Software Product Description

PRODUCT NAME: VAXcluster Console System, Version 1.4   **SPD 27.46.05**

DESCRIPTION

The VAXcluster Console System (VCS) is a software product which enables system managers or operators to perform console functions on any device that meets certain technical specifications. VCS allows a system manager or an operator to manage up to 32 devices that send ASCII data over a RS232C line, has an EIA console port, supports XON/XOFF and I/O buffering. Examples of such devices that have been managed in the past are:

- VAXcluster systems

- Standalone VAX systems

- PDP–11s

- Line printer servers or controllers

- LAN bridges and other third-party devices

The VAXcluster Console System (VCS) is a VMS V5.4 DECwindows layered software product which provides a central point for system console services and for logging console data received from the serviced nodes. From a single terminal or VAXstation display connected to the VCS host system, a system manager can perform all console functions for all serviced nodes. These functions include, but are not limited to:

- Shutting down or rebooting the serviced nodes

- Running standalone diagnostics

- Performing standalone backup operations

- Installing layered products

- Viewing console output

- Reviewing historical console data

- Retrieving historical console data for analysis or printing

- Searching for console data

VCS also performs the following functions:

- Logs all data and activities between VCS and the serviced nodes

- Scans incoming messages from the serviced nodes for specific text strings that may contain status or error information

- Notifies system managers of critical system messages via DECtalk, VAXmail, or by changing icon colors

- Enables users to assemble icons (not drawn to scale) into graphics displays on a VAXstation screen representing the aerial view of the data center and the logical grouping of the VAXcluster configurations

- Provides an optional security facility to control access to the serviced nodes

VCS can be accessed from locally connected terminals or remotely over the Ethernet.

The VAXcluster Console System software can be installed on any VAX, MicroVAX or VAXstation platform identified in the System Software Addendum (SSA 27.46.05-x) The devices managed by VCS are connected to the VCS platform by:

- Direct connection, that is, connecting to a port of a serial line interface device (DHV11, DHQ11, DZQ11, or CXY08) within the VCS host system cabinet

- Host-initiated LAT connection, that is, connecting to a port of a terminal server which is accessible by the VCS host system over the Ethernet. The DECserver port must be mapped to an LTA terminal device defined in the VCS host system.

- Via a user supplied pseudo terminal program. The program interfaces to VCS via an FTA pseudo terminal device. The user supplied program must format the data stream from foreign device into a character stream suitable for use by VCS.

Software Components

The VCS V1.4 software includes the following components:

I/O Data Logger - Manages the console lines and logs all data received on these lines. In addition, it makes the received data available to other VCS components and transmits the data on the console lines to nodes designated by those components.

Data Scanner - Scans the console log data for predefined events. The information about detected events is relayed to other VCS components for logging and additional processing.

Event Logger - Records events detected by the Data Scanner. It logs all events from all currently configured systems to a disk log file.

Central Control Coordinator Interface - A DECwindows interface that provides an aerial view of a data center. From this interface, system managers can monitor all console activities and respond to events detected on the console connections. Console events are reflected by the node icons in the display and direct the system manager to systems needing attention. Other interactive interfaces can also be activated from the Central Control Coordinator Interface.

Monitor Interface - Enables system managers to monitor the serviced nodes. It monitors these systems by displaying multiple windows of information. System managers can connect the primary window to a single system or display log data in this window while monitoring other nodes.

Connect Interface - Enables system managers to connect to a serviced node, making their terminal the dedicated console (more than one system manager can connect to the same node). Once connected, all keystrokes, except for the defined "break" and "escape" characters, are transmitted directly to the console line of the node to which VCS is connected. While connected to that node, the system manager has normal console behavior. The only exception to normal behavior is that one control character is reserved to enable the operator to escape back to the VCS system from which the connection was made.

Record Interface - Enables operators to capture console line activity on a hardcopy device.

Review Interface - Enables system managers to retrieve console data and event information from the console and event log files. The retrieved information and data can be specified in terms of source node and time interval.

Access Interface - A programming interface that provides an alternate method for capturing events for additional processing. User-written applications can be used with the Access Interface. In addition, VCS provides a default application, complete with source codes, which sends scan and console events to a specified output device.

Even Notification System - A suite of Access Interface applications for interfacing with a wide range of communication media for VCS event notification.

Configuration Editor - Helps operators create and maintain the configuration information that VCS requires.

Configuration File - Contains information about the nodes being serviced by VCS and the VCS environment itself. The Configuration Editor is provided to aid in the creation and modification of this data.

Log Files - VCS maintains the console and event log files as the permanent historical records of console data from the serviced nodes. VCS creates a new set of console and event log files every 24 hours, beginning at midnight.

When additional space is needed on the disk device, VCS displays a warning message before disk space shortage is critical. Then, as additional space is required, VCS deletes the oldest log files to make room for the new ones. The system manager can back up the log files before VCS deletes them.

Console Emulation Package - This is a new capability of V1.4. It emulates the full capabilities of VCS by simulating the operation of a system under VCS control. This is done by playing back a previously recorded production log file.

This emulation package is useful for:

— Training new personnel on a stand-alone workstation

— Providing a means to test out development changes, that is, new scan profiles, action routines, etc

— Helping diagnose problems by replaying production log files, thus, recreating a past sequence of events

The Console Emulation Package cannot be run concurrently with a VCS production environment on the same host platform.

It is recommended that the VAXcluster Console System not be a member of a CI VAXcluster system or a satellite member of a Local Area or Mixed Interconnect VAXcluster system. However, the VAXcluster Console System can serve as the boot member of a Local Area VAXcluster System.

Features

• Support of up to 32 devices; either VAXcluster system nodes, stand-alone VAXsystems or any device that sends ASCII data over an RS232 line, has an EIA console port and supports XON/XOFF and I/O buffering. The maximum supported console terminal speed is 19.2K baud.

- All data received from connected devices are logged by VCS and identified by source node name and the time received by VCS.

- Operators can connect to the console port of any node serviced by VCS from any terminal connected to the VCS host.

- VCS can control remote devices via host-initiated connections over Ethernet using terminal servers.

- Operators can remotely access the VCS host system via DECnet, LAT or dial-up ports to perform VCS functions.

- A security facility is provided to allow the system manager to restrict access to VCS-controlled devices.

- VCS detects console events by scanning console text messages and comparing them with predefined text strings contained in the configuration file.

- With VAXstation host systems, VCS provides the ability to build an icon-based view of all devices connected to it. This graphics layout uses color to indicate the severity of an event. It also allows the user to easily access a device's console by clicking with a mouse to activate a VCS interface.

- Users are alerted of critical system messages by changing icon colors via a DECtalk device or through VAXmail.

- Users can train new personnel, diagnose problems or try out new scan profiles utilizing the Console Emulation Package

- Users can connect to consoles of devices not using an RS-232-C connectivity by utilizing the Pseudoterminal (FTA) support. An FTA emulates a terminal or LAT line connection to VCS enabling an application to connect to foreign devices.

HARDWARE REQUIREMENTS

Processors and/or hardware configurations as specified in the System Support Addendum (SSA 27.46.05-x).

Cables and adapters as specified in the System Support Addendum.

SOFTWARE REQUIREMENTS

For VAX hosts:

VMS Operating System

For VAXstation hosts:

VMS Operating System

VMS DECwindows (included with VMS Operating System)

VMS DECwindows Motif® (using VCS XUI based applications)

Refer to the System Support Addendum (SSA 27.46.05-x) for availability and required versions of Prerequisite /Optional Software.

ORDERING INFORMATION

Software Licenses: QL-V01A*-**

Software Media: QA-V01A*-**

Software Documentation: QA-V01A*-GZ

Software Product Services: QT-V01A*-**

*   Denotes variant fields. For additional information on available licenses, services, and media, refer to the appropriate price book.

SOFTWARE LICENSING

The VCS license is user-based. The user is defined as a node or device managed by VCS. One license allows the VCS system to have one device (serviced node) connected to it. Additional licenses may be purchased in increments of one to accommodate an expanding data center.

If VCS is run exclusively with the Console Emulation Package providing console data in place of actual managed nodes, up to the full 32 node emulation can be configured using a single VCS concurrent use license.

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

License Management Facility Support (LMF)

This layered product supports the VMS License Management Facility.

License units for this product are allocated on a Concurrent Use basis.

This layered product offers a Concurrent Use license. Each Concurrent Use license allows one real console line to be logged, scanned and accessed by the VCS product. A single Concurrent Use license allows the VCS product to log and scan up to 32 eumlated console lines when all of the configured console lines are emulated using the VCS Console Emulation Package.

For more information on the License Management Facility, refer to the VMS Operating System Software Product Description (SPD 25.01.xx) or the *License Management Facility* manual of the VMS Operating System documentation set.

For more information about Digital's licensing terms and policies, contact your local Digital office.

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.

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System
Support
Addendum

PRODUCT NAME: VAXcluster Console System, Version 1.4   **SSA 27.46.05-C**

HARDWARE REQUIREMENTS

Serviced System

Processors Supported:

VAX: VAX 4000 Model 100,
              VAX 4000 Model 200,
              VAX 4000 Model 300,
              VAX 4000 Model 400,
              VAX 4000 Model 500,
              VAX 4000 Model 600

              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 8200, VAX 8250, VAX 8300,
              VAX 8350, VAX 8500, VAX 8530,
              VAX 8550, VAX 8600, VAX 8650,
              VAX 8700, VAX 8800, VAX 8810,
              VAX 8820, VAX 8830, VAX 8840

              VAX 9000 Model 110, VAX 9000 Model 210,
              VAX 9000 Model 300 Series,
              VAX 9000 Model 400 Series

              VAXft Model 110, VAXft Model 310,
              VAXft Model 410, VAXft Model 610,
              VAXft Model 612

              VAX–11/730, VAX–11/750,
              VAX–11/780, VAX–11/785

MicroVAX: MicroVAX II, MicroVAX 2000,
              MicroVAX 3100 Model 10/10E,
              MicroVAX 3100 Model 20/20E,
              MicroVAX 3100 Model 30,
              MicroVAX 3100 Model 40,
              MicroVAX 3100 Model 80,
              MicroVAX 3100 Model 90,
              MicroVAX 3300, MicroVAX 3400,
              MicroVAX 3500, MicroVAX 3600,
              MicroVAX 3800, MicroVAX 3900

VAXstation: VAXstation II, VAXstation 2000,
              VAXstation 3100 Model 30,
              VAXstation 3100 Model 38,
              VAXstation 3100 Model 40,
              VAXstation 3100 Model 48,
              VAXstation 3100 Model 76,
              VAXstation 3200, VAXstation 3500,
              VAXstation 3520, VAXstation 3540,
              VAXstation 4000 VLC,
              VAXstation 4000 Model 60,
              VAXstation 4000 Model 90

VAXserver: VAXserver 3100, VAXserver 3300,
              VAXserver 3400, VAXserver 3500,
              VAXserver 3600, VAXserver 3602,
              VAXserver 3800, VAXserver 3900

              VAXserver 4000 Model 200,
              VAXserver 4000 Model 300,
              VAXserver 4000 Model 500

              VAXserver 6000 Model 210,
              VAXserver 6000 Model 220,
              VAXserver 6000 Model 310,
              VAXserver 6000 Model 320,
              VAXserver 6000 Model 410,
              VAXserver 6000 Model 420,
              VAXserver 6000 Model 510,
              VAXserver 6000 Model 520,
              VAXserver 6000 Model 610,
              VAXserver 6000 Model 620,
              VAXserver 6000 Model 630

Any device that (i) has an EIA console port, (ii) sends ASCII data over an RS232C line, and (iii) supports XON/XOFF and I/O buffering on the console port.

Processors Not Supported:

MicroVAX I, VAXstation I, VAXstation 8000
VAX–11/725, VAX–11/782

Host System

Processors Supported:

VAX: VAX 4000 Model 100,
                   VAX 4000 Model 200,
                   VAX 4000 Model 300,
                   VAX 4000 Model 400,
                   VAX 4000 Model 500,
                   VAX 4000 Model 600

                   VAXft Model 110,
                   VAXft Model 310,
                   VAXft Model 410,
                   VAXft Model 610,
                   VAXft Model 612

MicroVAX: MicroVAX II, MicroVAX 2000,
                   MicroVAX 3100 Model 10/10E,
                   MicroVAX 3100 Model 20/20E,
                   MicroVAX 3100 Model 30,
                   MicroVAX 3100 Model 40,
                   MicroVAX 3100 Model 80,
                   MicroVAX 3100 Model 90,
                   MicroVAX 3300, MicroVAX 3400,
                   MicroVAX 3500, MicroVAX 3600,
                   MicroVAX 3800, MicroVAX 3900

VAXstation: VAXstation II, VAXstation 2000,
                   VAXstation 3100 Model 30,
                   VAXstation 3100 Model 38,
                   VAXstation 3100 Model 40,
                   VAXstation 3100 Model 48,
                   VAXstation 3100 Model 76,
                   VAXstation 3200, VAXstation 3500,
                   VAXstation 4000 VLC,
                   VAXstation 4000 Model 60,
                   VAXstation 4000 Model 90

Processors Not Supported:

VAX: 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 8200, VAX 8250, VAX 8300,
                   VAX 8350, VAX 8500, VAX 8530,
                   VAX 8550, VAX 8600, VAX 8650,
                   VAX 8700, VAX 8800, VAX 8810,
                   VAX 8820, VAX 8830, VAX 8840

                   VAX 9000 Model 110,
                   VAX 9000 Model 210,
                   VAX 9000 Model 300 Series,
                   VAX 9000 Model 400 Series

                   VAX–11/725, VAX–11/730,
                   VAX–11/750, VAX–11/780,
                   VAX–11/782,VAX–11/785

MicroVAX: MicroVAX I

VAXstation: VAXstation I, VAXstation 3520,
                   VAXstation 3540, VAXstation 8000

VAXserver: VAXserver 3100, VAXserver 3300,
                   VAXserver 3400, VAXserver 3500,
                   VAXserver 3600, VAXserver 3602,
                   VAXserver 3800, VAXserver 3900

                   VAXserver 4000 Model 200,
                   VAXserver 4000 Model 300,
                   VAXserver 4000 Model 500

                   VAXserver 6000 Model 210,
                   VAXserver 6000 Model 220,
                   VAXserver 6000 Model 310,
                   VAXserver 6000 Model 320,
                   VAXserver 6000 Model 410,
                   VAXserver 6000 Model 420,
                   VAXserver 6000 Model 510,
                   VAXserver 6000 Model 520,
                   VAXserver 6000 Model 610,
                   VAXserver 6000 Model 620,
                   VAXserver 6000 Model 630

Processor Restrictions:

The VAXcluster Console System host processor must
have a minimum of:

• 8 MBytes of memory

• 121 MBytes of local disk storage

For host processors utilizing DECwindows, additional memory and local disk storage is required. The following minimum requirements are recommended:

- 12 MBytes of memory

- 208 MBytes of local disk storage

Access to either a TK50 tape drive, a 9-track tape drive, or a DEC Infoserver is required for initial software installation.

Other Hardware Required:

- DHV11, DHQ11, DZQ11, CXY08, CXA16, DSH32 for direct connections

- DECserver 200 for host-initiated connections using DECconnect only

- DECserver 300 for host-initiated connections using DECconnect only

- DECserver 90L+ for host-initiated connections using DECconnect only

- DECserver 90TL for host-initiated connections using DECconnect only

- DECserver 700-8 for host-initiated connections using DECconnect only

- DECserver 700-16 for host-initiated connections using DECconnect only

- One VT100-compatible terminal (with Advanced Video Option)

- One VCS fiber optic connection for each node (includes one FOCHA-Ax fiber optic connection kit and one BN25J-xx fiber optic cable)

- One H7133-A 16-tap fiber optic converter power supply for every 16 fiber optic connections

Disk Space Requirements (Block Cluster Size = 1):

Disk space required for installation:	9,500 blocks (4.6 Mbytes*)

* 2,000 blocks (1.0 Mbytes) for net disk-block utilization (not including log files).

Disk space required for use (permanent):	3,500 blocks (1.8 bytes*)

* Per node for a month's worth of data.

These counts refer to the disk space required on the system disk. The sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options.

Memory Requirements for DECwindows Support:

The minimum supported memory for this application running in a standalone DECwindows environment with both the client and server executing on that same system is 12 Mbytes.

The performance and memory usage of DECwindows applications are particularly sensitive to system configuration. Less memory may be required on the client system (the system where the software is installed and executed) if the server (the component that displays the application) resides on another system. More memory may be required on a system with several applications running or where it may be desirable to improve the performance of an application.

The minimum memory supported is 8 Mbytes. However, the use of this software in conjunction with increased memory capability improves performance. The memory size suggested for most typical hardware configurations is at least 16 Mbytes.

OPTIONAL HARDWARE

VCS Disable Switch

This is included in the VCS fiber optic connection kit (FOCHA-Ax) and provides the following functions:

- Physically disconnects VCS from the device on which the VCS disable switch is installed

- Connects a terminal attached to the VCS disable switch to the target system

- Allows a terminal connected to the VCS disable switch to function as the console for the target system

CLUSTER ENVIRONMENT

It is recommended that the VAXcluster Console System not be a member of a CI VAXcluster* system or a satellite member of a Local Area or Mixed Interconnect VAXcluster system. However, the VAXcluster Console System can serve as the boot member of a Local Area VAXcluster System. VCS can actively run on only one member of a VAXcluster system at a time. VCS can run on two members of a VAXcluster system only if they are both serving the same set of console lines as a failover pair.

* V5.x VAXcluster configurations are fully described in the VAXcluster Software Product Description (29.78.xx) and include CI, Ethernet, and Mixed Interconnect configurations.

SOFTWARE REQUIREMENTS

VMS Operating System V5.4 - V5.5-2

This product may run in either of the following ways:

• Stand-Alone Execution — Running the X11 display server and the client application on the same machine.

• Remote Execution — Running the X11 display server and the client application on different machines.

VMS DECwindows is part of the VMS Operating System but must be installed separately. Installation of VMS DECwindows gives you the option to install any or all of the following three components:

• VMS DECwindows Compute Server
  (Base kit; includes runtime support)

• VMS DECwindows Device Support

• VMS DECwindows Programming Support

For stand-alone execution, the following DECwindows components must be installed on the machine:

• VMS DECwindows Compute Server

• VMS DECwindows Device Support

• VMS DECwindows Programming Support

For remote execution, the following DECwindows components must be installed on the machine:

Server Machine

• VMS DECwindows Compute Server

• VMS DECwindows Device Support

Client Machine

• VMS DECwindows Compute Server

• VMS DECwindows Programming Support

VMS Tailoring:

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

• VMS Required Saveset

• Network Support

• Programming Support

• Utilities

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

OPTIONAL SOFTWARE

• DECnet–VAX V5.4 or later

• Terminal Server Manager V1.6

One of the following:

• VMS DECwindows V2.1 (included in the VMS Operating System V5.4 - V5.5-2 kit)

• VMS DECwindows Motif® V1.0 or later

GROWTH CONSIDERATIONS

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

DISTRIBUTION MEDIA

9-track 1600 BPI Magtape, TK50 Streaming Tape

This product is also available as part of the VMS Consolidated Software Distribution on CD-ROM.

The software documentation for this product is also available as part of the VMS Online Documentation Library on CD-ROM.

ORDERING INFORMATION

Software Licenses: QL-V01A*-**
Software Media: QA-V01A*-**
Software Documentation: QA-V01AA-GZ
Software Product Services: QT-V01A*-**

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