

CDVA Ew-VHIS Project

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California Department of Veterans Affairs



SECTION III – CURRENT SYSTEM

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SECTION III

CURRENT SYSTEM

This section describes the program background and current technical environment supporting the Veterans Homes information system needs. The information presented in this section is intended to provide the reader with an understanding of the current environment. Bidders should also refer to Appendix C: Technical Exhibits, which contains a description of the documents contained in the Procurement Library, including additional information on the current CDVA operational and technical environments.

III.1 PROGRAM BACKGROUND

A major component of the California Department of Veterans Affairs' mission is to provide the State's aged or disabled veterans with rehabilitative, residential, and medical care and services in a home-like environment. To carry out this mission, the Veterans Homes Division of CDVA operates Continuing Care Retirement Community (CCRC) healthcare facilities (Veterans Homes) for the benefit of California's aging and disabled veterans.

Table 1 shows the CDVA locations that are dependent on the Ew-VHIS and includes the levels of care, care settings, and services provided at each location, where known. In the table, "(P)" indicates that the level of care or services is planned for a facility, "X" means the level of care and/or service is provided at the Home by CDVA staff, and "X (Contract)" means that the service is provided on site by contract providers.

		CDVA Location								
		Existing				Future				
		Barstow	Chula Vista	Yountville	HQ	GLAVC			Fresno	Redding
West LA	Lancaster					Ventura				
Areas of Care and Settings	Acute	--	--	X	--	--	--	--	--	--
	SNF	X	X	X	--	X	--	--	X	X
	ICF	--	--	X	--	--	--	--	--	--
	Alz / Dementia	X	--	X	--	X	--	--	X	X
	RCFE/ALF	FY2010	X	X	--	X	X	x	X	X
	Domicillary	X	X	X	--	--	--	--	--	--
	Hospice	X	X	X	--	X	X	X	X	X
	Out Patient	X	X	X	--	--	--	--	X	X
	Out Patient Surgery	--	--	X	--	--	--	--	X	--
	Adult Day Health Care	--	--	--	--	--	X	X	--	--
Clinical Support and Services	Clinical Support Services									
	Audiology	X (Contract)	X (Contract)	X	--	X (Contract)	X (Contract)	X (Contract)	X (Contract)	X (Contract)
	Behavioral Health	X (Contract)	X	X	--	X (Contract)	X (Contract)	X (Contract)	X (Contract)	X (Contract)
	Dental	X	X (Contract)	X	--	X (Contract)	X (Contract)	X (Contract)	X (Contract)	X (Contract)
	Dermatology	X (Contract)	X (Contract)	X (Contract)	--	X (Contract)	X (Contract)	X (Contract)	X (Contract)	X (Contract)
	EENT	X (Contract)	X (Contract)	X (Contract)	--	X (Contract)	X (Contract)	X (Contract)	X (Contract)	X (Contract)
	Food Service	X (Contract)	X (Contract)	X	--	X (Contract)	X (Contract)	X (Contract)	X (Contract)	X (Contract)
	Medical Nutrition	X	X	X	--	X	X	X	X	X
	Podiatry	X (Contract)	X (Contract)	X	--	X (Contract)	X (Contract)	X (Contract)	X (Contract)	X (Contract)
	Rehabilitation	Contract	X (Contract)	X	--	X (Contract)	X (Contract)	X (Contract)	X	X
	Respiratory Therapy	X (Contract)	X (Contract)	X	--	X (Contract)	--	--	--	--
	Therapeutic Act.	X	X	X	--	X	X	X	X	X
	Other	?	X	X	--	X (Contract)	X (Contract)	X (Contract)	X (Contract)	X (Contract)
	Ancillary Services									
	Rx	Chula Vista	X	X	--	X	WLA	WLA	--	--
	Lab	X (Contract)	X (Contract)	X	--	VA-WLA	VA-WLA	VA-WLA	--	--
	Rad	X (Contract)	X (Contract)	X	--	X (Contract)	X (Contract)	X (Contract)	--	--
Facility Size	Staff	160	269	980		608	124	124	438	250
	MEDITECH Users	155	44	647		0	0	0	289	165
	Ew-VHIS (Proposed)	155	200	900		608	124	124	438	250
	Beds	400	400	1,085	0	396	109	109	300	150
Bedcount by Level of Care	Domicillary	165	165	629	--	--	--	--	--	--
	RCFE	55	55	48	--	84	60	60	180	90
	ICF	60	--	169	--	--	--	--	--	--
	SNF	120	180	229	--	312	--	--	120	60
	Acute	0	0	10	--	--	--	--	--	--
	Adult Day Health Care	0	0	0	--	--	49	49	--	--

Table 1: CDVA Homes "At a Glance"

III.1.1 Headquarters

The Veterans Homes Division, operating from CDVA headquarters in Sacramento, oversees the operations of the three existing Homes in Yountville, Barstow, and Chula Vista, and the construction planning of five new Homes. The Homes Division is supported by the Administrative Services Division. Together, these two Divisions provide centralized administrative and support services, including Legal, Public Relations, Procurement and Contract Management, Information Services, Personnel, Budgets, Accounting and Reimbursements.

III.1.2 Veterans Homes

The Homes are distributed across California. An administrator with CDVA Skilled Nursing Facility (SNF) management experience or licensed as a Licensed Nursing Home Administrator (LNHA) manages the day-to-day operation of each Veterans Home. Staff skill sets at the Homes range from clinical to administrative to technical.

The primary levels of care provided within the CDVA system include:

- **Residential Care, Domiciliary:** Care for residents who are self-sufficient and able to perform all daily living activities with minimal supervision by staff members who are not nurses.
- **Residential Care, Licensed:** Minimal assistance and supervision for residents who can perform most of their daily living activities adequately. This level also offers a program to assist recovering alcoholics. These individuals have some functional limitations and require support for activities of daily living.
- **Intermediate Care Facility (ICF):** Care for residents who require some nursing assistance by licensed nursing staff so that they can perform daily living activities. These residents have fewer recurring needs for nursing services than do residents who qualify for skilled nursing.
- **Skilled Nursing Facility (SNF) Care:** Round the clock nursing care given or supervised by licensed nurses and under the general direction of a doctor on an extended basis, with the degree of care varying from moderate to total according to the patient's condition. This level provides less intense care than acute care, while giving patients rehabilitation, nursing, pharmaceutical, and dietary services. The patient has the option of participating in activity programs.
- **Acute Care:** Hospital care offered only at the Yountville Home. This level of health care includes 24-hour continuous life-saving services such as

medical, nursing, surgical, anesthesia, laboratory, radiology, pharmacy, dietary, psychiatric, and various therapies.

The three Veterans Homes currently in operation are:

- **Yountville:** The Yountville Home has been in existence since 1884. The largest of the three Homes, Yountville is the only facility that provides acute care. The Home is licensed by the Office of Statewide Healthcare Planning and Development (OSHPD) as an acute care hospital. Yountville will be opening an Alzheimer's /dementia unit in FY 2008/2009.
- **Barstow:** The Barstow Home opened in 1996 as a long-term care (LTC) facility. Clinical services at Barstow are provided by a mix of facility and contracted services, both on and off-site. Pharmacy services are provided through Chula Vista. Barstow plans on re-opening its assisted living facility in 2010.
- **Chula Vista:** The Chula Vista Home opened in May 2000. Like Barstow, clinical services are provided by a mix of contracted and facility services. Chula Vista has maintained its reliance on a paper record although the Home installed the Cerner Etreby system for pharmacy.

Enabling legislation (the Veterans Home Bond Act of 2000, Assembly Bill (AB) 2559 [Wesson] of 2002, and AB 1077 [Wesson] of 2004) has made funds available to develop and construct five (5) new Veterans Homes in Lancaster, Ventura, West Los Angeles, Fresno, and Redding. This legislation supports the State's requirement to raise matching funds in order to receive a grant from the United States Department of Veterans Affairs (USDVA) State Home Grant Program which provides the majority of the expansion project costs.

- **Greater Los Angeles and Ventura County (GLAVC) Homes** will be the first of three new Homes. Two satellite Homes will be located in Lancaster and Ventura with the largest and main facility in Los Angeles on acreage provided to CDVA by the United States Department of Veterans Affairs (USDVA). These Homes will be operated in conjunction with the USDVA through a series of sharing agreements for the USDVA to provide pharmaceutical, medical, textile care, medical, food and nutrition services and medical supplies to the GLAVC Homes. The Lancaster and Ventura satellite Homes are currently scheduled to open in June 2009 with the main facility in Los Angeles scheduled to open in June 2010. A major consideration in the Ew-VHIS implementation will be to provide an information system in time for the opening of this West Los Angeles facility.

- **Redding and Fresno Homes** are the remaining two planned Homes. These are fully funded. Redding is due to open in April 2011 and Fresno in June 2011.

CDVA is subject to oversight and regulatory compliance by the United States Department of Veterans Services and the State of California, both for healthcare and for social services. The California Department of Public Health (CDPH) licenses the Barstow and Chula Vista as long-term care facilities and the Yountville Home as an acute care hospital. The residential facilities at all three Homes are subject to licensure by the California Department of Social Services. Both the USDVA and the State survey the Homes on a yearly basis.

III.2 TECHNICAL ENVIRONMENT

CDVA manages its own local-area networks (LAN's) and Verizon manages the wide-area network (WAN). CDVA has a Windows-centric computing infrastructure. MEDITECH, the core Veterans Homes Information System (VHIS) application, was originally purchased in 1996 to automate the business and information technology needs of the Barstow Home. MEDITECH was subsequently installed at the Yountville (1998) and Chula Vista (1999) Homes to aid in providing care and services to their residents. Management of all computing resources, the network, the desktop environment, and the CDVA primary applications (MITAS [CalVet Mortgage Loan System] and MEDITECH) are centralized in Sacramento with IT support provided locally at the Homes. This section describes the current technical environment in which CDVA operates.

III.2.1 Network

CDVA uses Verizon to manage the WAN connecting the various facilities, including the three Homes, CalVet, Veterans Services, to the CDVA-operated data center at Sacramento Headquarters. An additional data center at the Yountville Home serves as a backup site, both for normal operations and for disaster recovery.

The CDVA WAN covers 12 locations statewide, allowing each location to communicate internally within the Department as well as with other State agencies and Internet-based users. The WAN/LAN infrastructure consists of switches, firewalls, and routers managed and supplied by Verizon, operating at layer 4 of the Open Systems Interconnection (OSI) model.

CDVA has a routed connection to the Department of Technology Services. This connection provides System Network Architecture (SNA) over IP to allow for connectivity to California State Accounting and Reporting System (CALSTARS) and the State Controller Office (SCO) systems. The CDVA primary data center in Sacramento has a fiber connection directly to the local AT&T central office. Connections to all 12 remote sites are over Verizon's Multiprotocol Label Switching (MPLS) system.

The LAN at each CDVA facility consists of a fiber optic backbone with Category 5 cabling to the desktop. The Department uses Gigabit and Fast Ethernet topologies. The Department runs a multi-protocol environment, which includes Transmission Control Protocol/Internet Protocol (TCP/IP) and SNA protocols, in order to support all required CDVA business processes.

CDVA provides its own Domain Name System (DNS) and uses Active Directory as the basis for its directory services, user authentication, and access control. The internal mail system uses Exchange, with both Simple Mail Transfer Protocol (SMTP) and Internet Access Message Protocol (IMAP) in use.

On any given day, there are approximately 800 concurrent network users with a total of 1,200 to 1,300 users named in Active Directory. CDVA supports Windows XP (SP3) for its desktops and laptops. Users connect to the MEDITECH system with a PC using MEDITECH Windows Telnet client. Remote access to the network is provided through Virtual Private Networking (VPN) and/or Outlook Web Access (OWA).

The Department has video conferencing capabilities over the existing network infrastructure. Video conferencing is utilized at Headquarters and at the Veterans Homes for distance learning and executive staff meetings. The use of video conferencing promotes accessible training and communication across the Homes and reduces travel costs and loss of productivity for staff.

III.2.2 CDVA Data Centers

The primary CDVA Data Center in Sacramento currently contains:

- Blade servers providing support for Windows-based services (file and print, Exchange, DNS, Active Directory, SQL Server), the CDVA Helpdesk (TrackIt!), and MITAS, the CDVA mortgage database for the CalVet Home Loans division, as well as several other small Windows-based applications
- Four (4) Citrix servers (i.e., Presentation server) that provide connection to MITAS, the CDVA mortgage database

- Eight (8) IBM servers for the MEDITECH system, using MAGIC as the operating system

The Yountville Data Center, located in 1 North of the NM Holderman Memorial Hospital, contains:

- Redundant DNS and domain control servers
- Servers that support Yountville file / print services (Note: similar servers are also present at each Home.)
- MEDITECH disaster recovery configuration for backup to the primary system in Sacramento (This is comprised of five (5) servers running Magic.)

CDVA uses standard Windows tools for the majority of its system administration. CDVA uses TrackIt/Altiris to support its helpdesk services. Backups are currently done with Backup Exec, except for MEDITECH, which given the proprietary nature of its operating system, has its own backup. Tapes are created and rotated off-site by the contractor, Vanguard. CDVA also uses Websense for content filtering and CipherTrust for Exchange to manage spam and provide encryption. McAfee Anti-Virus is used to protect workstations and servers and is pushed out using McAfee ePolicy Orchestrator (ePO).

III.2.3 Desktop Environment

CDVA has approximately 1,800 desktop workstations that operate using Windows XP SP3. CDVA also has a number of mobile laptops. CDVA employs a commercial product on these machines that provides hard drive encryption.

The main CDVA desktop application suite is Microsoft Office 2003 with Outlook/Exchange for email and calendaring and Internet Explorer (IE) for Web-based processes. Most printers are network-attached Hewlett-Packard (HP) devices and are managed through Active Directory. The Department also uses multi-function devices from Canon, Sharp and HP for color printing/copying/faxing and emailing.

III.2.4 Infrastructure Technology Refresh

CDVA is centralizing access to CDVA IT assets, placing all servers at CDVA Data Center. Also under consideration is using a thin client, such as Virtual Desktop Infrastructure (VDI) or Citrix, for users to access CDVA services and applications. CDVA is also implementing the use of virtualization to simplify its

mixed environment. An application, such as the Ew-VHIS, could be hosted in a virtual environment, such as VMWare,

CDVA installed Inmon as its umbrella network management product. It is using EMC, for its enterprise backup solution and is looking for all CDVA applications to be integrated with EMC. CDVA has installed an EMC Storage Area Network (SAN) as an approach to increase storage in a cost efficient manner and as part of its virtualization/centralization initiative. CDVA has also installed Altiris for server patch management, as well as for helpdesk functions.

CDVA realizes that its virtualization/centralization initiative will place an increased demand on its networks, both in terms of reliability and availability. Both these factors will be especially critical as the Department moves towards implementing a paperless Resident record. CDVA has increased the capacity of its current WAN and is taking steps to ensure redundancy.

Policies and procedures are currently being developed within the Department to support the increasing use of wireless communications and mobile devices. The new Homes, such as GLAVC Homes, have been designed with the use of wireless, mobile devices in clinical applications in mind. The State envisions the Ew-VHIS being able to work within the wireless standards and policies being established by CDVA, although the Bidder is not responsible for any direct implementation involving the CDVA infrastructure.

III.2.5 MEDITECH

MEDITECH, a fully integrated health care management and billing system, is currently used to support the business processes and functions and Resident care at the three existing Veterans Homes. The current CDVA MEDITECH implementation supports the following functionality:

- Capture, storage and retrieval of patient data
- Charge capture, billing, and reimbursement process management
- Inventory/materiel management and purchasing
- Managing financial information
- Managing Resident trust funds
- Pharmacy management including in- and out-patient functions
- Laboratory management including lab, microbiology, and pathology ordering/testing
- Tracking radiology exams
- Scheduling and tracking patient clinical appointments

- Tracking nursing documentation
- Entry of orders by provider / physician
- Monitoring the effectiveness and quality of diagnostic and treatment services
- Evaluating the outcome of services and procedures
- Reporting to management

Table 2 shows the licensed MEDITECH modules used by the various locations at CDVA. CDVA has recently completed an upgrade to Version 5.5.4 of MEDTIECH.

Table 2: MEDITECH Modules Used by Home

MEDITECH Module	Yountville	Chula Vista	Barstow
Resident Management			
Laboratory: Anatomical Pathology	X		
Laboratory: Microbiology	X		
Case Mix Management Option (staffing roster matrix out of MDS module)	X	x	x
Lab Interface	X		
Laboratory Module	X		
Nursing	X	x	x
Order Entry	X		x
PHA Formulary Interface	X		
Pharmacy	X		
Patient Care Inquiry Option	X		x
Radiology	X		
Separate Outpatient Campus	X	x	x
Resident Admin/Finance			
Accounts Payable	X	x	x
Admissions	X	x	x
Bill/Remit Third Party	X	x	x
Billing/Accounts Receivable	X	x	x
Community Wide Scheduling	X	x	x
Departmental Option (reporting by department)	X		x
Materials Management	X	x	x

MEDITECH Module	Yountville	Chula Vista	Barstow
Medical Records	X	x	x
Enterprise Operations			
Executive Support System	X		x
Fixed Assets			x
General Ledger	X	x	x
Support Tools			
PC Workstation/Windows & Web Software	X	x	x
Magic Office (e-mail and library files)	X	x	x

The current CDVA implementation of MEDITECH is designed for managing acute care facilities with limited LTC capability. CDVA has had to adapt this acute care system to meet the Homes’ functional needs, sometimes at the expense of usability and flexibility. Problems that CDVA has encountered include:

- System-enforced creation of a new additional Resident account each time a Resident changes his/her level of care, complicating access to a consistent view of a Resident’s clinical record.
- Business rules affecting the transfer of information from one account to another, causing data to be lost or missed in the transfer.
- Requirements that medication and other orders on a discharged account must be stopped, requiring that CDVA staff re-enter and restart medications and existing orders on the new account, resulting in gaps in a Resident’s profiles.
- Purging of the discharged account record in accordance with acute care rules when, in actuality, the information should not be purged.
- Lack of an electronic clinical record that meets CDVA documentation rules, resulting in the development of manual tools, such as Bedside Documentation Worksheets, Enteral Therapy Worksheets, Certified Nursing Assistant Worksheets for Resident documentation, and Activities of Daily Living Worksheets.

III.2.6 Interfaces

CDVA clinical, administrative, and business services interface with and utilize a variety of other systems, products, and technical services. These are summarized in Table 3 and grouped broadly into the functional or technical

categories. A list of external system interfaces, current as of the RFP release date, is provided in Appendix C: Technical Exhibits. Any updates will be available in the Procurement Library.

Table 3: CDVA Current Systems/Interfaces Summary

Functional Interfaces/Systems		
Resident Management	Resident Admin/Finance	Enterprise Operations
<ul style="list-style-type: none"> • VistA (via “sneaker-net”) • First Data Bank (Rx formulary) • Etreby (Rx) • McKesson (Rx) • Geri-Menu • Lumetra (formerly CMRI) • Wheel chair & assistive devices 	<ul style="list-style-type: none"> • 3-M • CodeCorrect • EduKeep • DDE interface (for billing/claims) • EDI (for billing/claims) • AMA CPT Codes • NCHS ICD Codes 	<ul style="list-style-type: none"> • CALSTARS (California State Accounting and Reporting System) • QuickBooks • Purchasing • PHA-PURCH • Monarch (reporting tool) • Maximo/Sprocket (plant ops) • Track-It!/Altiris (IT assets tracking) • OSHPD (Internet Hospital Quarterly Reporting System (IHQRS)) • OSHPD (Internet annual long term facility reporting system) • Assets Property Management
Functional Interfaces/Systems		
Department of Technology Services (DTS) Data Center / Network Gateway CDVA Network Services (WAN/LAN) Microsoft Office (Access, Excel, Word)		

III.2.7 Workload and Performance Information

Estimated system workload and performance information is included in Appendix C: Technical Exhibits. Additional updates will be provided in the Procurement Library.