DECmcc Site Management Station
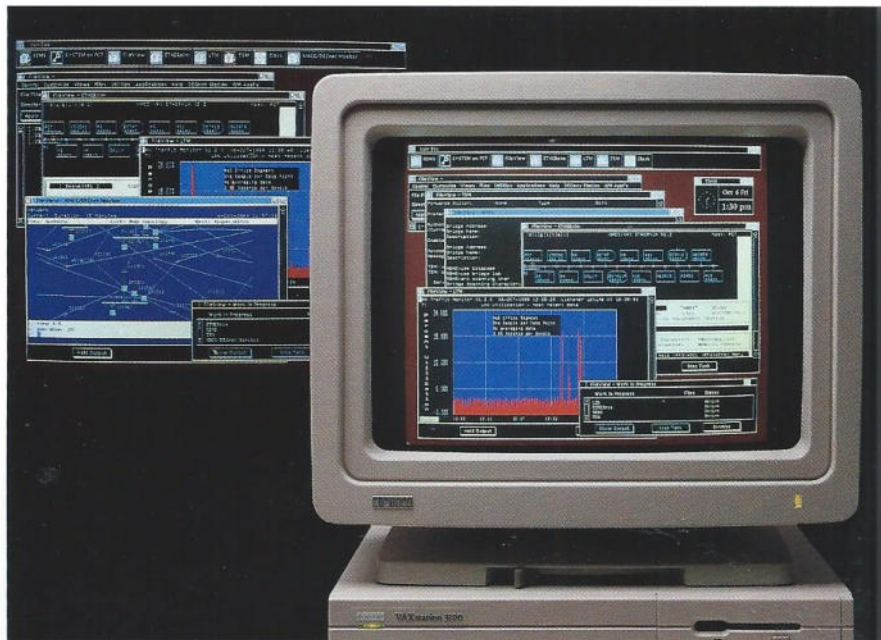# DECmcc Enterprise Management Station

Consolidated Software for Network Management

A New Approach to Management Productivity

Effective management of corporate assets – the ability to control costs and improve productivity – is a key goal of any network management system. Start right with a consolidated approach that improves the productivity of the network manager and management staff.

Now a range of proven network management applications is available in a single, consolidated package under the Digital Management Control Center (DECmcc) product family. DECmcc Site Management Station offers configuration, fault, and performance management for multivendor local area networks, along with centralized server and bridge management. The DECmcc Enterprise Management Station adds wide area network management capabilities to these functions.

Through Digital's DECwindows user interface, all the applications can be accessed by a single manager, using a single CPU and a single screen. Non-Digital network management software can be added to either station, provided it is compatible with DECwindows.

Because the two management station options are the first deliverables in the new DECmcc product set, they offer the investment protection of a planned transition path to Digital's next generation of management products, compliant with Digital's Enterprise Management Architecture (EMA).

Highlights

- Efficient, consolidated management brings the functionality of your choice of four or five Digital software products to a single management station.

- DECwindows interface permits monitoring of all management software simultaneously on a single screen.

- Adherence to X11 standards allows the addition of other management software to the Management Station platform.

- DECwindows DECnet/SNA 3270 Terminal Emulator option provides a window into IBM's NetView.

- Easy upgrade path offers a gradual transition to the next generation of network management – Digital's Enterprise Management Architecture.

The Best Interface for the Best Software

The same Digital software packaged in the Site and Enterprise Management Stations has been rated first in the industry in an independent survey of network managers.* Now it's been brought together onto one screen by Digital's award-winning DECwindows implementation of the industry-standard X Window System.

Utilizing DECwindows terminal emulation mode, all of the products are displayed simultaneously on a single screen – giving a uniquely comprehensive view into the dynamic network environment.

Most Efficient Use of Hardware and Software

Because DECwindows permits access to four or five – or more – network management software products from a single workstation screen, the number of physical management display stations required at the site or central network operations center can be reduced. This means lower equipment costs – as well as a less cluttered work environment. For a single flat price, the software can be run on a Digital computer of any size.

In addition, a complete services portfolio is available for the DECmcc Management Station, including new Network Management Planning Services, Remedial Services, and Consulting/Advisory Services.

True Multivendor Capabilities

Because DECwindows is based on the X11 industry standard, the Site and Enterprise Management Stations can be the manager's window into other

*"DATAPRO 1988 User Ratings of Network Management Systems," Data Communications Magazine, July 1988, p. 109.

vendors' X11-based management software, in addition to the Digital products supplied with the station. For example, TCP/IP management products, based on an ULTRIX platform using DECwindows, can display information on the VMS-based DECmcc management station. DECwindows' ability to bridge different operating system environments consolidates management of many other multivendor networks as well.

By adding Digital's DECwindows DECnet/SNA 3270 Terminal Emulator for VMS, a Site or Enterprise Management Station can provide a color graphic window into IBM's NetView system – thus eliminating the need for even more management terminals.

A Window into the Future

Customers who purchase the Site or Enterprise Station invest only once in network management capability. Their investment is protected as they move from current products into the next generation of DECmcc technology.

Through regular software upgrades, the functionality of the current products will be replaced with appropriate DECmcc Management Modules until the Management Station is fully EMA-compliant. This represents a significant cost savings over the purchase of individual products and EMA-compliant modules separately. (All Digital network management software products continue to be available separately.)

In addition, Management Station customers receive transition tools for the conversion of existing database, configuration, and reference information into the new management information repository, thus eliminating costly re-entry of data.

DECmcc Site Management Station

Based on four popular network management software products, NMCC/VAX ETHERnim, LAN Traffic Monitor (LTM), Terminal Server Manager (TSM), and Remote Bridge Management Software (RBMS), the DECmcc Site Management Station gives local area network managers four informative windows into their system's performance on a single workstation screen. Because of its windowing capabilities, a VAXstation 3100 is an ideal hardware platform for this system, but the software will run across a wide range of Digital VAX systems.

DECmcc Enterprise Management Station

The DECmcc Enterprise Management Station adds wide area management capabilities through NMCC/DECnet Monitor, complete with a multifunction graphic display of the network topology, to the Site Station's LAN management capabilities. EMS will run on a wide range of VAX systems, using a display unit compatible with DECwindows to take advantage of the windowing capabilities.

NMCC/DECnet Monitor V2.2 Highlights

- Visual displays of network configuration and performance information simplify data interpretation and highlight conditions requiring attention. Network topology is displayed as a logical map for easy recognition of network elements and potential trouble spots.

- Relational database capability provides for either active or passive collection of statistics.

- Histograms and bar charts display historical information to help you analyze trends and plan for growth and change.

- Realtime event logging with predetermined polling parameters enables you to detect problems earlier and more efficiently.

- Update and adjustment of line charges for an automatic assessment of the cost/performance of the network.

The NMCC/DECnet Monitor software is designed to assist you in three key areas of network management: network availability, level of service, and performance; network cost control; and network planning and trend analysis.

Network Availability, Level of Service, and Performance

With the NMCC/DECnet Monitor software you can effectively monitor your network for changing traffic patterns and error conditions. Because NMCC/DECnet Monitor will detect degrading nodes, lines, and traffic bottlenecks, you can take appropriate action before these conditions seriously impact your business. The network topology is displayed as a logical map to help you easily recognize network elements. If a problem does
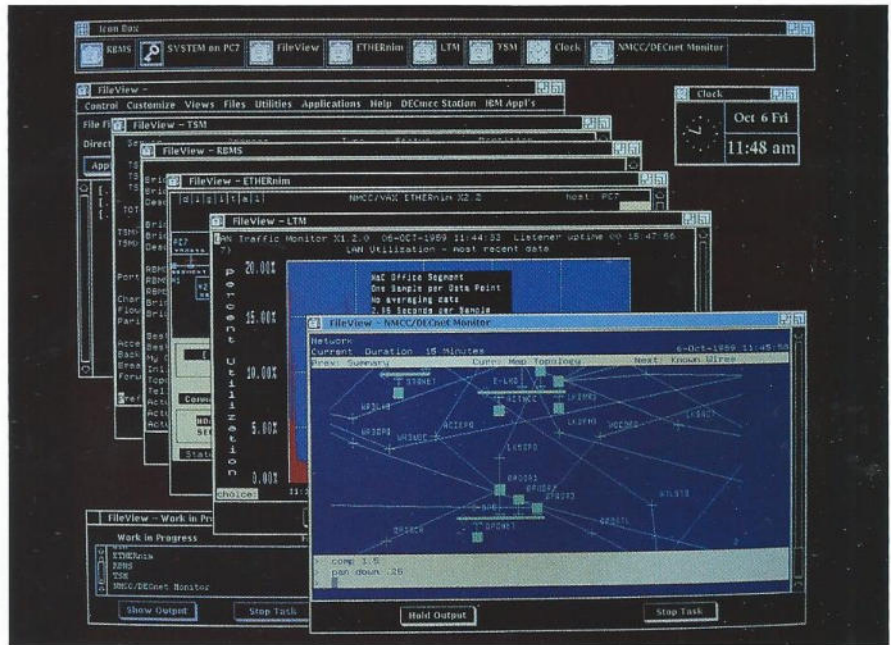
occur, color-coded alarms will help you identify it early, thus reducing the duration of a network failure and improving network availability.

Network Cost Control

NMCC/DECnet Monitor helps you maintain an accurate, online inventory of network equipment and communications lines.

When you update or adjust assigned line charges, NMCC/DECnet Monitor automatically displays line costs. This enables you to maintain up-to-date records reflecting the current cost/ performance of your wide area network.

The user interface is separate from the kernel, providing access to multiple users in a client-server relationship. The user interface and kernel can run on different nodes of a wide area network. This gives you the flexibility to distribute network management by creating DECnet domains, and thus maximize the efficiency of your network management staff.

Network Planning and Trend Analysis

NMCC/DECnet Monitor's centralized database of network information can be the basis for your network design and redesign activities. The relational database gives you the ability to actively or passively collect statistics regarding line, circuit, or wire status. You can also create reports on network activity over user-defined periods of time, or for profiles of various network components, their connections, and uses. Such customized reports can be used for capacity planning or for designing a more efficient network.

With NMCC/DECnet Monitor, you become aware of traffic trends and can respond quickly to management questions regarding performance, usage, and cost. Because you are better able to predict the impact of adding new users and applications to your network, you can plan an orderly expansion. Trend analysis is easy because the information is graphically displayed through histograms and bar charts.

ETHERnim V2.2 Highlights

- Automatically inventories your network, regardless of size.
- Provides online fault isolation.
- Clearly displays your local area network topology.

A Layered VMS Product, ETHERnim Needs No Additional Hardware

NMCC/VAX ETHERnim uses Ethernet/IEEE 802.3 and DECnet functions to build a database of information about each node in the Ethernet network. It runs as a component of the management station and requires no additional hardware. Also, no special software is required on the other nodes in the network. ETHERnim recognizes both DECnet and non-DECnet connections to the LAN, and will incorporate any node found into the configuration database.

Inventory Your Network – Automatically

ETHERnim is a powerful tool to help you keep track of devices on your network. To manage your network, you must know exactly what's on it and what's changed. ETHERnim lets you use simple commands to collect information from the network automatically and build a database of significant software and hardware attributes of stations on the network.

You can also enter and update information in the database manually. Some information requires manual entry, such as who is responsible for the node, descriptive text, and information about non-Digital nodes.
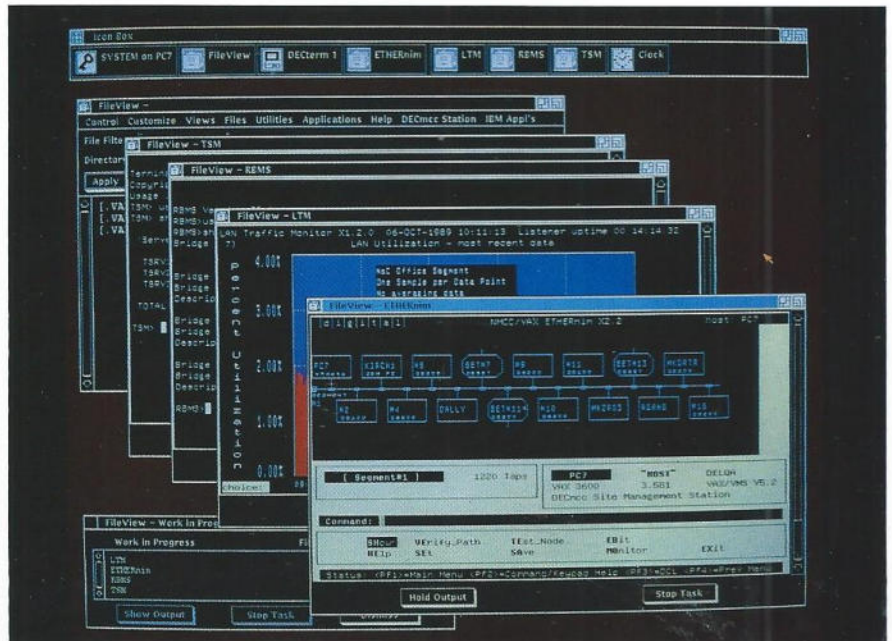
Online Fault Isolation

NMCC/VAX ETHERnim performs path testing using Ethernet V2 loopback commands for nodes on the Ethernet, both Digital and non-Digital. For Digital nodes running DECnet Phase IV, ETHERnim performs path testing to DNA network user layers. Test results are retained during each ETHERnim session, and recorded in a session history file.

Clear Displays of Your Network Topology

NMCC/VAX ETHERnim provides several types of clearly laid-out screen displays that let you rapidly review the information in the database. These displays can provide important information about any node or segment on your network at a moment's notice, even from a remote location.

- A graphic display shows the local area network topology. At one time, it can display up to sixteen nodes anywhere in the network. The network map provides a clear schematic view of nodes, node names, operating systems, and logical connection pathways.

- Segment and node information screens display node-specific information such as Node Name, Ethernet Port Type, Transceiver Type, DECnet Address, Ethernet Address, or segment-specific information including the Segment Name, Cable Type, and Descriptive Text. They also show manually entered information such as system manager name.

- A scrolling topology list provides a comprehensive network overview in table form. It lists all segments and connecting nodes in the network, and provides "help" features.

- Test screens summarize the results of path tests you have commanded ETHERnim to run on a given node. They show in a clear, concise format whether a problem node is reachable or not, at various levels of the network architecture.

LAN Traffic Monitor V1.2 Highlights

- Enhanced performance planning – provides timely, accurate information needed to maximize network performance and plan network growth.

- Multiprotocol monitoring – collects data on all protocol types in the multivendor LAN: for example, DECnet, XNS, TCP/IP, LAT, or any protocols running on standard Ethernet/802.3 media.

- High-performance monitoring – captures throughput and usage data at full Ethernet speed. Yields timelier, more accurate information than monitors that merely "sample" network traffic.

- Network resource optimization – data on such items as traffic patterns, peak usage, most active protocols, and transmission bottlenecks can be used to maximize network efficiency.

- Distributed monitoring – multiple LTM Listeners can monitor traffic on Ethernet segments throughout the network, even across bridges.

- Centralized management and control – a single host-based LTM User Interface can access multiple LTM Listeners.

- Up-to-the-minute displays – timely network utilization data is presented in tables and graphs.

Capturing Timely, Accurate Data on All Ethernet Protocol Types

Digital's LAN Traffic Monitor (LTM) is designed for maximum utility in today's multivendor computing environments. It collects utilization and throughput data on DECnet, XNS, TCP/IP, LAT, and all other Ethernet local area network (LAN) protocol types and presents that data in easily comprehended graphic or tabular screen displays.
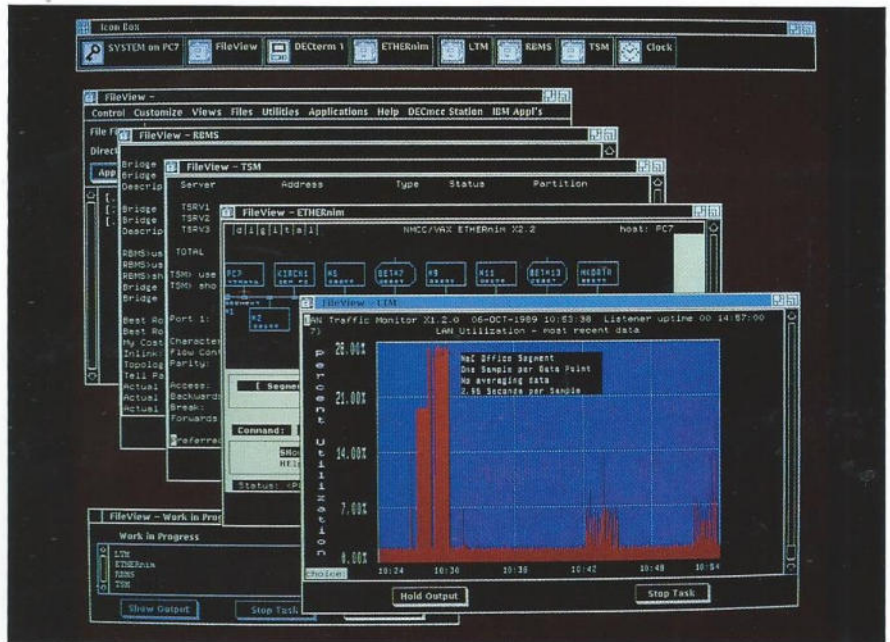
The LAN Traffic Monitor is a layered VAX/VMS software application comprising two components:

- LTM Listener, which captures data on network traffic volumes and protocol types. Either the LAN Bridge 100 or 150 can be used as an LTM Listener simply by downline-loading the LTM software from a host VAX processor.

- LTM User Interface, which collects and displays data transmitted from the LTM Listener. Traffic summary displays include top ten protocol types; top ten talkers (current and long term); utilization and throughput (current, long term, and peak); a list of nodes using specified protocols; and a list of multicast addresses. LAN usage data may also be displayed graphically in monochrome or color for at-a-glance performance analysis.

Distributed Listeners – Centralized Control

The LAN Traffic Monitor provides for both distributed monitoring and centralized access and control.

Multiple LTM Listeners transmitting data to the management world may be distributed throughout your network, each monitoring a different continuous Ethernet segment. This enables you to centrally monitor a large network such as a campus environment or an extended local area network whose segments are connected over a wider area.

Multivendor, Multiprotocol Monitoring

The LAN Traffic Monitor simplifies performance planning in multivendor networks by collecting and sorting performance information on all Ethernet/802.3 protocols. This helps you make optimal use of your present multivendor network resources and gives you the performance information you need to plan confidently for future growth.

Terminal Server Manager V1.3 Highlights

- Simplifies configuration management – information about each terminal server on the network is centrally maintained.

- Improves productivity – a single user can centrally manipulate all terminal server parameters and characteristics.

- Increases efficiency – command files exist to handle repetitive tasks.

- Facilitates fault management – provides centralized access to all status indicators and error counters in the terminal servers.

- Expedites troubleshooting – allows centralized testing of all terminal servers through the use of a single command.

- Simplifies addition or replacement of terminal servers – terminal server characteristics maintained on the central host can be immediately loaded into a new terminal server.

Simplifies Fault and Configuration Management for Terminal Servers

Terminal Server Manager software enables one support person to centrally manage the operation of Digital terminal servers anywhere in the extended local area network. You can monitor availability, modify characteristics, perform maintenance, carry out security mechanisms, change passwords, identify problems, and configure printers and modems for all Digital terminal servers on the network.

Digital's growing family of terminal servers provides you with the flexibility to create large terminal-to-host networks. Terminal servers can be geographically distributed throughout a LAN to simplify the running of terminal cables.

Remote Bridge Management System (RBMS) V2.0 Highlights

- Display LAN Bridge counters, status, and characteristics.

- Remotely change the operational state and characteristics of LAN Bridges.

- Display and modify the bridge forwarding databases.

Digital's Enterprise Management Architecture (EMA) Highlights

- Well-designed, comprehensive architecture for management of all components of the network (data systems, applications, and databases) through the entire network life cycle.

- Open, published interfaces for complete flexibility in the entities managed, the functionality provided, and the user interface preferred in the management of the multivendor environment.

- Third-party relationships for a multitude of options within one powerful solution.

- Standards-based (but not limited to those standards) for true enterprise management.

An Architecture for the Future

Digital has designed and developed the Enterprise Management Architecture (EMA) to manage the distributed, multivendor computing environment of the 1990s. When fully implemented, EMA will provide a unique, comprehensive, and unified solution to the complex task of managing the enterprise.
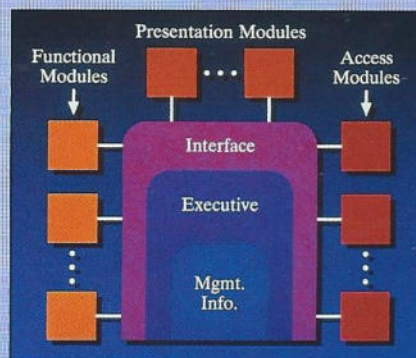
Building on the inherent intelligence, self-management features, and communications capabilities of peer-to-peer networking, EMA goes beyond "point solutions." It is wide in *scope* (it can manage all the entities of the enterprise), rich in *functionality* (it addresses the five ISO/OSI management functional areas across the network life cycle), and comprehensive in *scale* (it manages everything from the smallest LAN to the enterprise WAN with the same management system). EMA offers true *integration* by providing a consistent user interface and the structure and storage of common management information.

The Future of Network Management

Digital is committed to coexistence with our current products while present capabilities and information bases are transitioned to full EMA compliance. The Site Management Station and Enterprise Management Station are the forerunners of a comprehensive set of Digital network management products within the DECmcc product family that will move to full EMA-compliance over time.

- Name and refer to LAN Bridges with ASCII names.
- Use one command to address a group of bridges through the use of global commands.

Centralized Management of LAN Bridge Operation

Remote Bridge Management Software (RBMS) enables a network manager to observe and control the operations of any and all Digital LAN Bridges in an extended local area network. The configuration, fault, performance, and security management capabilities provided by the LAN Bridge can be centrally accessed and modified using RBMS. You also have access to the counters and status information maintained by the bridges.

Control of Bridge Forwarding Databases

The forwarding databases on each LAN Bridge can be controlled using RBMS, enabling you to add, modify, remove, and display the forwarding database entries for the physical and multicast addresses associated with Ethernet. You can, for example, prevent users on one LAN segment from accessing computer resources on other LAN segments.

Choice of Bridge Names

RBMS allows the network manager to assign and use an easy-to-remember name for the bridge instead of having to specify the Ethernet network address. RBMS maps the names to the physical addresses, so the bridge directory can be monitored and nodes easily identified by the use of names rather than complex addresses.

Control over Bridge Data Lines

Data lines to the bridges can be enabled or disabled from the management site locations. This minimizes the impact of any faulty Ethernet equipment by allowing selective isolation of LAN segments until the segment with the faulty equipment has been identified.

Digital Network Services

Digital provides one of the most comprehensive portfolios of services in the industry, designed to support customers throughout the computing life cycle—planning and design, implementation, and ongoing maintenance. Services range from traditional onsite hardware and software services to multivendor and network maintenance support to facility construction and recovery services.

The type and amount of support necessary to meet individual needs may be tailored by the customers themselves. Whatever the service solution, the customer benefits from a single point of contact.

For More Information

For more information about DECmcc Site Management Station, DECmcc Enterprise Management Station, or any of Digital's hardware, software, or service offerings, contact your local Digital sales office.

Specifications

Hardware

Any valid VAX, MicroVAX, VAXstation, or VAXserver configuration on processors specified in the System Support Addendum, with a Digital 802.3/Ethernet controller

Graphic display terminal supporting DECwindows

LAN Bridge 150 or 100, Revision "E" or higher for the LTM Listener

Note: At least one LAN Bridge (100, 150, or 200) is required for RBMS.

Software

VMS Operating System V5.0 or later

DECnet-VAX V5.0 or later

VAX Rdb/VMS V3.0 or later (runtime license only) for the EMS

VAX GKS V3.1 or later

Depending upon configuration of terminal servers to be managed by TSM, the following versions of software are required:
DECserver 100 (DSRVA), at least V1.2
DECserver 200 (DSRVB), at least V1.0
DECserver 500 (DSRVS), at least V1.0
Ethernet Terminal Server (DECSA), at least V2.1
MUXserver 100, at least V2.0