Software Product Description

PRODUCT NAME: HealthView Connectivity Component for VMS, Version 1.1 **SPD 46.24.01**

DESCRIPTION

The HealthView Connectivity Component is a part of the HealthView solution which integrates applications within healthcare organizations. The goal is to enable applications to exchange data between each other and update patient record information. The HealthView solution typically involves consulting, customization, and installation services.

HealthView Connectivity Component (HVCC)

The HealthView Connectivity Component is an intelligent message router used by applications to exchange packets of data. HVCC allows disparate applications to communicate with each other by connecting those applications once to HVCC, and then relying on HVCC to facilitate delivery of messages to one or more destinations. HVCC is message data format independent, thereby allowing applications to use HL7, or another format to represent the structure of the message. Message routing instructions are stored in a central routing table that is maintained by supplied utilities.

HVCC is designed to support two types of message traffic: update and query. Update mode is used when one application needs to send another data in which the sender requires guarantee of delivery. Update messages are stored within HVCC, and may be delivered to one or more destinations. If a destination is unable to receive messages, those messages are held and delivered on a first in first out (FIFO) order when that destination resumes communication with HVCC. The application submitting updates to HVCC need not be concerned with the actual delivery to the target applications.

Query mode is used when one application needs to request information from another. Query messages are delivered to the first application on a distribution list that is able to service the request. That is, if the first application (on a list of candidate destinations) can not service the request, the message is passed on to remaining destinations (if any) until the the request is serviced. Query message data is not stored, however query summary information is stored to facilitate monitoring HVCC traffic.

Applications that receive query messages submit response messages to HVCC which are either immediately routed back to the application that submitted the query (immediate mode) or are held until the application that submitted the query requests the response at a later time (deferred mode).

Query operations can be used in either immediate or deferred mode. Immediate mode requires the initiating application (caller) to wait for the requested operation to complete. Deferred mode returns an identifier to the caller, allowing that application to perform other tasks while HVCC handles the request. Later, the initiating applications can use the identifier to collect responses to its request.

Update and query services are available through a VAX C Applications Programming Interface (API).

HVCC Components and Features

The HealthView Connectivity Component consists of the following:

Application Programming Interface (API)

A set of routines that are callable from VAX C (or from a language that has a C binding) that provide access to HVCC services from application software. Applications that communicate with HVCC in this manner are called *directly connected*. Applications that can't directly interface to the HVCC API communicate with HVCC through custom built interfaces called agents.

HVCC API routines are available to:

- Update Mode - Submit, resubmit, receive, accept, or reject an update message.
- Query Mode - Submit, respond to, fetch, accept, or reject a query message.
- Other - Initiate or re-establish communications with HVCC, collect routing information from the HVCC central routing tables.

- *HVCC Router*
  The HVCC hub that routes messages throughout this environment. DECMessageQ is the network software used within the HVCC environment. Applications need to share data with each other and HealthView. These applications can be located on the same node as the router (directly connected) or located on nodes other than the one on which the HVCC router is running (remotely connected).
- *Sample HVCC API Programs*
  VAX C code segments are provided to illustrate suggested ways to make use of the functionality provided to applications by HVCC.
- *HVCC Configuration File Editor (CFE)*
  A screen-based utility that allows the system manager to set up and maintain the HVCC routing map. Other supplied utilities allow the system manager to monitor message activity, review message content, display HVCC configuration, and view the state of the HVCC database.

The following HVCC documentation is available:

- *HealthView Connectivity Component System Manager's Handbook*

  Describes how to install the HVCC using VMSINSTAL, how to set up the HVCC database, how to use the Configuration File Editor (CFE), and perform HVCC-specific system maintenance tasks.

- *Connecting to HealthView*

  Describes the process of connecting applications with HVCC. The HVCC API is described, as are samples code segments to call this interface.

- *HealthView Connectivity Component Release Notes*

Describes HVCC information that was not included in the above documentation.

HealthView Interface Toolkit (HVIT)

The HealthView Interface Toolkit is a set of tools that application developers can use to enable applications to construct and parse messages (updates, queries, responses).

Message construction and parsing functions are based on the Health Level Seven (HL7) Version 2.1 specification. This specification is a standard model for application integration. It is based on the definition of an application-to-application interface at the seventh level (the highest layer) of the Open System Interconnection (OSI) model of the International Standards Organization (ISO). In this definition, the functions of both communications software and hardware are separated into seven levels.

The HL7 standard currently deals with the interfaces among various systems that send or receive hospital Admission, Discharge, Transfer (ADT) data as well as queries, orders, and results with billing information.

The HealthView Interface Toolkit deals primarily with issues that include the definition of data to be exchanged, the timing of those exchanges.

HVIT Components and Features

The HealthView Interface Toolkit consists of the following:

Application Programming Interface (API)

The Application Programming Interface (API) consists of routines to build outgoing messages and to parse incoming messages. It is written in C and is callable from other programs written in C or in any language whose calling sequence is compatible with C and which can be linked with C routines.

For outgoing messages, the API routines define field separators and encoding characters and then build outgoing segments and messages from name/value pairs defined in the sending application.

For incoming messages, the API routines unpack messages and segments into name/value pairs for use in the receiving application.

Actual sending and receiving of messages is accomplished by using the HealthView Connectivity Component (HVCC).

Using the HealthView Interface Toolkit (along with HVCC):

— Applications can send messages directly to another application, or to a list of applications in HL7, or other data formats.

— Applications can receive messages directed to it by other applications connected to the HealthView Connectivity Component.

Message and Segment Tables

The message and segment tables respectively define the format of messages and message segments. As supplied with the product, they implement the entire set of HL7 Version 2.1 transactions. This means any HL7 transaction can be implemented without requiring any of the following customizations.

Customization and Extension of HL7 Messages

A utility program and related procedures enable the modification of the predefined HL7 transactions or to add new site-specific HL7 style transactions. HVIT is not limited to the construction and parsing of only HL7 messages.

The HealthView Interface Toolkit tables can be customized or modified to support extensions or alterations to the HL7 standard or to implement any site-specific message type or data. See the *HealthView Interface Toolkit Customization Guide* for additional information.

Data Translation

HVIT provides application developers a set of translation routines used to translate data into a specific format, and to translate incoming data into a format the receiving applications can understand.

The translation routines supplied with HVIT enable the insertion and deletion of characters, changing the order of characters, time conversions, checksums and similar functions. These routines can also be extended by writing additional ones. See the *HealthView Interface Toolkit Customization Guide* for additional information.

The HVIT translation table contains routines to translate data fields.

The following HVIT documentation is available:

- *HealthView Interface Toolkit Installation Guide*

  Describes how to install the HVIT using VMSINSTAL

- *HealthView Interface Toolkit User's Guide*

  Describes how to use HVIT to build and parse messages

- *HealthView Interface Toolkit Customization Guide*

  Describes how to change or add message formats within HVIT

- *HealthView Interface Toolkit Release Notes*

  Describes HVIT information that was not included in the above documentation.

SOURCE CODE INFORMATION

The HealthView Connectivity Component does not include source code. Sample code segments are supplied that demonstrate HVCC API calls.

The HealthView Interface Toolkit allows users to modify any of the tables supplied with this component. If tables are changed, the user will need to go through a series of steps to make HVIT aware of the modifications made. The *HealthView Interface Toolkit Customization Guide* explains each of these steps in detail.

HARDWARE REQUIREMENTS

System, components, and peripherals as specified in the System Support Addendum (SSA 46.24.01-x).

SOFTWARE REQUIREMENTS - HVCC

For Systems Using Terminals:

- OpenVMS Operating System
- VAX Rdb/VMS (Interactive Kit)
- DECMessageQ for OpenVMS
- DECforms

SOFTWARE REQUIREMENTS - HVIT

For Systems Using Terminals:

- HealthView Connectivity Component for OpenVMS

A DECwindows interface is not supported.

ORDERING INFORMATION

You can order this software only as part of a packaged system solution. These solutions are available only by custom quotation through the Digital Healthcare or Custom Systems and Platforms Professional Service Centers. Contact your local Digital office for more information.

Software License: Q2-HVCA2-AA
Software Media and Documentation: Q2-HVCAA-H5
Software Documentation: Q2-HVCAA-GZ

SOFTWARE LICENSING

This software is furnished under the licensing provisions of Digital Equipment Corporation's Standard Terms and Conditions. For more information about Digital's licensing terms and policies, contact your local Digital office.

LICENSE MANAGEMENT FACILITY SUPPORT

This product does not provide support for the OpenVMS License Management Facility. A Product Authorization Key (PAK) is not required for installation or use of this version of the product.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from Digital. For more information, contact your local Digital office.

SOFTWARE WARRANTY

Warranty for this software product is provided by Digital with the purchase of a license for the product as defined in the Software Warranty Addendum of this SPD.

Warranty includes right to use new versions of product for VMS Operating System. Additional services may be required to integrate new versions into existing customer solutions. For more information, contact your local Digital office.

System Support Addendum

PRODUCT NAME: HealthView Connectivity Component for VMS, Version 1.1 **SSA 46.24.01-A**

HARDWARE REQUIREMENTS

Processors Supported:

VAX	VAX 9000-210, VAX 9000 Model 400 Series
	VAX 6000 Model 200 Series, VAX 6000 Model 300 Series, VAX 6000 Model 400 Series, VAX 6000 Model 500 Series, VAX 6000 Model 600 Series
	VAX 4000 Model 100 Series, VAX 4000 Model 200 Series, VAX 4000 Model 300 Series, VAX 4000 Model 400 Series, VAX 4000 Model 500 Series, VAX 4000 Model 600 Series
	VAX 8500, VAX 8530, VAX 8550, VAX 8600, VAX 8650, VAX 8700, VAX 8800, VAX 8810, VAX 8820, VAX 8830, VAX 8840
VAXserver:	VAXserver processor families 4000, 6000, and 9000 Servers 3100-80, 3100-90 Servers
VAXstation:	VAXstation 3100 Model 80, 90

Processors Not Supported:

VAX:	VAXft 3000-310
	VAX–11/750, VAX–11/780, VAX–11/785 VAX–11/725, VAX–11/730, VAX–11/782
VAXstation:	VAXstation 3100s with less capacity than the model 80 and 90
MicroVAX:	MicroVAX I, II processor families

The VAX processor used must be sufficiently capable of handling both the HVCC installation (including its database) and daily operations of the HVCC, as well as any customized applications residing on the same system. If the HealthView Interface Toolkit (HVIT) is installed as well, additional disk space is required as described below.

The system must be configured with enough disk space and drive spindles to provide the capacity to store message data for all connected applications for the number of days message backup is desired. To find out which supported processors meet your specific needs, contact your local Digital office.

Processor Restrictions:

A TK50 tape drive is required for the HVCC and HVIT installations.

Other Hardware Required:

Digital Equipment Corporation VT2xx, VT3xx, or VT4xx terminal to use the HVCC and HVIT utilities.

Dependent on configuration, a network connection may be required between application systems and HVCC.

Disk Space Requirements (Block Cluster Size = 1)

The following counts refer to the space required on the system disk. Notice the sizes are approximate; actual sizes will vary depending on the user's system environment, the number of days messages are to be stored, the number of applications connected to HVCC, configuration of all HealthView components, and software options.

HVCC Disk space required for installation:	490K blocks (251 MB)
HVCC Disk space required for use (permanent):	490K blocks (251 MB)
HVIT Disk space required for installation:	6696 blocks (3.4 MB)
HVIT Disk space required for use (permanent):	6696 blocks (3.4 MB)

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The minimum memory supported is 32 MB. However, increasing the memory capability and number of disks (the HVCC database is spread across) improves the performance of this software. The memory size suggested for most typical hardware configurations is *at least* 32MB. If running HVCC on the same system as one or more of the other HealthView components or with other applications, then additional memory and disks may be required (depending on the configuration). Contact your local Digital office for system requirements specific to the environment at your site.

CLUSTER ENVIRONMENT

The HVCC Router will operate on one node of a valid and licensed VAXcluster* configuration. The HVCC message storage database may be spread across VAXcluster disks configured for shadowing. The HARDWARE REQUIREMENTS sections of this product's Software Product Description and System Support Addendum detail any special hardware required by this product.

* V6.0 VAXcluster configurations are fully described in the VAXcluster Software Product Description (29.78.xx) and include CI, Ethernet, and Mixed Interconnect configurations.

SOFTWARE REQUIREMENTS - HVCC

For Systems Using Terminals:

- OpenVMS Operating System, Version 6.0
- VAX Rdb/OpenVMS (Interactive or Development Kit), Version 4.2
- DECMessageQ for OpenVMS, Version 2.1
- DECforms, Version 1.4

A DECwindows interface is not supported.

SOFTWARE REQUIREMENTS - HVIT

For Systems Using Terminals:

- HealthView Connectivity Component for VMS, Version 1.1

A DECwindows interface is not supported.

VMS Tailoring

The following VMS classes are required for full functionality of this layered product:

VMS Required Saveset
Network Support
Programming Support
Utilities
System Programming Support
Secure User's Environment

For more information on VMS classes and tailoring, refer to the VMS Operating System Software Product Description (SPD 25.01.xx).

OPTIONAL SOFTWARE

- VAX C Version 3.2 - To write applications that interface to the HVCC or HVIT Applications Programming Interface, or to change the message format tables within HVIT.
- VAX DEC/MMS, Version 2.5 (to rebuild HVIT after making changes to its message format tables)

GROWTH CONSIDERATIONS

The minimum hardware and software requirements for any future version of this product may be different from the minimum requirements for the current version.

DISTRIBUTION MEDIA

TK50 Streaming Tape

ORDERING INFORMATION

You can order this software only as part of a packaged system solution. These solutions are available only by custom quotation through the Healthcare or Custom Systems and Platforms Professional Service Centers. Contact your local Digital office for more information.

Software License: Q2-HVCA2-AA
Software Media and Documentation: Q2-HVCAA-H5
Software Documentation: Q2-HVCAA-GZ

The above information is valid at time of release. Please contact your local Digital office for the most up-to-date information.