



# Software Product Description

**PRODUCT NAME: POLYCENTER Network Manager 400, V3.0**  
(Formerly **DECmcc** Enterprise Management Station, EMS)

**SPD 60.77.00**

## DESCRIPTION

POLYCENTER Network Manager 400 V3.0 is a network management software product designed to provide network managers with a complete set of applications to manage wide area heterogeneous networks.

POLYCENTER Network Manager 400 consolidates the DIGITAL network management applications within a Motif® environment and provides the capability of running all applications on a single system.

It consists of products that are compliant with the DIGITAL Enterprise Management Architecture (EMA) as well as products that are not EMA-compliant. As such, it is a transition vehicle to an EMA-compliant product set within a single software product.

The POLYCENTER Network Manager 400 V3.0 for Alpha OpenVMS is a monolithic package, created from originally separate functional subsets of **DECmcc**. These are the following former DIGITAL network management products on VAX:

- POLYCENTER Network Manager 200, alias DECmcc Basic Management System (BMS)
- POLYCENTER Network Fault Diagnostics Option
- POLYCENTER Extended LAN Management (ELM) Option

For compatibility reasons, the breakdown of the functional product description that follows corresponds to these three DECmcc subsets.

## DECmcc BMS

(Basic Management System)

BMS is a complete, prepackaged DECmcc Product Family management system for multivendor, multi protocol networks. It provides access to, and management functions for, the DIGITAL DECnet Phase IV, DECnet-Plus (the former DECnet OSI), and TCP/IP networks and open network environments. BMS is a modular software product that can be extended through the addition of other DECmcc options, third party, or user-developed software modules. Available on the OpenVMS Operating System, BMS provides both generic and device-specific management functions including:

- Motif Graphical User Interface (GUI) and Command Line User Interfaces that provide consistent views and interactions with the management system regardless of the objects managed or the protocols used to manage them.
- Configuration Management functions that include automated discovery and device registration, topology mapping, and user-defined management domains.
- Notification and Alarm functions that enable users to define alarm rules and to set up notification and automated procedures to locate

existing and potential network problems or events. Enhanced Alarm copy and modify capabilities are available.

- Historical Data Recording and Data Export functions that allow users to define, collect, timestamp, and reuse historical network data and export DECmcc management information to an external relational data base.
- Device specific Performance Statistics functions for DECnet PhaseIV and DECnet-Plus nodes; Digital LAN Bridges; and TCP/IP hosts.

Consistent with the EMA Director Model, of which it is an implementation, DECmcc BMS consists of four major elements that comprise an extensible management system:

- **Management Modules**  
Provide services to users and to one another. There are three types of Management Module:
  - Function Modules (FMs) provide services such as object registration, statistics generation, fault detection, and notification to users and to one another.
  - Access Modules (AMs) provide remote protocol support for, and management information about, different classes of managed objects.
  - Presentation Modules (PMs) provide a consistent user interface for the direct manipulation of managed objects (through AMs) and user access to management operations (through FMs).
- **Executive**  
Provides system services that enable Management Modules to be installed and used independently or in combination.
- **API - an open Applications Program Interface**  
Defines how Management Modules invoke each other's services. The API is open and documented to support DIGITAL, third party, or user-developed modules.
- **MIR - Management Information Repository**  
Provides a means to structure and store management information.

### **BMS Function Modules**

This section describes each Function Module. Where appropriate, some presentation modules or access modules are also mentioned to improve the explanation. These are described in subsequent sections below.

BMS includes generic and device-specific FMs that provide a variety of management services to end users and, in combination, to one another. These

services include configuration management functions, fault management functions including alarm and notification services, historical data recording and data export functions, and performance statistics functions.

Generic FM services provide support for devices accessible through the DECmcc AMs, other DIGITAL-developed AMs, or AMs developed and supported by third parties and users.

### *Configuration Management Functions*

Configuration Management functions include both manual and automatic registration of managed objects, and support for user-defined domains (groups of managed objects). These functions are provided by the following FMs and services:

The **Registration FM** is a generic FM that enables users to enter and manage data identifying each managed object in a network environment. Such information includes object instance data such as network names and addresses, and reference information such as device location, software revision levels, and contact names.

With the Registration FM, users have the option of selecting a local system-level repository, or setting up a network-wide, globally available naming service using the DIGITAL Distributed Name Service (DECdns). With DECdns, users and applications can assign names to resources (such as nodes, bridges, files, domain names, etc.) and then use those resources without having to keep track of physical location or network address. The DECdns option also enables multiple systems of DECmcc to share the same view of managed objects.

The **Domain FM** is a generic FM that enables users to assign managed objects into groups called domains. Domains are subsets of the managed object configuration that provide user-defined groups that can be based on equipment type (all DECnet nodes, all TCP/IP hosts, all LAN Bridges, etc.), geography (all objects within a LAN, building, campus, or sub-net), personnel levels, or any other user-defined object group. Domains can contain or refer to other domains and can be hierarchical or overlapping. Individual managed objects can be contained within multiple domains.

The **Autoconfiguration** services automatically locate, register, and map managed objects by class. Supported classes include DECnet Phase IV nodes, TCP/IP hosts, and DIGITAL FDDI devices and LAN Bridges. Note that DECnet-Plus support

is included with the DNS Autotopology mechanism. Users can define domains for each class and set network boundaries. The autoconfiguration functions can request network instance data from DECnet routers, IP gateways, and Bridge spanning trees. As devices are located and management information gathered, the autoconfiguration functions automatically map them in the appropriate user-defined domains and register management data in the MIR.

Note: This function requires that the appropriate DECmcc Access Modules be installed on the system to register objects. The DECnet Phase IV, DECnet-Plus, TCP/IP SNMP AMs and the ELM Access Module are included in the POLYCENTER Network Manager 400 package, but some may be excluded at installation by specified install options.

The **IP Reachability Poller** sends notification to BMS Notification Services when a specific IP node changes state (that is, becomes reachable or unreachable). It provides an efficient way to determine if IP nodes are reachable or not.

#### *Alarm and Notification Functions*

Alarm and notification services are provided by a combination of Management Modules. These modules enable users to create alarm rules that can detect existing or potential network problems, and notification mechanisms for informing users when such problems occur or network events happen.

The **Alarms FM** provides facilities for users to write rule based expressions (alarm rules) that use polled data or unsolicited event messages to trigger alarms. Alarm rules can be written for any managed object or entity class for which there is a corresponding Access Module protocol support (DECnet Phase IV NICE, SNMP, etc.). Alarm rules can be based on state changes, simple arithmetic expressions, or occurrences (unsolicited event messages received through the appropriate Access Module). Alarm rules can be written for individual managed objects or wildcarding can be used to apply rules to all objects in a domain for a given object class.

In combination with the *Network Statistics Functions* (also known as the *Performance Analyzer FM*) described in a separate heading below, the alarm functions can be used to create threshold alarms based on performance statistics for DECnet Nodes, TCP/IP hosts, RMON probes, or DIGITAL LAN Bridges. In this way, alarm rules

allow users to detect potential problems before they become major network faults.

In addition to the standard *notification functions* described in the next paragraph, the Alarms FM allows for the execution of user written command procedures. Such command procedures can be used to generate terminal broadcast or electronic mail messages, or automated procedures that a network manager or operator might implement when a particular alarm condition occurs.

The **Notification FM** (and **PM**) enable users to define the mechanisms used to alert operators when a particular network or system event has occurred. The functions recognize two event types:

- Configuration events, which are reported by a managed object or any Management Module
- Alarm events, which are generated by the Alarms FM whenever a rule fires or encounters an error (that is, an exception to the rule).

When an event occurs, the Motif/Iconic Map PM displays a color change on the appropriate object icon and a message in the Notification window. Users can define the severity levels and select colors appropriate to the problem level.

The Notification Function also enables users to customize event collection and storage in the following ways:

- *Logging*: users can store received events to disk. Logfiles are automatically created and purged based on user definable arguments.
- *Filter*: users can filter received events based on the following criteria: managed object, domain, severity level, message text, or event / alarm type.
- *Target*: Notifications (icon color changes) can be redirected from the object that generates the event to the object that is the subject of the event.
- *Search*: users can search received notifications based on the following criteria: any field, severity level, notification identifier, name or address, text description, time stamp, or domain name.
- *View*: users can display a Real-time Graph of the number of notifications being displayed, collected and filtered; histogram of all notifications grouped by severity level; and the maximum notification buffer size.
- *Change default start-up*: users can assign customized colors to the six notification severity levels.

The **Event Collector** (also known as the Data Collector AM) enables users to collect events from objects not directly managed by POLYCENTER Network Manager 400. Users can create customized icons for any object not directly managed by DECMCC and include it in the Iconic Map.

The Event Collector provides a programming interface and a command script interface. The programming interface allows users to include code in any application program to send events to BMS for display in the Iconic Map or Notification window. The command script interface enables users to use OpenVMS DCL command procedures to send events to BMS for display in the Iconic Map or Notification window. The transport mechanisms over which events can be collected include both UDP/IP and DECnet.

#### *Historical Data Collection and Data Export*

Historical Data Collection and Data Export functions are provided by the Historian and Exporter FMs. These generic FMs enable users to collect, time stamp, and store network data for use by other function modules, such as the Performance Analyzer FM, and to export data to an external relational database for additional processing and report writing.

The **Historian FM** enables users to define the type of data to be collected, the managed objects or management applications from which the data is to be collected, and the collection interval.

The **Exporter FM**, when used with a separate, external relational database and report writing tools, can be used to create customized network usage reports.

The historical data recording and data export functions can also be used in combination with other functional modules to gather statistics, status, and configuration data.

Note: Use of the Exporter FM requires that Oracle Rdb be installed.

#### *Network Statistics Functions*

The **Network Statistics FM** enables users to access real-time or historical performance statistics and reports on DECnet, DIGITAL LAN Bridge, and TCP/IP objects (including RMON probes).

Sample error, traffic, and statistics reports are provided as in previous versions, but are no longer supported.

The **Performance Analyzer FM** provides data normalization and statistical functions for DECnet nodes, TCP/IP hosts, RMON probes and DIGITAL LAN Bridges.

Note: Counters for DECnet node and TCP/IP hosts are gathered by the DECnet AMs and TCP/IP SNMP AM respectively, which are included with POLYCENTER Network Manager 400. LAN Bridge statistics require that the ELM option AM and FM (included with PNM400 as well) be installed.

Assuming that the appropriate Access Modules are installed, the Performance Analyzer FM supports the following objects / devices:

- DECnet Phase IV lines (DDCMP, Ethernet, X.25), circuits (DDCMP, Ethernet, X.25), and nodes (local and remote)
- DECnet-Plus end systems, datalinks (DDCMP, CSMACD, and HDLC), intermediate systems (routing systems), routing ports, and routing circuits
- Bridge lines (LAN100, LAN150, LAN200, DECbridge 500, and DECbridge600)
- TCP/IP Simple Network Management Protocol (SNMP), Exterior Gateway Protocol (EGP), Internet Control Message Protocol (ICMP), INTERFACE (the network interface such as Ethernet), Internet Protocol (IP), Transmission Control Protocol (TCP), User Datagram Protocol (UDP), EGP Neighbor table, SNMP child entity, and RMON.

The Performance Analyzer FM supports the following classes of network statistics:

- *Throughput* - the amount of data that is sent between two points in a specified unit of time.
- *Averages* - such as Average Outbound Block Size and Average Outbound Message Size
- *Overhead* - the amount of control overhead present for circuits and lines
- *Percents* - percent of total traffic or resource availability
- *Rates* - the counts over a specified period of time
- *Utilization* - ratio of real or rated throughput to the actual throughput expressed as a percentage, such as Outbound Utilization and Single Destination Utilization
- *Counts* - the normalized value of counters

These statistics, like all other numeric attributes collected or generated by DECMCC software, can be displayed as graphs or histograms in the Graphic Window that is part of the Motif GUI Iconic

Map interface included with the POLYCENTER Network Manager 400 product.

**Unsupported Sample Reports** are included with BMS and are based on counters and statistics generated by the Performance Analyzer FM.

Note: Data used for creating the sample reports must be exported to an external relational database using the Exporter FM. In addition, generating and setting up the sample reports requires the following software products:

- Oracle CDD / Repository,
- DATATRIEVE.

The sample reports include: traffic, error, traffic summary, error summary and bandwidth utilization for DECnet Phase IV, DECnet-Plus and TCP/IP SNMP.

### BMS Access Modules

BMS AMs provide access to network and system objects in the DIGITAL and other mixed, multi-vendor network environments that use the following management protocols: DECnet NICE, DECnet-Plus CMIP, SNMP, and IEEE 802.2/Ethernet/MOP.

The **DECnet Phase IV AM** enables users to manage DECnet Phase IV objects such as nodes, circuits, lines, and adjacencies. With the DECnet Phase IV AM, users can modify DECnet parameters, set characteristics, collect DECnet events, and poll for management data such as counters or status.

The **DECnet/OSI CMIP AM** (the traditional denomination has been maintained) provides access to DECnet devices that use the DIGITAL implementation of the standard Common Management Information Protocol (CMIP). This version of CMIP, implemented on DECnet-Plus devices, provides management operations and data gathering functions for DECnet-Plus networks including the ability to sink DECnet events to DECmcc.

The **TCP/IP SNMP AM** includes support for the following Internet Advisory Board (IAB) Simple Network Management Protocol (SNMP) RFCs: 1155, 1156, 1157, 1212, and 1213. This includes full MIB II support in addition to support for on-site enrollment of vendor specific Enterprise MIBs including:

- A MIB translation utility that automatically checks the syntax of the ASN.1 Concise MIB

definition (providing error messages to help identify syntax problems) and translates the data for loading the information into the Management Information Repository (MIR). The translation utility automatically generates online HELP.

- An event logging sink for collecting SNMP generic traps (unsolicited TCP/IP event messages) including: coldStart, warmStart, linkDown, linkUp, egpNeighborLoss, authenticationFailure, and enterpriseSpecific. Vendor Specific Traps are also supported.
- Ability to perform GET and SET operations on devices supported by SNMP agents.
- ICMP ECHO\_REQUEST (ping) support for verifying the reachability of an SNMP managed object at the IP level.

Note: DEC TCP/IP Services for OpenVMS is required to use the TCP/IP SNMP AM.

The **IEEE 802.3/Ethernet Station AM** enables users to manage at the network interface level any 802.3/Ethernet LAN device that supports MOP REQID, MOP SYSID, MOP Counters, Ethernet V2 Loopback, IEEE 802.2 XID, or IEEE 802.2 Test.

The **Circuit AM** works as a client of management protocol modules to provide management of circuits connecting endpoints compliant with the Network Management Forum (NMF) definitions. Compliant endpoints include DECnet Phase IV, DECnet-Plus nodes, and TCP/IP hosts. Tying together circuit, line, link, and other endpoint data, this AM can gather status data and store reference information about simple, point-to-point circuits or complex multi-channel circuits.

The **Script AM** is a generic access module that executes a script (or command procedure) and propagates the output data back into BMS as individual attributes. Once integrated, these attributes can take advantage of the alarm, notification, and recording facilities of BMS.

The Script AM offers the following advantages:

- Allows integration of data into BMS quickly and easily. No C code is required to write a script.
- Allows management of devices which provide only a command line interface.
- Allows integration of any data into BMS as attributes whether from a Structured Query Language (SQL) command, a system command or running a script on a remote system.
- Allows integration of data from an executable for which source code is not available.

## BMS Presentation Modules

BMS includes two Presentation Modules:

The **Motif Graphical User Interface (GUI)** provides an iconic map interface with pull-down and pop-up command and monitor windows that consistently present all managed objects and operations. Its specific presentation capabilities include:

- Map windows that display the contents of a managed environment (for example, a domain) using icons to represent managed objects and their subordinate or child objects. Users can select icons representing managed objects and initiate management operations from a map window. Several map windows can be displayed at one time, each displaying different views of domains of a managed environment.
- A Navigation box and ViewPort window that enable users to view an entire network configuration map at one time. With the ViewPort feature, users can navigate to, and select a particular portion of, the total network environment to display in detail in the Map window.
- Management windows that enable users to select, perform, and view the results of management operations. Like map windows, several different management windows can be displayed simultaneously.
- Graph windows that enable users to select and display real-time or historical numeric attributes, such as counters, graphs or histograms.
- A Toolbox window and other customization features that provide users with the ability to create, modify, or delete map icons, connecting lines, text, or other items in a map window. Users can create map icons, add geographic maps or other backdrops, and add customized icons to the Toolbox for retrieval and reuse.
- The Dictionary Browser lets you examine the management objects and their definitions stored in the DECMCC dictionary. It provides an easy-to-use graphical alternative to SHOW and DUMP commands available in the Dictionary Administrator Program. Using the Browser, the user can graphically view the types of entities that are configured for a POLYCENTER Network Manager 400.

Consistent access is also provided by the **Forms** and **Command Line PM**. It provides character cell access to DECMCC BMS function and access capabilities. The interface supports two modes, Command Line Mode and Forms Mode.

The Command Line mode enables users to create names or mnemonics and use special symbols to reduce data entry and eliminate input errors. It supports command line recall and editing, abbreviation, online help, symbol substitution, use of control key sequences, line continuation, and the typeahead function.

Command Line mode also supports the use of scripts to automate frequently used DECMCC command sequences. Users can set up initialization files through the Command Line mode for establishing defaults and executing startup directives. In addition, users can log any command to an output file for storage and review.

The Forms mode provides the basic features of the Command Line mode in addition to a scroll feature that enables users to save up to 500 lines of output from management directives, scroll through the saved output, and create new directives based on previous input. The Forms mode also allows printing and logging of entries made to the output region.

The Forms mode, Command Line mode, and the Iconic Map interface, provide online, context-sensitive help.

## BMS Extensibility

Third parties and users can develop software modules for POLYCENTER Network Manager 400 to provide access to and management functions for any manageable object. Software and documentation for the development of such integrated modules are available as part of the POLYCENTER Framework Developer's Toolkit.

For more information about the Developer's Toolkit, refer to SPD 60.76.xx.

BMS includes utilities that enable on-site enrollment of Management Modules. Documentation required for third party module enrollment must be supplied by the module developer.

## Network Fault Diagnostics Option

The Network Fault Diagnostics Option is a troubleshooting tool designed to simplify the process of isolating and resolving some of the most frequently occurring TCP/IP network problems quickly, minimizing down-time and maximizing network efficiency. It uses common UNIX® Utilities and Bourne Shell scripts to retrieve information about a TCP/IP network.

The Network Fault Diagnostics Option comprises ten diagnostic routines, a load check utility, a ping trace utility, and a ping utility. The diagnostic routines are:

- Diagnose host\_unknown
- Diagnose host\_unreachable
- Diagnose inetdaemon
- Diagnose network\_unreachable
- Diagnose nfs\_problem
- Diagnose rcp\_denied
- Diagnose rlogin\_denied
- Diagnose rsh\_denied
- Diagnose telnet\_timeout
- Diagnose telnet\_refused

These routines are designed to assist users in isolating network faults such as component failures, improperly set parameters, and improper file protections. When a diagnostic routine is executed, the Fault Diagnostic software determines the tests to execute. After the tests are executed, it produces a report containing test results and recommended actions an operator should take to repair or troubleshoot the problem.

The Network Fault Diagnostics Option can diagnose problems between the station on which POLYCENTER Network Manager 400 resides and a remote host, or between two hosts that are remote from the management station with the POLYCENTER Network Manager 400 station residing on a third host, which is not involved in the reported problem.

## DECmcc ELM Option

(Extended LAN Manager)

Extended LAN (Local Area Network) Manager is a set of OpenVMS layered products that enable POLYCENTER Network Manager 400 users to configure, manage, monitor, and control LAN Bridge, DECbridge, and DECconcentrator 500 devices in the "Extended LAN" and FDDI network environment. The term LAN Bridge is used to refer to the DIGITAL LAN Bridge 100, LAN Bridge 150, LAN Bridge 200, METROWAVE Bridge, and the Chipcom® Ethermodem[™] Broad Band Bridge. The term DECbridge is used to refer to DIGITAL DECbridge 500 and 600 Series products.

The LAN Bridge and DECbridge products are the primary building blocks of the "Extended LAN" architecture. An Extended LAN is a collection of LANs that are interconnected and logically appear as one large Local Area Network. The

DECconcentrator family of products is the primary building block of the FDDI network environment. Together these environments are physically and logically attached and extended via the DECbridge family of products. The DECbridge product line is the family of products that allows Ethernet and FDDI networks to communicate transparently.

The LAN Bridge and DECbridge products operate at the data link level, and FDDI DECconcentrators operate at the data link and physical link levels. Both product sets are transparent to upper level protocols.

The ELM provides FM, AM and PM functionality for the POLYCENTER Network Manager 400 environment.

### ELM FMs (and LAN Autotopology PM)

The **FDDI Ring Map Autotopology** requires that there is an RBMS device on the FDDI Ring. The RBMS devices include: DECbridge 500 series, DECbridge 600 series, or DECconcentrator 500.

The **Bridge Spanning Tree Autotopology** supports IEEE 802.1d spanning tree and the DIGITAL LAN Bridge 100 spanning tree protocols on the LAN Bridge and DECbridge family of products.

**Autoregistration** for LAN Bridges, DECbridges, DECconcentrators, and other FDDI devices that adhere to the ANSI X3T9.5 FDDI Station Management (SMT) standard.

### ELM AMs

Their characteristics include the following capabilities:

- To remotely manage FDDI and Ethernet devices on the same extended LAN
- To observe, monitor, and control the interconnected FDDI and Ethernet networks
- To display and modify devices and lines on the LAN Bridge and DECbridge family of products
- To display and monitor physical ports on the DECbridge 500/600 Series and DECconcentrator 500
- To display and modify spanning tree characteristics on the LAN Bridge and DECbridge family of products
- To display and modify protocol database characteristics on LAN Bridge 200 and the DECbridge family of products
- To display and modify forwarding database characteristics on the LAN Bridge and DECbridge family of products

- To enable and disable lines on LAN Bridge and DECbridge products
- To enable and disable physical ports on the DECconcentrator 500
- To customize site specific alarms for the devices stored in the MIR for faults, errors, and changed information
- To display data-link counters, status, and characteristics on LANbridges, DECbridges and DECconcentrators
- To remotely, but on the same extended LAN, invoke a device's self-test capabilities
- Simultaneous management access by multiple users
- On-line Help facility
- Similar display formats for all manageable devices
- Password protection for settable parameters (LAN Bridge 150, 200; DECbridge 500/600 Series, and DECconcentrator 500)
- To load and modify source address and protocol filtering tables (LANBridge 200 and DECbridge 500 and 600 Series)
- To display Ethernet/802.3 network statistics (LAN Bridges and DECbridges)
- To display Ethernet/802.3 network utilization statistics (LAN Bridge200 and DECbridge 500 and 600 Series)
- To display FDDI stations that adhere to the ANSI X3T9.5 Station Management (SMT) standard

## HARDWARE REQUIREMENTS

### OpenVMS Based Processors

Any Alpha processor that supports OpenVMS for Alpha V7.1

### Minimum Recommended Configuration

Memory Required: 128 MB

Disk: 2GB

### Other Hardware Required

A Motif supported color monitor is required; otherwise, a VT24x, VT330, or a VT340 terminal is required for systems with no Motif interface.

### Disk Space Requirements

Disk space of 300,000 blocks is required on the system disk for installation. (Block Cluster Size=1).

These sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options.

### Optional Hardware

In large network configurations where performance of the network management system is critical, it might become necessary to utilize additional memory and additional disk space.

### Cluster Environment

This layered product is fully supported when installed on any valid and licensed VMScluster configuration without restrictions.

## SOFTWARE REQUIREMENTS

For systems using terminals (no DECwindows Motif interface):

- OpenVMS Operating System for Alpha V7.1

For Workstations Running DECwindows Motif:

- OpenVMS Operating System for AlphaV7.1
- DECwindows Motif V1.2-4 for OpenVMS (DECwindows desktop)

DECwindows Motif binaries and online documentation may be obtained by users of multiple OpenVMS Alpha layered products as part of the software library for OpenVMS Alpha Layered Products CD-ROM. DIGITAL provides a DECwindows Motif for OpenVMS license Product Authorization Key (PAK) with the purchase of an Alpha workstation.

DECwindows Motif Version 1.2-4 for OpenVMS Alpha delivers the New Desktop environment for OpenVMS Alpha systems, which is derived from the CDE (Common Desktop Environment) technology. On OpenVMS Alpha the installation procedure gives users the choice of installing DECwindows desktop and the NEW Desktop. PNM400 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.

### OpenVMS Tailoring

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

- OpenVMS Required Saveset
- Network Support
- Programming Support
- Utilities

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

#### Layered Products:

- DECnet-Plus for OpenVMS Alpha - V7.1

DECnet-Plus is available as part of the OpenVMS Software Distribution on CD-ROM, but is a separately licensed layered product. This software is required in order to manage DECnet Phase IV or DECnet-Plus nodes, but also in order to use the DIGITAL Distributed Name Service (DECdns).

#### Optional Software

- DECdns server

Note that the use of DECdns (to implement a global naming repository in place of the DECmcc local system naming repository: MIR) requires the presence of an OpenVMS VAX, DIGITAL UNIX, or ULTRIX MIPS system to host the DECdns server. The server is not supported on Alpha systems.

- DIGITAL TCP/IP Services for OpenVMS V4.1  
This is required in order to support SNMP access.
- Oracle Rdb 7 suitable for the operating system version must be installed for use of the Exporter FM.

For *unsupported* (!) use of the Report FM:

- Oracle CDD / Repository suitable for the operating system version
- DEC DATATRIEVE V7.1

These are required to access and print the sample Performance Analyzer FM reports.

#### 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

This product is also available as part of the OpenVMS Consolidated Software Distribution on CD-ROM. See ordering information for licensing, media and documentation references.

#### ORDERING INFORMATION

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

#### Software Licenses:

New license: QL-5HSA9-AA

Trade-in license: QL-5HSA9-Z 9

A trade-in requires proof of the current license for the POLYCENTER Network Manager 400 V2.4. (QL-YFVA9-AA or equivalent).

Current licensees of a smaller software package of the DECmcc product family, such as the POLYCENTER Network Manager 200 V1.4 (BMS) or the POLYCENTER Framework V1.4 (DIR), may benefit from combined upgrade / trade-in licenses:

BMS trade-in: QL-5HUA9-AA (requires proof of license QL-YSUA9-AA or equivalent)

Framework trade-in: QL-5HTA9-AA (requires proof of license QL-VM9A9-AA or equivalent).

#### Software Media:

QA-5HSAA-H8. This part number will not generate any delivery of documentation other than the installation guide, release notes and SPD (this document). Order this media part number regardless of the software license you require.

#### Software Documentation:

QA-5HSAA-GZ. This is the subset of unaltered documentation of PNM 400 V2.4 V/V, which covers the supported functional scope of V3.0. Wherever VAX platforms and VMS operating systems are mentioned - these should read Alpha/OpenVMS.

#### Software Product Services:

QS-T\*\*A9-CZ

\* Denotes variant fields.

#### SOFTWARE LICENSING

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

#### License Management Facility

This layered product supports the OpenVMS License Management Facility (LMF).

License units for this product are allocated on an Unlimited System Use basis.

## INSTALLATION

DIGITAL recommends that a customer's first purchase of this software product includes DIGITAL consulting services. These services provide for the planning, implementation (product setup and startup) and customer orientation on the product by an experienced DIGITAL Software Specialist.

## 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

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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