Software Product Description

PRODUCT DESCRIPTION

The VAX Jukebox Control Software (JCS) is a VMS Operating System layered product which controls the operation of one or more RV64 optical libraries, or jukeboxes. It is intended as a tool kit for applications developers and as a utility for system managers and operators. VAX JCS supplies a callable run-time library interface as well as a Digital Command Language (DCL) interface. Commands are provided that allow the movement of optical disk cartridges into and out of the jukebox, and between storage slots and optical drives within the jukebox. In addition to cartridge movement, there are a variety of status reports and maintenance commands supported by VAX JCS.

VAX JCS Run-Time Library routines are intended to be called from user-written programs to perform jukebox functions. Any program written in one of the VMS Operating System supported languages can call any procedure in the VAX JCS RTL (Run-Time Library). VAX JCS RTL calls conform to standard VMS systems interface specifications for Creating Modular Procedures, which allow mixed language programming.

VAX JCS is contained in the VAX JCS RTL as a shareable installed image. Only the DCL and callable RTL interfaces are accessible by the user.

Features

- VAX JCS provides programmed control that enables the RV64 jukebox to:

  — Insert and retrieve cartridges through the operator access door

  — Move optical cartridges between door, slots, and drives in the jukebox

  — Load and unload optical cartridges to and from the optical drives

  — Flip a cartridge from one side to another

  — Run calibration and self-test procedures

  The commands can be issued interactively at the VMS Operating System level or through procedures that use the callable VAX JCS RTL interface.

- Functions for locking and unlocking the jukebox are supplied to ensure a controlled environment for any process. VAX JCS also maintains a database for the RV64 that can generate a bitmap for the slots and provide status information.

- VAX JCS supports overlapped operations under the control of multiple processes within the jukebox. This set of operations includes the general purpose commands for robot control indicated above, as well as those for jukebox and drive control (e.g. to control access to jukebox through lock/unlock commands, and forcing drive spin-down); and a set of commands that returns configuration information on the jukebox.

Process Security

VAX JCS checks for sufficient user privilege before performing each VAX JCS function. Higher-privileged processes can unlock a jukebox locked by a lower-privileged process. The system manager can assign system privileges.

Linkage

There are two ways to link to the VAX JCS RTL shareable image; both require that an options file be created, which identifies the shareable image as an input file in the linking operation.

Condition and Status Reporting

VAX JCS RTL provides two types of status codes. Function Condition Values are returned with each function call. Status codes for both normal completion and error conditions are returned in the standard VMS system manner.

VAX JCS provides robot control and mapping of physical references within the jukebox. It provides the means by which programmers can incorporate robotic serving of jukebox-stored media into their application. The VAX JCS RTL Guide, in the documentation set, provides a complete guide to developing programs with features important to effective use of the optical jukebox.

SOURCE CODE INFORMATION

Source code for example programs is provided in the VAX JCS Installation Kit. This is provided for tutorial purposes, to assist the applications developer. The

source code will compile, link and execute; if the user wants to modify the code, a compiler of the language in which the program has been written is required.

VAX JCS also provides Include Files for the languages below, which are chosen at installation:

- VAX MACRO
- VAX Ada
- VAX BASIC
- VAX BLISS
- VAX C
- VAX FORTRAN
- VAX PASCAL
- VAX PL/I
- VAX DATATRIEVE

The Files define status messages, RTL interfaces, and Data Structures used by the Run-Time Library, in support of the chosen language(s).

HARDWARE REQUIREMENTS

VAX configuration as specified in the System Support Addendum (SSA 25.D6.00-x).

SOFTWARE REQUIREMENTS

VMS Operating System

Refer to the System Support Addendum (SSA 25.D6.00-x) for availability and required versions of prerequisite/optional Software.

ORDERING INFORMATION

Software Media: QA-VHBA*-**
Software Documentation: QA-VHBAA-GZ
Software License: QL-VHBA*-AA
Software Product Services: QT-VHBA*-**

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

SOFTWARE LICENSING

The License for this product is included with purchase of the RV64 Optical Library, and is issued for installation on the processor on which the RV64 is installed; it is not available for separate order.

This software is furnished under the licensing provisions of DIGITAL's Standard Terms and Conditions. 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. For more information on these or other services, please 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.

System Support Addendum

PRODUCT NAME: VAX Jukebox Control Software, Version 1.0   SSA 25.D6.00-A

HARDWARE REQUIREMENTS

Processor Support

VAX Jukebox Control Software Version 1.0 is required on any node where at least one RV64 optical jukebox is installed. The processors which support RV64 and VAX JCS are:

VAX: VAX 6210, VAX 6220, VAX 6230, VAX 6240, VAX 8200, VAX 8250, VAX 8300, VAX 8350, VAX 8500, VAX 8530, VAX 8550, VAX 8700, VAX 8800, VAX 8810, VAX 8820, VAX 8830, VAX 8840, VAX 8842, VAX 8974, VAX 8978

Processors Not Supported:

VAX: VAX-11/725,   VAX-11/730,   VAX-11/750, VAX-11/780, VAX-11/785, VAX 8600, VAX 8650

MicroVAX: MicroVAX processor families

VAXstation: VAXstation processor families

Block Space Requirements (Block Cluster Size = 1)

Disk space required for installation:
4,000 blocks   (2.0M bytes)

Disk space required for use (permanent):
2,000 blocks   (1.0M bytes)

These block 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 selected. In addition, a minimum of eight megabytes of physical memory is required.

CLUSTER ENVIRONMENT

This layered product is fully supported when installed on any valid and licensed VAXcluster* configuration without restrictions. The HARDWARE REQUIREMENTS sections of this product's Software Product Description and System Support Addendum detail any special hardware required by this product.

*   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 V5.1

VMS Tailoring

For VMS V5.x systems, the following VMS classes are required for full functionality of this layered product:

*   VMS Required Saveset
*   Utilities
*   Programming Support

Applications programs which are built on VAX JCS will require that additional VMS classes be included, such as:

*   System Programming Support
*   BLISS Required Saveset
*   Example Files
*   Network Support
*   Etc., depending on application program

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

GROWTH CONSIDERATIONS

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

DISTRIBUTION MEDIA

Tape: 9-track 1600 BPI Magtape (PE), TK50 Cartridge tape

ORDERING INFORMATION

Software Media: QA-VHBA*-**
Software Documentation: QA-VHBAA-GZ
Software License: QL-VHBA*-AA
Software Product Services: QT-VHBA*-**

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

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

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