Software Product Description

PRODUCT NAME: **VAX DECscan VMS Software Toolkit, Version 2.1** **SPD 26.98.02**

DESCRIPTION

The VAX DECscan VMS Toolkit is a software product used as an industrial application platform. It provides data acquisition, alarm detection with controlling actions and reporting, action sets (sequence control), closed loop regulatory control, and an external utility interface. This software package supports the I/O products of the following I/O vendors, and treats the logical I/O point ''tags'' in a device-independent fashion.

- Honeywell (Honeywell MicroSwitch, BITBUS compatible devices) - The support software for this device is included in the kit.
- Phoenix™ (Phoenix Interbus-C, BITBUS compatible devices) - The support software for this device is included in the kit.
- Computer Products (CPI RTP, BITBUS compatible devices) - The support software (BITBUS Starting Point RTP IOV Package) for this device is included with the BITBUS Starting Point RTP Hardware Configuration.

Please contact your nearest CSS sales specialist for information regarding additional I/O vendor support.

The MENU-DRIVEN INTERACTIVE UTILITY provides the primary user interface to define and configure the application. It supports the following features:

- Easy on-line definition and configuration of the device-independent I/O point tags, alarms (and their controlling actions), action sets, and closed-loop controls
- I/O vendor specific prompts (and detailed HELP) for the definition of the I/O point tags
- On-line monitoring of the DECscan Toolkit operation and status
- On-line control of the alarms, control loops, and data acquisition
- On-line forcing of output type I/O point tags
- Real-time operator display of field I/O values in pre-converted engineering units
- Complete time-stamped configuration lists of current database definitions
- Full DECnet support of all of the above features - For example, these features are supported for tags defined in the database of a DECscan Toolkit running on a different DECnet node

The RUN-TIME TASK does the actual processing of the DECscan Toolkit functions and offers the following features:

- Operation is based around an in-memory database which contains the DECscan Toolkit I/O point data (real-time I/O values) and all the user-defined information used in controlling the Toolkit application functions
- The processing of the data acquisition (scanning on individual nodes), alarms, action sets and controls is fully configurable; for example, this processing can be:
  - Performed periodically (the default)
  - Controlled by application programs
  - Triggered by external events
  - Triggered by date and time-of-day
  - Triggered by alarm conditions
  - Triggered by current I/O values
  - Controlled by the controlling actions of other alarms, action sets, and control loops
- The "controlling actions" connected to alarms and action sets may contain any combination (and any number) of the following actions:
  - Force a value to an I/O tag
  - Activate/deactivate an alarm, control loop, action sets
  - Invoke a procedure in a separate application program, with parameter passing
  - Process a user-specified mathematical/logical expression which also support conditional and repetitive statements

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- Transfer I/O values across tags
- Initiate the scanning of all I/O tags on a ''node'' (e.g. a BITBUS node on a BITBUS network spawned from the DECscan BITBUS controller)
- Wait for a specified amount of time before processing the next action in the list

The DECscan Toolkit CALLABLE ROUTINES provide the primary user interface at run-time. These routines are invoked by user-written application programs to monitor and control the status and operation of the Toolkit. They allow the application programs to:

- Obtain the latest values of I/O tags
- Force new values to output type I/O tags
- Control the execution of pre-configured alarms, control loops, and action sets
- Interface database values to other VMS utilities
- Perform all of the above features on DECscan Toolkit databases of other DECnet nodes

The POINT LOGGING Utility provides for the periodic logging of I/O values on terminals and in files. This utility can be used to provide historical data to other VMS utilities, or simply to track I/O point values in real time. Several such sessions can be run in parallel, each with its own set of tags to log. Finally, all I/O values are time-stamped.

The GRAPHICS INTERFACE routines provide the complete interface between the real time I/O data of the Toolkit's database to the DataViews™ (DV-Draw and DV-Tools) industrial graphics package, sold by V.I. Corporation. The routines provided will automatically accumulate the list of I/O tags referenced in the views generated by DV-Draw. They will then periodically read the latest I/O values of those tags and update the appropriate pictures on your graphics screens.

Typical applications for the Toolkit include factory floor monitoring and automation, remote high-speed data acquisition and control, product handling, environmental control, etc. In such applications, the Toolkit allows the customer to set-up the monitoring and control activity with no coding required. Application specific requirements, such as data archival and custom graphic displays, require customer programming and/or separate utilities.

HARDWARE REQUIREMENTS

VAX, MicroVAX or VAXstation configuration as specified in the System Support Addendum (SSA 26.98.02-x).

In addition, the following Q-bus controller for communications to the I/O Vendor hardware is required:

- IBQ01 DECscan (BITBUS) controller board - Supports communications to the BITBUS compatible Honeywell MicroSwitch and Phoenix INTERBUS-C I/O devices.

SOFTWARE REQUIREMENTS*

VMS Operating System

* Refer to the System Support Addendum for availability and required versions of prerequisite/optional software (SSA 26.98.02-x).

ORDERING INFORMATION

Software Licenses: QL-VCSA*-**
Software Media: QA-VCSA*-**
Software Documentation: QA-VCSAA-GZ
Software Product Services: QT-VCSA*-**

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