Nways Managers Fact Sheet

IBM Corporation

08 October 1996

Announcement Summary

IBM announces products that will help customers save money and increase the effectiveness of their networks at the same time. Nways™ Managers achieve this by providing easy-to-use integrated software applications that cost less than a set of separate device managers and allow a user to configure, control and maintain LANs, virtual LANs, ATM networks and WANs. When coupled with the TME® 10™ product line the Nways Managers offer powerful, end-to-end management solutions for managing an entire network and its interconnected networking devices.

The announcement includes new versions of the existing Nways Manager for Windows®, Nways Campus Manager LAN, ATM and ReMon for AIX®, Nways Campus Manager Suite for AIX and two new management applications: Nways RouteSwitch Network Manager and Nways RouteTracker Manager. IBM also announces a new Nways Manager for Enterprise Networks, combining the functions of the Nways BroadBand Switch Manager, the Router and Bridge Manager and the SNA Alert Manager into a single product called the *Nways Enterprise Manager*.

Announcement Highlights

This announcement continues the implementation of the IBM strategy of providing integrated software applications that lower network operating costs. Key highlights of this announcement are:

- Improved management of medium-to-large LANs, ATM networks and virtual LANs
  - Support for storing, searching and retrieving key network management information using an open ObjectStore database
  - Distributed polling using the TME 10 Mid-Level Manager
  - Virtual LAN management using ATM Forum-compliant LAN Emulation
  - Simpler LAN Emulation administration
  - Easy-to-use, graphical management of ATM networks, including topology management
  - Support for non-IBM devices that use ATM Forum-compliant MIBs
  - Support for the emerging RMON 2 standard
  - Comprehensive device management for IBM networking hardware devices.
- Improvements for managing small networks and workgroup environments
  - Enhanced ATM management capabilities

  - Virtual LAN management using a drag-and-drop interface
  - Enhanced operator productivity through coupling the Nways Manager for Windows and the Nways LAN Remote Monitor for Windows for selected devices
  - An improved TCP/IP stack optimized for the Windows environment
  - Inclusion of NetView® for Windows Version 2.1
  - RMON interface enhancements for end users
  - Comprehensive device management for IBM networking hardware devices.
- New managers for the 8273 and 8274 Nways Switches
  - Comprehensive graphical device management
  - Industry-leading, policy-based virtual LAN management.
- New Nways Enterprise Manager that, in conjunction with the other Nways Managers, allows end-to-end management of an entire network
  - Combines the functions of the Nways BroadBand Switch Manager, the Router and Bridge Manager and the SNA Alert Manager
  - Refer to the separate fact sheet in the announcement booklet describing IBM Enterprise Networking Announcements for additional details.

Additional Technical Details

Network management is as important to effective network operation as good network design and can save more money over the life of a network by reducing network operating costs than it costs to implement the network. IBM offers Nways Managers for AIX, Windows, and HP OpenView that improve operator productivity and network effectiveness and save money. Key features common to Nways Managers across the supported environments include:

- Automatic network discovery
- Object-oriented databases
- Up-to-date, color-coded graphical views of network topology that change dynamically as network conditions change
- Similarly dynamic color-coded views of network devices
- The ability to browse, update and compile MIBS
- Trap management, including the ability to specify trap severities
- Polling configuration and notification
- Inventory management
- Real-time and historical statistics collection, presentation and reporting
- Telnet and FTP

- Access control based on user identification

With these managers, operators work with dynamically updated, graphical depictions of networking devices and how they are interconnected in managed networks to:

- View or change network, device, module or port configuration
- Display statistics at a device, module or port
- Select specific components by pointing with a mouse
- View color-coded device status
- Define and monitor performance thresholds
- Define and monitor real-time and historical statistics
- Update device software

New versions of the Nways Campus Manager Suite for AIX, the Nways Campus Manager LAN for AIX, the Nways Campus Manager ATM for AIX, the Nways Campus Manager ReMon for AIX, and the Nways Manager for Windows are announced, along with the Nways RouteSwitch Network Manager and the Nways RouteTracker Manager for IBM 8273 and 8274 Nways Switches.

One of the most significant enhancements to these managers is support for virtual LANs. In traditional networks, using hubs and routers, networks are divided using hubs into segments comprising broadcast domains. Broadcast domains are connected using routers. Ethernet or Token-Ring frames are repeated within hubs and routed between hubs. The network structure is determined by the physical placement of components and their connection to hubs and routers. Switching can be used to increase throughput and decrease latency within broadcast domains.

With virtual LANs, the network structure is divorced from the physical placement of components by using switches to divide the network into logical broadcast domains independent of component physical location. Broadcast domains can be defined using some or all of the components connected to a switch or multiple switches. The broadcast domain becomes a virtual LAN. Frames are switched within a virtual LAN and routed between virtual LANs. Virtual LANs can be created from Ethernet, Token-Ring, or ATM Emulated LAN segments. Network managers can arrange users into logical groups, dramatically simplifying the task of adding, moving and changing users.

Nways Campus Manager Suite for AIX Version 3

New versions of the Nways Campus Manager LAN, Nways Campus Manager ATM and the Nways Campus Manager ReMon for AIX are announced, with new functions and up-to-date support for IBM Campus devices. The products are closely integrated with TME 10 NetView for AIX, and are available individually or as an integrated package - the Nways Campus Manager Suite for AIX. The suite costs less than the sum of the individual product prices, is available on 4 media types including CD-ROM, and is easier to order and install. Upgrades for customers who have prior versions are available. Similar enhancements to the Nways Campus Manager Suite for HP OpenView will be announced at a later date.

Nways Campus Manager LAN for AIX Version 3

The Nways Campus Manager LAN for AIX provides management for networks of hubs, switches, bridges and routers, including device, media, topology and performance management. It integrates management functions for several components, and its functions integrate in turn with other management applications running on the TME 10 NetView platform. The Nways Campus Manager LAN will automatically invoke other applications, like the Nways Campus Manager ATM and ReMon, as needed allowing operators to remain focused on the task at hand.

Figure 1. Nways Campus Manager LAN for AIX provides status at a glance for the network and network devices

The Nways Campus Manager LAN uses graphical depictions of the 8250, 8260 and associated hub modules for intuitive management of these devices in a network. Operators can quickly perform device configuration, download software changes, monitor performance and detect and diagnose problems. Support for 8260 Release 6 and 7 is added, along with support for the 8260 modules made available since the prior release of the Nways Campus Manager LAN for AIX. In addition, IBM announces user-requested enhancements to:

- Couple physical topology with emulated LAN topology
- Permanently store user-customized LNM subnet maps
- Provide improved storage and retrieval, database import and export, and searching by using the ObjectStore database
- Add polling information to Critical Resource Monitoring

The Nways Campus Manager LAN for AIX provides device-specific, graphical management applications that allow operators to perform device configuration and fault, performance, accounting and security management using realistic, graphical depictions of the devices, often simply pointing with the mouse and clicking on the appropriate selection icon to accomplish their objective. In addition to devices already supported, new graphical management application support is added for the:

- 8225 Fast Ethernet Stackable Hub
- 8235 DIALs Remote Access Server Models 001, 002, 011, 012, 021, 022, 031, 032, 051 and 052
- 8271 Nways Ethernet LAN Switch Model 216
- 8272 Nways Token-Ring LAN Switch Model 216
- 6611 Network Processor
- 2210 Nways Multiprotocol Router

The 8230 and 8238 managers are also enhanced to automatically invoke the Nways Campus Manager LAN ReMon for AIX to access RMON information for those devices.

The Nways Campus Manager LAN for AIX also provides performance management for SNMP-enabled devices, including:

- IBM 2210 Nways Multiprotocol Router (all models)

- IBM 2216 Nways Multiaccess Connector (all models)
- IBM 6611 Network Processor (all models)
- Router modules in the 8250 and 8260 hubs
- Bridges that have SNMP agents, such as the IBM 8229 and the IBM RouteXpander/2 Version 2
- Selected models of Cisco, Bay Networks, and Proteon routers

The performance monitoring capability of Nways Campus Manager LAN for AIX has been enhanced to support IBM hubs and switches in addition to the previously supported bridges and routers. It can now monitor critical interface port statistics.

Advanced Peer-to-Peer Networking® (APPN®) and Data Link Switching (DLSw) topologies are also supported.

Support for large networks is enhanced in this release, with client-server support, distributed polling, and object-oriented data storage. Client-server support reduces the resources required in systems operated as clients. Distributed polling uses the Mid-Level Manager function of TME 10 NetView Distributed Monitoring to reduce management loads on the network. The Mid-Level Manager distributes discovery and status polling to a set of nodes rather than concentrating it at a single node. The Nways Campus Manager LAN for AIX provides one Mid-Level Manager instance.

Object-oriented data storage, using the ObjectStore database, provides client and server access to a common object model, with enhanced storage and retrieval, searching, import and export functions. Managed node information is maintained across restarts.

Similar enhancements to the Nways Campus Manager LAN for HP OpenView will be announced at a later date, except for performance monitoring for SNMP-enabled devices and LAN media management.

In addition, IBM previews network management application software for the newly announced LAN Switch Modules for the 8260. This software will be integrated into the Nways Campus Manager LAN for AIX and HP OpenView, with target availabilities of 1H97 and 2H97, respectively. The software will be available as a Program Temporary Fix (PTF) to the current Nways Campus Manager LAN for AIX concurrent with switch module availability. The PTF will provide a view of the switch modules, plus VBridge management, protocol filter definition, a list of DMMs and other functions. The PTF will be available from an IBM Conference Disk at no charge until the function is integrated into the Nways Campus Manager LAN.

Nways Campus Manager ATM for AIX Version 2

The Nways Campus Manager ATM for AIX Version 2 provides intuitive, graphical management of ATM networks. An entire ATM network can be displayed, or an operator can zoom in on the subnetwork or device of interest. Network topologies can be displayed as collections of nodes or as virtual connection maps showing connections between any two endpoints. Support is provided for the 8210, 8281, 8282 and 8285 components and ATM components in the 8260 hub, integrated with the graphical device managers for those devices. ATM device auto-discovery is provided to assist with the initial topology and to identify configuration changes. Operators have the ability to choose monitored resources by selecting resource icons and dragging them to the monitor panel.

The following device support is added or enhanced in this version:

- 8210 Multiprotocol Switched Services Server

- 8281 Nways LAN Bridge
- 8285 Nways ATM Workgroup Switch
- 8260 Nways Multiprotocol Switching Hub

New management functions are also added, including support for emulated virtual LANs (including shell scripts for automation), generic support for non-IBM ATM devices, support for attached ATM devices, critical resource monitoring, global services, use of the ObjectStore database and user-selectable ATM address displays.

Comprehensive support for LAN Emulation (LANE) includes automatic discovery of LANE servers, clients and proxy clients (in LAN switches). Discovered topologies can be used to build displays which are dynamically updated to show color-coded device status and devices that are assigned to virtual LANs. Operators can add, remove or change components of a virtual LAN with a drag-and-drop interface. Templates are provided to automate virtual LAN configuration by grouping a set of individual actions and executing them with a single command. Fault management, performance monitoring and security control are provided.

ATM Forum-compliant ATM devices can be automatically discovered, displayed and managed in this version, allowing operators to configure and provide fault management using standard SNMP MIBs for non-IBM devices (the uplink from a LAN switch to the ATM network, for example).

ATM adapters that support Interim Layer Management Interface (ILMI) variables like ATM address or IP address can be automatically discovered and added to the topology in this version, making the topology display more complete by adding icons for switch-attached workstations. Operators can now configure and provide fault management for these workstations using standard SNMP MIBs.

Figure 2. Nways Campus Manager ATM for AIX provides the ability to graphically manage emulated virtual LANs

Global Services Support allows operators to support multiple switches, bridges and concentrators, with the ability to save or restore configurations for multiple switches or globally download software updates with a single command. Automatic discovery is enhanced to allow operators to specify discovery of specific SNMP agents (such as non-IBM devices), filter discovery based on IP address or device type, and set the discovery interval to optimize polling.

Similar enhancements to the Nways Campus Manager ATM for HP OpenView will be announced at a later date.

Nways Campus Manager ReMon Version 2 Base and Advanced

The Nways Campus Manager ReMon Version 2 provides remote monitoring for RMON and RMON 2 agents. Remote monitoring allows data collection and analysis to be done at the device, rather than through a series of low-level interactions across the network between a manager and device agent.

RMON functions, specified by IETF RFC 1757 for Ethernet and RFC 1513 for Token Ring, define a standard set of MAC-layer statistics gathering, filtering and data packet capturing. RMON 2 is an emerging IETF standard that extends the basic RMON functions with additional statistics gathering at the network and application layers. RMON 2 will allow network tuning and optimum resource placement by making communication patterns more apparent.

RMON management is supported by two applications on AIX, the Nways Campus Manager ReMon and the Nways Campus Manager ReMon Advanced. The first application supports network devices with RMON-compliant probes, including the following IBM devices:

- 8250 Ethernet RMON Probe
- 8250 Token-Ring Management Module
- 8260 Token-Ring Media Access Daughter Cards
- 8260 Ethernet and High-End Ethernet Media Access Daughter Cards
- 8230 Token-Ring Controlled Access Unit
- 8238 Nways Token-Ring Stackable Hub
- 8225 Fast Ethernet Stackable Hub

New features of Nways Campus LAN Remote Monitor for AIX are:

- Virtual interface support for gathering customized (filtered) RMON information from a real interface. Using the RMON filter capabilities, you create a set of filters that define the type of traffic you want to capture on a real interface. The output from these filters is then seen as another interface for the selected RMON probe. The data from this virtual interface can then be managed like the data from any other interface.
- RMON table management for creating or deleting RMON MIB tables for real or virtual interfaces associated with an RMON probe.
- Multi-segment statistics views, providing the ability to display data from multiple interfaces (both real and virtual) on a probe in consolidated views. Thus you can now graph and compare statistical data from multiple interfaces.
- Support for fast Ethernet, both 100BASE-TX (if Type 62) and 100 Base-FX (if Type 69).
- Packet upload buffer support for uploading large FDDI and Token-Ring packets.
- Enhancements supporting the ability to do further filtering at the management station on uploaded captured RMON packets. For example, the RMON probe filter might have been defined to capture all IP packets. With the new support you can filter the uploaded captured packets to display only the SNMP traffic, if you desire.
- A new option for providing details about a probe, including: probe name, IP address, community name, description, up time, probe configuration information, interfaces (both real and virtual) and interface configuration information.
- Enhancements that improve the responsiveness of RMON displays by allowing operators to control time-consuming data uploads and translation of MAC addresses to network layer addresses.
- End-user interface enhancements replacing the DLM toolbar with a menu at the top of the RMON summary screen.

All new features associated with Nways Campus LAN Remote Monitor for AIX are included in the AIX Advanced version. The Nways Campus Manager ReMon Advanced adds an Enterprise Communications Analysis Module (ECAM) that shows internetwork communication patterns and a global view of applications, including Internet and intranet networks and applications. ECAM is a precursor to RMON 2, and supports full seven-layer data collection, including segment, host and host matrix statistics for IP, IPX, DECnet, VINES and other protocols and application types.

The Nways Campus LAN Remote Monitor for AIX Advanced supports the Traffic Transmission Monitor Module (TTMM). TTMM transmits packets to specific LAN segments or rings for stress testing or network simulation, allowing controlled performance tuning and capacity analysis.

Extended protocol support is enhanced in this announcement. The Nways Campus LAN Remote Monitor for AIX Advanced provides an RMON 2-like ability to do protocol matrix analysis of layer 3 or higher protocols using the ECAM capability in the RMON probe. The protocol matrix provides information about who is talking to whom in the network and what protocols they are using. This provides statistics about the various protocols captured on a probe's interface. Support for the following protocols was added in this version: SNA, NetBIOS/NetBEUI, NetWare 4.0, VINES, SMB, IGRP, NTP, AppleTalk, and Lotus® Notes®.

Similar enhancements to the Nways Campus Manager ReMon for HP OpenView will be announced at a later date.

Figure 3. Nways Campus Manager ReMon for AIX efficiently collects and analyzes information gathered from remote devices

Nways Manager for Windows Version 2

The Nways Manager for Windows provides a cost-effective, ready-to-run, comprehensive network management application for small-to-medium sized networks with the following functions:

- Configuration management
- Performance management
- Fault management
- Security management
- Accounting management

The Nways Manager for Windows Version 2 extends the capabilities of the existing Nways Manager for Windows with:

- Integrated NetView for Windows Version 2.1 and NETMANAGE NEWT Version 4.6 components
- New or enhanced graphical device management applications
- Coupling with ReMON for 8230 and 8238

NETMANAGE NEWT Version 4.6 provides an integrated Windows TCP/IP stack for management and other communications including Internet and intranet access. NETMANAGE's Telnet, TFTP and FTP applications are included. NetView for Windows Version 2.1 provides an SNMP management platform for integrated, multivendor, heterogeneous LAN management.

NetView for Windows provides fault, performance, configuration, accounting and security management applications. Managers can use NetView for Windows to lower operational costs and

reduce expensive outages because NetView for Windows speeds problem detection, identification and resolution with easy-to-use graphical network and device displays, data collection and analysis, and the ability to signal the need for action when the network is not operating within set parameters.

Nways Manager for Windows Version 2 integrates the products above with a set of graphical device applications, including support for:

- IBM 8210 Nways Multiprotocol Switched Services Server
- IBM 8224 Ethernet Stackable Hub
- IBM 8225 Fast Ethernet Stackable Hub
- IBM 8230 Token-Ring Concentrator (Models 003, 013, 213, 04A and 04P)
- IBM 8235 DIALs remote access server Models 001, 002, 011, 012, 021, 022, 031, 032, 051 and 052
- IBM 8238 Nways Token-Ring Stackable Hub
- IBM 8250 Multiprotocol Intelligent Hub
- IBM 8260 Nways Multiprotocol Switching Hub
- IBM 8271 Nways Ethernet LAN Switch (Models 001, 108 and 216)
- IBM 8272 Nways Token-Ring LAN Switch (Models 108 and 216)
- IBM 8281 Nways ATM LAN Bridge
- IBM 8282 TURBOWAYS ATM Workgroup Concentrator
- IBM 8285 Nways ATM Workgroup Switch
- IBM 6611 Network Processor
- IBM 2210 Nways Multiprotocol Router

Figure 4. Nways Campus Manager for Windows provides many of the functions of the Nways Managers for AIX for smaller networks

Nways LAN Remote Monitor for Windows works in conjunction with RMON agents in remote devices and supports all of the Ethernet and Token-Ring support specified by IETF RFC 1757 for Ethernet and RFC 1513 for Token Ring. Graphical device managers for the 8230 and 8238 are enhanced for closer coupling between the Nways Manager for Windows and the Nways RMON Manager for Windows. This enhancement allows operators to access RMON information provided by the RMON agents for the 8230 and the 8238 by automatically invoking the Nways RMON Manager from the 8230 or 8238 device managers.

Nways RouteSwitch Network Manager and Nways RouteTracker Manager

New management applications are also announced to support the new 8273 Ethernet RouteSwitch and 8274 LAN RouteSwitch products, including the most comprehensive virtual LAN manager in the industry. These applications will be integrated into the Nways Campus Manager family at a later date and can be ordered individually or as a money-saving suite of products.

The Nways RouteSwitch Network Manager provides graphical, real-time configuration, monitoring and diagnostics for the 8273 Nways Ethernet RouteSwitch and the 8274 Nways LAN RouteSwitch. Customers can also use the Nways RouteSwitch Network Manager to create and manage policy-based virtual LANs, using drag-and-drop and supplied wizards to configure and change virtual LANs.

The Nways RouteSwitch Network Manager can operate as a stand-alone component or as a component of an integrated management platform. Supported stand-alone environments are Windows 3.1, Windows NT, SUN Solaris, HP-UX and AIX. Supported platforms include IBM TME 10 NetView for AIX and HP OpenView for Windows and UNIX.

The Nways RouteTracker Manager augments the Nways RouteSwitch Network Manager with the most powerful virtual LAN capability in the industry. Nways RouteTracker Manager is available on the same platforms and operating systems as the Nways RouteSwitch Network Manager with the exception of Windows 3.1.

When a user or server is moved from one location to another, the Nways RouteTracker Manager automatically reconfigures the switches involved. Components can belong to more than one virtual LAN, keeping broadcast domains small and minimizing delays introduced by routing and the bandwidth needed by broadcast traffic.

The Nways RouteTracker Manager allows network managers to build and manage virtual LANs with Ethernet, FDDI, CDDI, Fast Ethernet and ATM components. Ethernet workstations can connect to any combination of FDDI, CDDI, 100BASE-TX or 155-Mbps ATM servers within a single virtual LAN. Virtual LANs can span an entire campus, with any number of switches connected to each other using a Fast Ethernet, FDDI, CDDI or ATM backbone. A single switch port can support multiple virtual LANs, allowing components of several virtual LANs to be connected to a hub.

Using the Nways RouteTracker Manager, virtual LANs are established automatically based on policies configured in the VLAN Setup Wizard. Network managers use policies to configure and optimize virtual LANs based on affinity groups, network performance or security. The choice of policies offered by the Nways RouteTracker Manager is the most comprehensive and flexible in the industry. Policies supported include grouping by:

- Physical port, which includes all the devices connected to a set of switch ports
- MAC address, which includes all the devices with the specified MAC addresses
- Protocol type, which includes devices grouped by IP, IPX, AppleTalk, DECnet or by Ethernet type (including a type of LAT), SAP header or SNAP type
- Layer 3 address, which includes devices with the same IP subnet or IPX network addr
- User-defined criteria, which allow grouping based on a pattern within frames

A RouteTracker group is a collection of ports on one or more switches to which a set of policies applies. A separate Spanning Tree is maintained for each RouteTracker group. RouteTracker groups can be established across an FDDI or CDDI backbone, an ATM backbone or multiple FDDI, CDDI and ATM backbones, simultaneously. This capability provides unique network flexibility,

performance and availability, and lets network managers migrate from FDDI backbones to ATM backbones incrementally, with the ability to fall back to FDDI nondisruptively, if desired.

Benefits

- Comprehensive search capabilities, extensive LAN management and enhanced media management uniquely integrated into the network management platform of choice, for reduced network operation and administration cost
- Improved operator productivity with network status-at-a-glance displays of networks and interconnected devices, point-and-click operation, integration of key applications needed to manage the network and enhanced data storage, retrieval and searching
- Increased network availability by identifying problems before they cause network outages
- Protection of critical resources by giving their status increased visibility
- Reduced traffic requirements for management traffic, making more of the network available for data traffic
- Reduced cost of moves and changes with emulated virtual LANs for ATM and industry-leading, policy-based virtual LANs with Ethernet, Fast Ethernet, Token-Ring, FDDI and ATM segments
- Improved operation, network tuning, and end-user network services with RMON 2-like support
- The ability to manage networks of both IBM and non-IBM devices, including any ATM or non-ATM device with standard MIBs, any device with standards-compliant RMON probes and selected non-IBM routers and bridges

Positioning

- Nways Managers manage networking devices with SNMP agents and provide graphical device management applications for IBM Networking hardware.
- The Nways Campus Manager Suite for AIX saves money and simplifies installation and operation for customers who need more than one of the Nways Campus Managers for LAN, ATM or RMON.
- The Nways Campus Manager LAN for AIX provides an easy-to-use, cost-effective, comprehensive network management solution for customers with IBM networking devices in medium to large Token-Ring, Ethernet or FDDI networks.
- The Nways Campus Manager ATM for AIX provides offers comprehensive, graphical management of ATM networks, including management of virtual networks formed from emulated LANs.

- The Nways Campus Manager ReMon for AIX, in conjunction with RMON device agents, provides money-saving remote analysis. The Nways Campus Manager ReMon for AIX Advanced adds the ability to view communication patterns across the network at all network layers, allowing customers to tune their networks and identify problems between networks
- The Nways Manager for Windows provides a cost-effective, comprehensive network management solution for:
  - Growing businesses that need automated network management for the first time
  - Small businesses who need comprehensive, easy-to-use management solutions
  - Medium to large businesses with large networks divided into smaller subnetworks
- The Nways RouteSwitch Network Manager provides graphical configuration, monitoring, performance measurement and network problem diagnostics for customers who have 8273 or 8274 switches.
- The Nways RouteTracker Manager provides a powerful virtual LAN manager for customers who have 8273 or 8274 switches, allowing those customers to form logical groups of users, regardless of location, and also allowing those customers to manage the groups of users as if they were on the same physical LAN.

For additional information about Nways management solutions, refer to the following specification sheets:

- Proactive management solutions for campus and wide area networks (G325-3521)
- Nways Campus Manager LAN for AIX or HP (G325-3632)
- Nways Campus Manager ATM for AIX or HP (G325-3633)
- Nways Campus Manager Remote Monitor for AIX, HP, and Windows (G325-3631)
- Nways Manager for Windows (G325-3634)

Table 1. Part Numbers, Prices, Availability

Item	Part Number/ Machine Type	Feature/Model	Price (USD)	Availability
Nways Campus Manager Suite for AIX V3	5697-B06	0340	$18 000	12/96
Nways Campus Manager LAN for AIX V3	5697-B07	0346	$11,000	11/96
Nways Campus Manager ATM for AIX V2	5697-B08	0348	$6000	11/96

Continued on next page

Table 1 (Continued)

Item	Part Number/ Machine Type	Feature/Model	Price (USD)	Availability
Nways Campus Manager ReMon for AIX V2	5697-B17	0350	$5000	12/96
Nways Campus Manager ReMon Advanced for AIX V2	5697-B19	0352	$8000	12/96
Upgrade to Nways Campus Manager Suite for AIX V3 from Nways Campus Manager Suite for AIX V2	5697-B06	0341	NC	12/96
Upgrade to Nways Campus Manager Suite for AIX V3 from Nways Campus Manager LAN for AIX V2	5697-B06	0342	$7000	12/96
Upgrade to Nways Campus Manager Suite for AIX V3 from Nways Campus Manager ATM for AIX V1	5697-B06	0343	$12 000	12/96
Upgrade to Nways Campus Manager Suite for AIX V3 from Nways Campus Manager ReMon for AIX V1	5697-B06	0344	$13 000	12/96
Upgrade to Nways Campus Manager Suite for AIX V3 from Nways Campus Manager ReMon Advanced for AIX V1	5697-B06	0345	$10 000	12/96

Continued on next page

Table 1 (Continued)

Item	Part Number/ Machine Type	Feature/Model	Price (USD)	Availability
Upgrade to Nways Campus Manager LAN for AIX V3 from Nways Campus Manager LAN for AIX V2	5697-B07	0347	NC	11/96
Upgrade to Nways Campus Manager ATM for AIX V2 from Nways Campus Manager ATM for AIX V1	5697-B08	0349	$250	11/96
Upgrade to Nways Campus Manager ReMON for AIX V2 from Nways Campus Manager ReMon for AIX V1	5697-B17	0351	$250	12/96
Upgrade to Nways Campus Manager ReMON Advanced for AIX V2 from Nways Campus Manager ReMon Advanced for AIX V1	5697-B17	0352	$250	12/96
Nways Manager for Windows V2	84H2656	1463	$2250	10/96
Nways Manager for Windows V2 Additional License with Certificate	84H2657	0798	$2200	10/96
Upgrade to Nways Manager for Windows V2 from Nways Manager for Windows V1	84H2658	0531	$200	10/96

Continued on next page

Table 1 (Continued)

Item	Part Number/ Machine Type	Feature/Model	Price (USD)	Availability
Upgrade to Nways Manager for Windows V2 from NetView for Windows V2	84H2659	0532	$1500	10/96
Upgrade to Nways Manager for Windows V2 from Nways Manager for Windows V1 Additional License with Certificate	84H2660	0662	$200	10/96
Upgrade to Nways Manager for Windows V2 from NetView for Windows V2 Additional License with Certificate	84H2661	0663	$1500	10/96
Nways RouteSwitch Network Manager V2 R0.x for Sun Solaris	5697-B67	4049	$1595	Available
Nways RouteSwitch Network Manager V2 R0.x for HP-UX	5697-B67	4053	$1595	Available
Nways RouteSwitch Network Manager V2 R0.x for Windows 95 and Windows NT	5697-B67	4057	$495	Available
Nways RouteSwitch Network Manager V2 R0.x for Windows 3.1	5697-B67	4055	$495	Available

Continued on next page

Table 1 (Continued)

Item	Part Number/ Machine Type	Feature/Model	Price (USD)	Availability
Nways RouteSwitch Network Manager V2 R1.x for Sun Solaris	5697-B67	4062	$1595	10/96
Nways RouteSwitch Network Manager V2 R1.x for AIX	5697-B67	4059	$1595	10/96
Nways RouteSwitch Network Manager V2 R1.x for HP-UX	5697-B67	4064	$1595	10/96
Nways RouteSwitch Network Manager V2 R1.x for Windows 95 and Windows NT	5697-B67	4065	$495	10/96
Nways RouteSwitch Network Manager V2 R1.x for Windows 3.1	5697-B67	4066	$495	10/96
Nways RouteTracker Manager V2 R1.x for Sun Solaris	5697-B68	4044	$1595	10/96
Nways RouteTracker Manager V2 R1.x for AIX	5697-B68	4045	$1595	10/96
Nways RouteTracker Manager V2 R1.x for HP-UX	5697-B68	4046	$1595	10/96
Nways RouteTracker Manager V2 R1.x for Windows 95 and Windows NT	5697-B68	4047	$495	10/96

© IBM Corporation 1996. All rights reserved.
Advanced Peer-to-Peer Networking, AIX, APPN, IBM, and NetView are registered trademarks of International Business Machines Corporation.
IBM Business Partner and Nways are trademarks of International Business Machines Corporation.
Lotus and Lotus Notes are registered trademarks of Lotus Development Corporation.
TME is a registered trademark of Tivoli Systems, an IBM company.
TME 10 is a trademark of Tivoli Systems, an IBM company.
Windows and Windows NT are registered trademarks of Microsoft Corporation.
UNIX is a registered trademark in the United States and other countries licensed exclusively through X/Open Company Limited.
All other company names or products are trademarks or registered trademarks of their respective companies.

This fact sheet is an overview of IBM Networking Nways Manager announcements for 8 October 1996.
The part numbers and availability dates shown here are valid in the U.S. They will vary from country to country. Some products may not be announced in your country. Refer to product announcements for your country or contact your local IBM representative or IBM Business Partner™.