropdown, etc.], add and remove controls)	CARET-EP-68	Func.4.0 Configure CareT Parameters	Func.4.3 Configure UI Controls	
General Features	GF004	Allow Predefined and configurable Scheduled reporting across all data points within the system at a facility, Veterans Integrated Service Network (VISN), regional or national level	CARET-EP-61	Func.4.0 Configure CareT Parameters	Func.4.1 Configure Report Parameters	

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
General Features	GF005	Allow Predefined and configurable Ad-hoc reporting across all data points within the system at a facility, VISN, regional or national level	CARET-EP-61	Func.4.0 Configure CareT Parameters	Func.4.1 Configure Report Parameters	
General Features	GF006	Allow an Administrative role for creating user groups and configuring their access levels for each system feature	CARET-EP-62	Func.4.0 Configure CareT Parameters	Func.4.2 Manage System User	
General Features	GF007	Ensure Addresses entered in the system to be United States Postal Service (USPS) valid addresses. Allow admin overrides to this rule.	CARET-EP-63	Func.4.0 Configure CareT Parameters		
General Features	GF008	Generate Address labels for a selected group General and Primary Caregivers at the facility Level	CARET-EP-61	Func.5.0 Generate Correspondence to Applicant		
General Features	GF009	Ensure that spellcheck is enabled on all free-text entry controls (notes, call summary, etc.) within e-forms across the system	CARET-EP-64	Func.2.0 Create/Manage Veteran Records		

Group	System Feature ID	Feature Description	Related Epics	Level 0 Function	Level 1	Level 2
General Features	GF010	Ability to add Tooltip narratives to controls within the CareT UI. Administrators should be able to add or edit tooltips for controls.	CARET-EP-67	Func.4.0 Configure CareT Parameters	Func.4.2 Manage System User	

A.5. Function and Components Traceability Matrix

Table 20: Function and Components Traceability Matrix

Level 0 Function	Level 1	Level 2	SW Component	SWCI
Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item		CBOPC Dash Board	Stipend Payment Processing
Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item		CBOPC Dash Board	CBOPC Work Item Queue
Func.1.0 Perform Stipend Operations	Func.1.2 Calculate Stipend Payment		Stipend Payment	Stipend Payment Calculation
Func.1.0 Perform Stipend Operations	Func.1.2 Calculate Stipend Payment		Stipend Payment	Stipend Payment Calculation
Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item		CBOPC Dash Board	Stipend Payment Processing
Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item		CBOPC Dash Board	CBOPC Work Item Queue
Func.1.0 Perform Stipend Operations	Func.1.10 Process Payment Response File from Payment Source	Func.1.8.2 Send Monthly Stipend Payment File	Stipend Payment	Payment File Creation
Func.1.0 Perform Stipend Operations	Func.1.10 Process Payment Response File from Payment Source		Stipend Payment	Payment Response Processing
Func.1.0 Perform Stipend Operations	Func.1.1 Process Stipend Work Item	Func.1.1.3 Process/Manage Rejected/Held Payment Work Item	CBOPC Dash Board	Stipend Payment Processing

Level 0 Function	Level 1	Level 2	SW Component	SWCI
Func.1.0 Perform Stipend Operations	Func.1.8 Send Stipend Payment File to Payment Source System	Func.1.8.1 Send Weekly Stipend Payment File	Stipend Payment	Payment File Creation
Func.1.0 Perform Stipend Operations	Func.1.10 Process Payment Response File from Payment Source		Stipend Payment	Payment Response Processing
Func.1.0 Perform Stipend Operations	Func.1.11 Vendorize Caregiver	Func.1.11.1 Manage Vendor Records	Stipend Payment	Payment File Creation
Func.1.0 Perform Stipend Operations	Func.1.9 Process Yearly BLS Rate File		Stipend Payment	Stipend Payment Calculation
Func.2.0 Create/Manage Veteran Records	Func.2.4 Show 10-10CG Application Status		10-10CG Application Processing	App Entry and Processing
Func.2.0 Create/Manage Veteran Records			VCG Record Management	
Func.2.0 Create/Manage Veteran Records			VCG Record Management	App Entry and Processing
Func.2.0 Create/Manage Veteran Records	Func.2.6 Capture General Caregiver Information		VCG Record Management	
Func.2.0 Create/Manage Veteran Records	Func.2.1 Update Application Information within VCG Record	Func.2.1.4 Transfer Application to Other Facility	CSC Dash Board	CBOPC Work Item Queue

Level 0 Function	Level 1	Level 2	SW Component	SWCI
Func.2.0 Create/Manage Veteran Records	Func.2.7 Search and Display VCG Records		CSC Dash Board	
Func.2.0 Create/Manage Veteran Records	Func.2.5 Check Death-related Information in E&E		VCG Record Management	
Func.2.0 Create/Manage Veteran Records	Func.2.3 Generate VCG Record Reports		Report Generator	
Func.2.0 Create/Manage Veteran Records	Func.2.3 Generate VCG Record Reports		GUI Configuration	
Func.2.0 Create/Manage Veteran Records			Data Validation and Processing	
Func.3.0 Accept and Process Application	Func.3.2 Capture Information from 10-10CG Application (Paper or Electronic)		10-10CG Application Processing	10-10CG Application Retrieval and Parsing
Func.3.0 Accept and Process Application	Func.3.2 Capture Information from 10-10CG Application (Paper or Electronic)		CSC Dash Board	CSC Work Item Queue
Func.3.0 Accept and Process Application	Func.3.2 Capture Information from 10-10CG Application (Paper or Electronic)		10-10CG Application Processing	10-10CG Application Retrieval and Parsing
Func.3.0 Accept and Process Application	Func.3.2 Capture Information from 10-10CG Application (Paper or Electronic)		CSC Dash Board	CSC Work Item Queue

Level 0 Function	Level 1	Level 2	SW Component	SWCI
Func.3.0 Accept and Process Application	Func.3.5 Create/Manage Application Work Item		CSC Dash Board	CSC Work Item Queue
Func.3.0 Accept and Process Application	Func.3.6 Manage CSC Calendar		CSC Dash Board	
Func.3.0 Accept and Process Application	Func.3.3 Process 10-10CG Application		10-10CG Application Processing	App Entry and Processing
Func.3.0 Accept and Process Application	Func.3.3 Process 10-10CG Application	Func.3.3.2 Perform Status Updates	10-10CG Application Processing	
Func.3.0 Accept and Process Application	Func.3.7 Transmit Internal Messages		Internal Messaging	
Func.4.0 Configure CareT Parameters	Func.4.3 Configure UI Controls		System User Management	
Func.4.0 Configure CareT Parameters	Func.4.1 Configure Report Parameters		Reporting Parameters Configuration	
Func.4.0 Configure CareT Parameters	Func.4.1 Configure Report Parameters		Reporting Parameters Configuration	
Func.4.0 Configure CareT Parameters	Func.4.2 Manage System User		System User Management	
Func.4.0 Configure CareT Parameters			Data Validation and Processing	
Func.4.0 Configure CareT Parameters	Func.4.2 Manage System User		GUI Configuration	
Func.5.0 Generate Correspondence to Applicant			Correspondence Generator	

Level 0 Function	Level 1	Level 2	SW Component	SWCI
Func.6.0 Perform Phone Support Operations	Func.6.1 Create/Manage Call Item	Func.6.1.2 Create/Manage Call-back Call Item	CSL Dash Board	Call List
Func.6.0 Perform Phone Support Operations	Func.6.1 Create/Manage Call Item		CSL Dash Board	Call Item/Call Entry
Func.6.0 Perform Phone Support Operations	Func.6.2 Create/Manage Call Records		Call Management	Call Record Creator
Func.6.0 Perform Phone Support Operations	Func.6.2 Create/Manage Call Records		Call Management	Call Item/Call Entry
Func.6.0 Perform Phone Support Operations	Func.6.1 Create/Manage Call Item		CSL Dash Board	Call Entry Association
Func.6.0 Perform Phone Support Operations	Func.6.2 Create/Manage Call Records		CSL Dash Board	Call Entry Association
Func.6.0 Perform Phone Support Operations	Func.6.5 Search and Display Call Record		Call Record Management	

A.6. Packaging and Installation

Additional detail will be provided at a later date, pending VA input and review

A.7. Design Metrics

Additional detail will be provided at a later date, pending VA input and review

A.8. Functional Behavior Model and Level 2 Functional Hierarchy

Below is CareT's functional behavior model, demonstrated here as a series of functional flow diagrams (FFDs). Level 2 of the CareT functional hierarchy is also included further below:

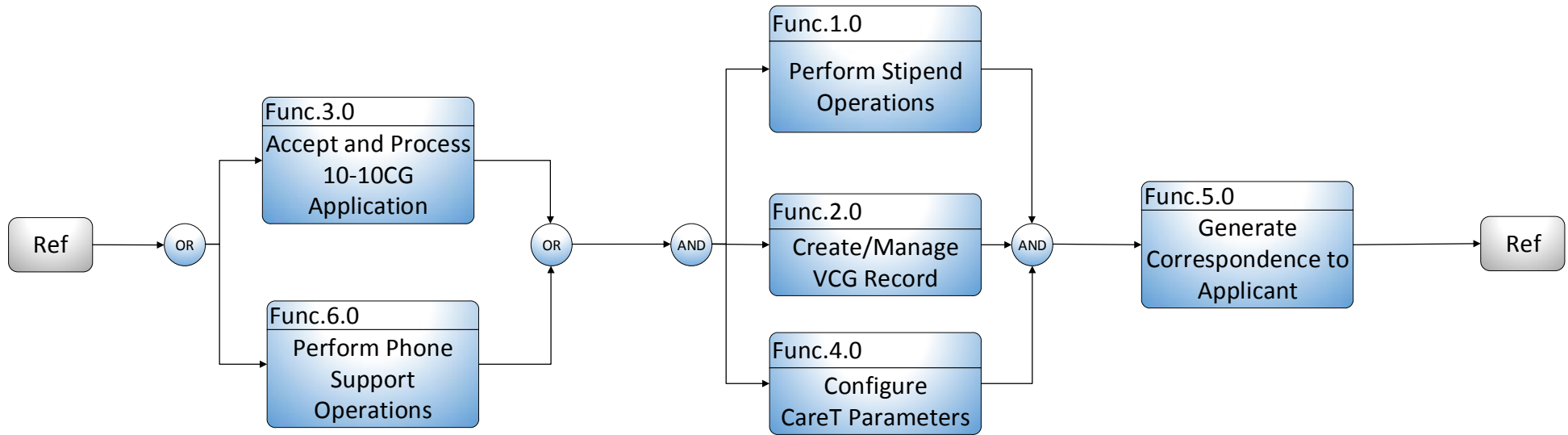


Figure 8: CareT Function Flow Diagram (Level 0)

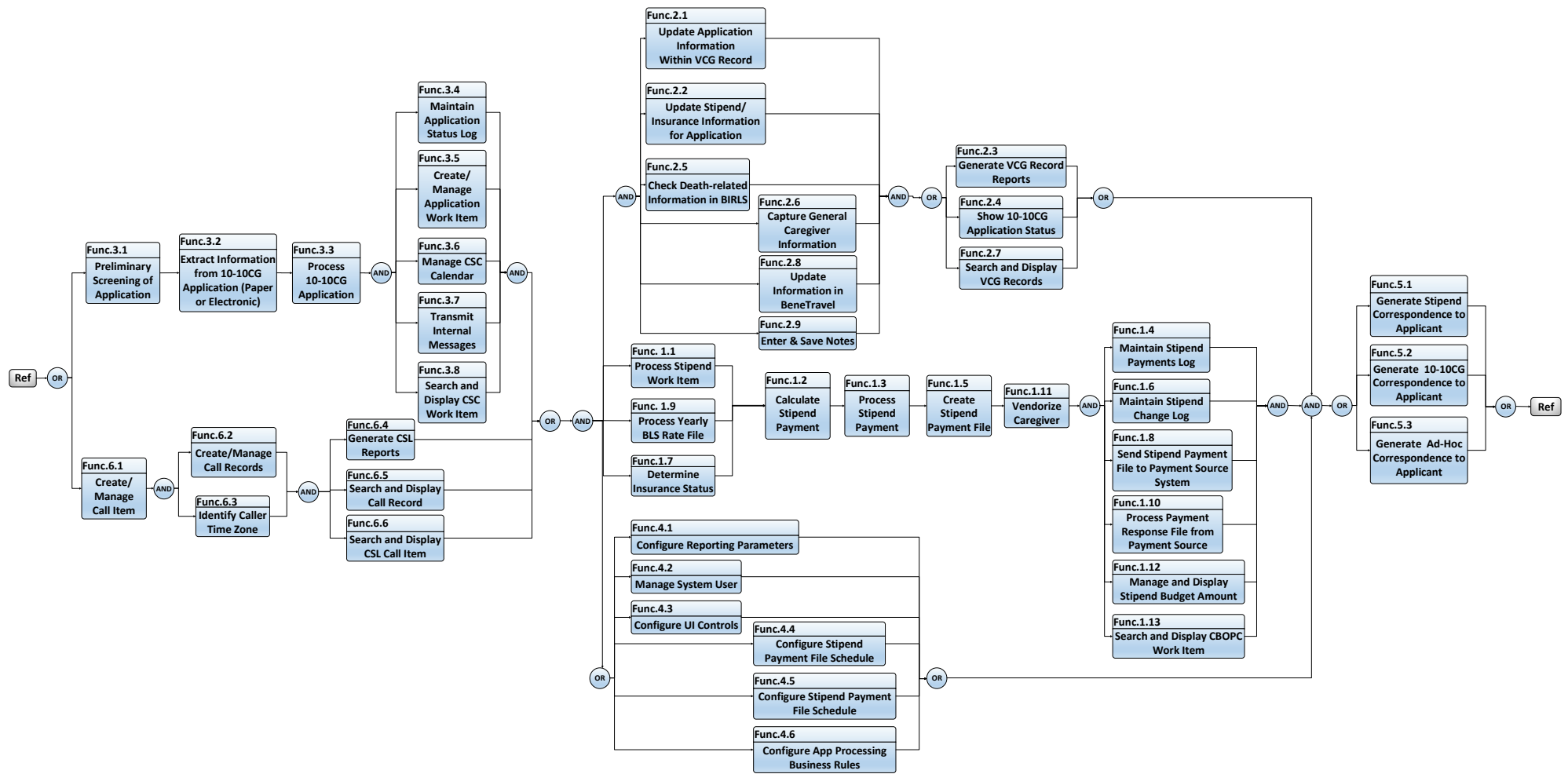


Figure 9: CareT Function Flow Diagram (Level 1)

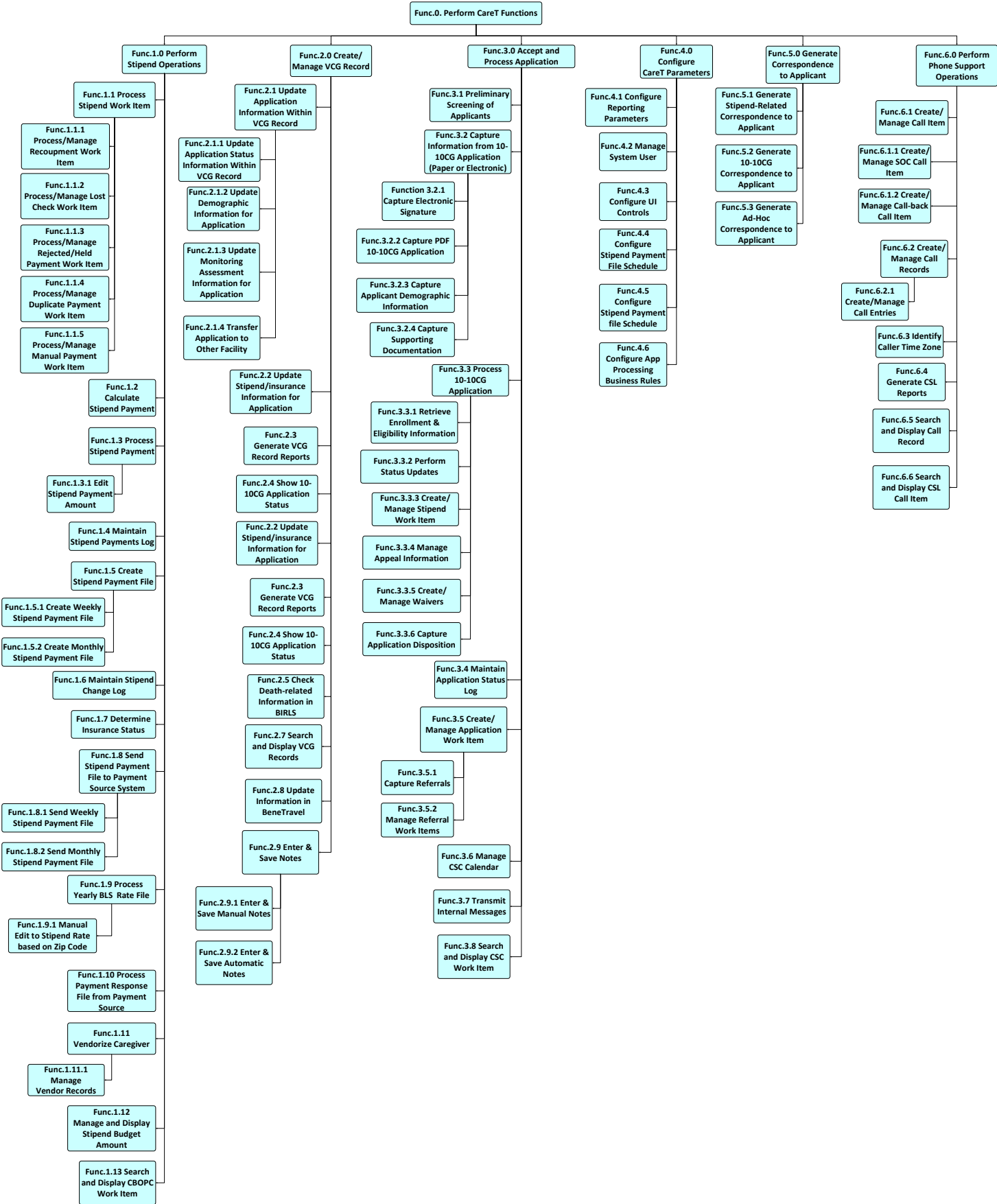
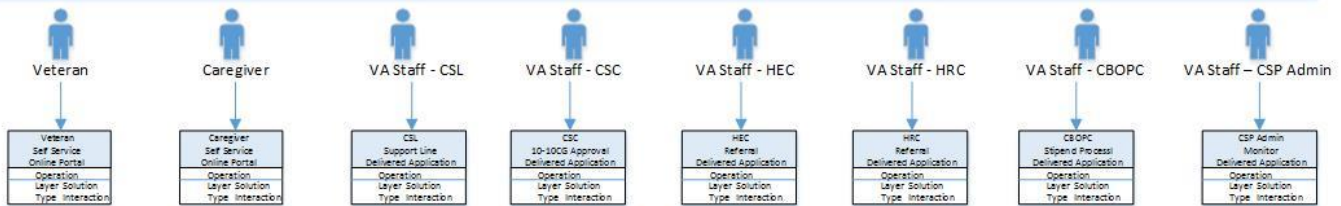


Figure 10: CareT Level 2 Functional Hierarchy Diagram

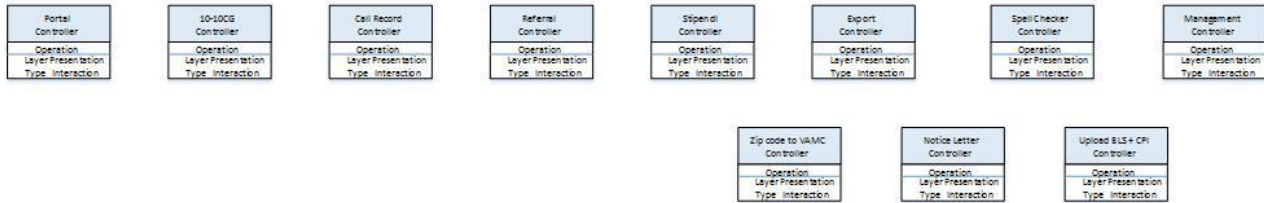
A.9. Service Capability Architecture

Application/Solution Capabilities



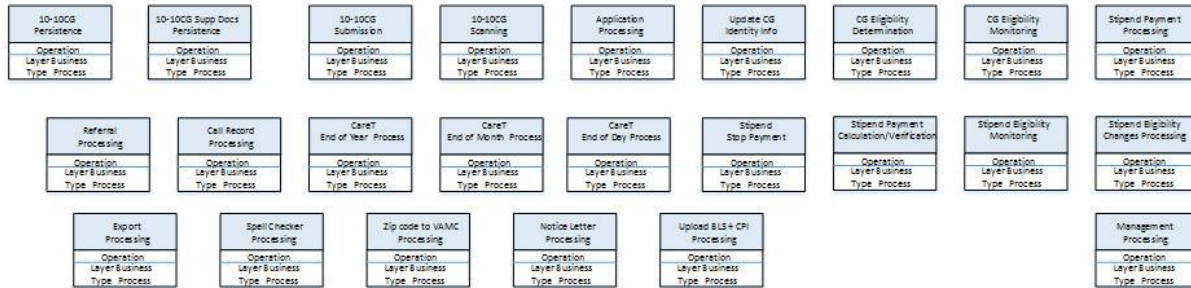
Presentation Layer

Interaction Capabilities



Business Layer

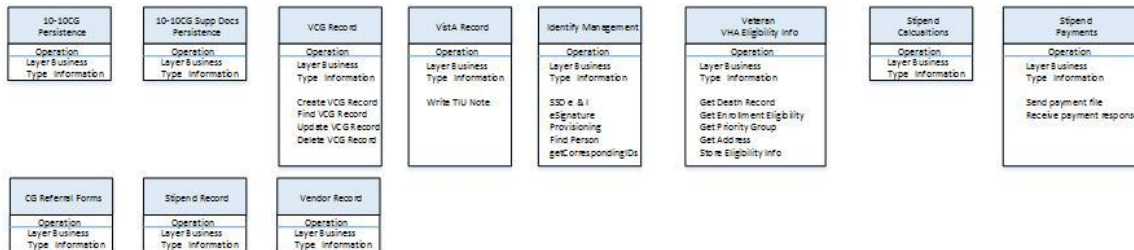
Process Capabilities



Business Application Capabilities



Information Capabilities



Utility Capabilities



A.10. Acronym List and Glossary

Identify and define all acronyms and terms that establish meaning within the context of the plan.

A link is provided to the [REDACTED]

Table 21: CareT Acronym List and Glossary

Term	Definition
AC	Access Control
AITC	Austin Information Technology Center
ANR	Automated Notification Reporting
ASD	Architecture, Strategy & Design
AU	Audit and Accountability
BA	Business Architecture
BGS	Benefit Gateway Service
BLS	Bureau of Labor Statistics
BRCD	Business Requirements Change Document
BRD	Business Requirements Document
BRM	Business Reference Model
CareT	Caregivers Tool
CAT	Caregiver Application Tracker
CBO	Chief Business Office
CBOPC	Chief Business Office Purchased Care
CCD	Continuity of Care Document
CDM	Conceptual Data Model
CDW	Corporate Data Warehouse
CHAMPVA	Civilian Health and Medical Program of the Department of Veterans Affairs
CM	Configuration Management
COTS	Commercial-Off-The-Shelf

Term	Definition
CPRS	Computerized Patient Record System
CRUD	Create, Read, Update, and Delete
CSC	Caregiver Support Coordinator
CSL	Caregiver Support Line
CSP	Caregiver Support Program
DB	Database
DoD	Department of Defense
DRP	Disaster Recovery Plan
E&E	Enrollment & Eligibility
EA	Enterprise Architecture
EDES	Emergency Department Encounter Summary
ePHI	Electronic Protected Health Information
ESS	Enterprise Shared Services
ETA	Enterprise Technical Architecture
FFD	Functional Flow Diagram
FIPS	Federal Information Processing Standard
FMS	Financial Management System
GUI	Graphical User Interface
HEC	Health Eligibility Center
HIPAA	Health Insurance Portability and Accountability Act
HITSP	Health Information Technology Standards Panel
HL7	Health Level Seven
HRC	Health Resource Center
HTTPS	Hypertext Transmission Protocol Secure

Term	Definition
IA	Identification and Authentication
IAM	Identity and Access Management
ICD	Interface Control Document
ICN	Internal Control Number
IFR	Interim Final Rule
IHE	Integrating the Healthcare Enterprise
IPT	Integrated Project Team
IT	Information Technology
MA	Maintenance

MEP	Message Exchange Patterns
MP	Media Protection
MTBF	Mean Time Between Failures
MA	Maintenance
MP	Media Protection
MVI	Master Veteran Index
NIST	National Institute of Standards and Technology
nonf	Non-Functional Requirement
NSR	New Service Request
OI&T	Office of Information and Technology
PC	Purchased Care
PCAFC	Program of Comprehensive Assistance for Family Caregivers
PD	Product Development
PIA	Privacy Impact Assessment
PII	Personal Identifiable Information

Term	Definition
PITC	Philadelphia Information Technology Center
PMAS	Project Management Accountability System
PUB	Publication
Q&A	Question and Answer
RPC	Remote Procedure Call
RSD	Requirement Specification Document
SC	System and Communications Protection
SDD	System Design Document
SDS	Standard Data Services
SEDR	Systems Engineering and Design Review
SFTP	Secure File Transfer Protocol
SI	System and Information Integrity
SLA	Service Level Agreement
SME	Subject Matter Expert
SOA	Service Oriented Architecture
SOAP	Service Oriented Architecture Protocol
SP	Special Publication
SSN	Social Security Number
SSOi	Single Sign-On Internal
TBD	To Be Determined
TIU	Text Integration Utilities
TRM	Technical Reference Manual
UI	User Interface
USPS	United States Postal Service

Term	Definition
VA	Department of Veterans Affairs
VBA	Veteran Benefits Administration
VCG	Veteran's Caregiver
VETS	VA Enterprise Terminology Services
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network
VistA	Veterans Health Information Systems and Technology Architecture
VLER	Virtual Lifetime Electronic Record
WSDL	WebService Definition Language
XML	Extensible Markup Language

A.11. Required Technical Documents

The following documents must be submitted for review to support proper approval:

1. Conformance Validation Statement (CVS) - Section 508
2. IT Infrastructure Standards
3. Systems Engineering and Design Review (SEDR) process
4. Enterprise Architecture Web page
5. One-VA TRM