Ascend
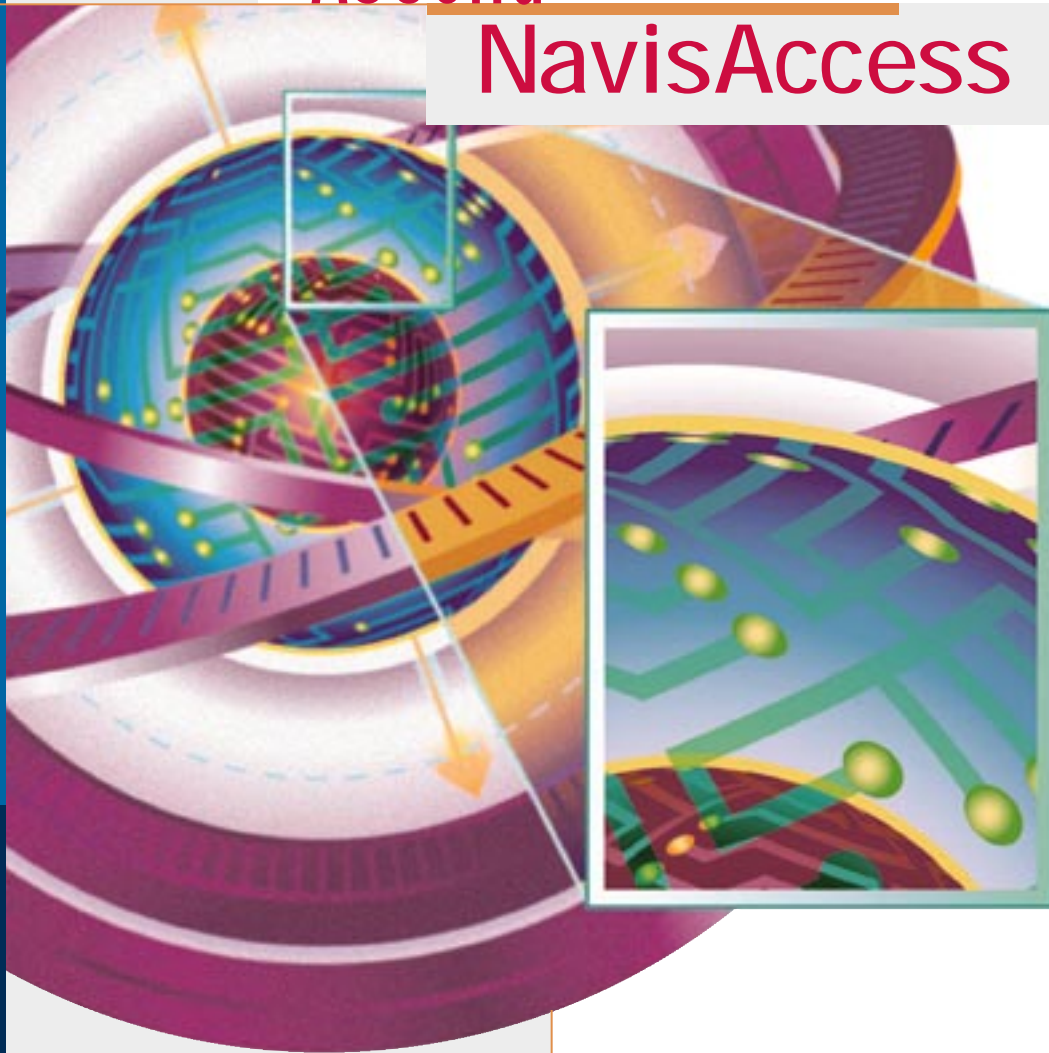# NavisAccess

Corporations ▼ Carriers ▼ Network Service Providers

Tracking. Trending. Reporting. Ascend NavisAccess offers comprehensive, end-to-end management of access and multi-protocol router networks.

Ascend NavisAccess is the only end-to-end, multi-vendor network management product designed for carriers, ISPs and corporations that need to support both access as well as backbone routing devices and services. Features such as discovery and mapping, modem and channel monitoring, configuration management and historical reporting provide customized information about the network—ranging from the "big picture" view of the enterprise to details about performance on a single modem port. Only Ascend's network management solutions can deliver managed services which lead the way into the next generation of global WAN operations.

NavisAccess provides everything needed to track, trend and monitor access and router networks. Proactive alerts warn of network trouble before it becomes critical. A full suite of performance tools measures and reports on protocols or services such as IP, IPX or Frame Relay. In addition, specially-designed configuration tools dramatically reduce both time and errors when setting up new equipment or updating current devices. And logical element grouping lets network managers view what was once an unmanageable rack of devices as a single, comprehensive entity.

ASCEND

Network Management Solutions for Corporations, Carriers and Service Providers

Enterprise-wide discovery and mapping delivers in-depth, end-to-end network control

Most network management tools discover and map only IP Layer information (OSI Layer-3), limiting the view of the network largely to routers. This omits critical information about the network services and switching devices (Layer-2), as well as access devices and physical interfaces (Layer-1). NavisAccess addresses devices at all three layers, integrating the multi-level details into a single application. This comprehensive approach lets network managers fully understand network activity whether they choose to analyze cause-and-effect fault detection, performance monitoring or capacity planning.

- Layer-1 for managing physical interfaces (T1, DS1, E1, xDSL) and viewing point of connection (ports, slots)
- Layer-2 virtual network level for managing wide array of network services (Frame Relay, ISDN, xDSL, ATM) and devices (switches, hubs, routers/bridges)
- Layer-3 for managing the router-to-router interconnections and subnets
- Upper network layers which include user session information, logins and connection statistics

Integrated configuration capabilities permit remote management from a centralized location

NavisAccess lets network managers view and manipulate the configuration of each unit, card and interface on the network. From a centralized location, they can upload, download, store or retrieve all the configuration files on their network. An alert is sent whenever a configuration file or the physical components within a device are modified.

- Remote view of cards, interfaces, operating system software and configuration files
- Remote, scheduled software upgrades across multiple devices for maximizing performance and efficient use of resources
- Validation of software upgrades
- Complete change control of the configuration file, chassis contents and operating system
- Support and management of multivendor devices

Viewing the Network with NavisAccess

Western Group **Central Group** **North Eastern Group** **Boston Group**
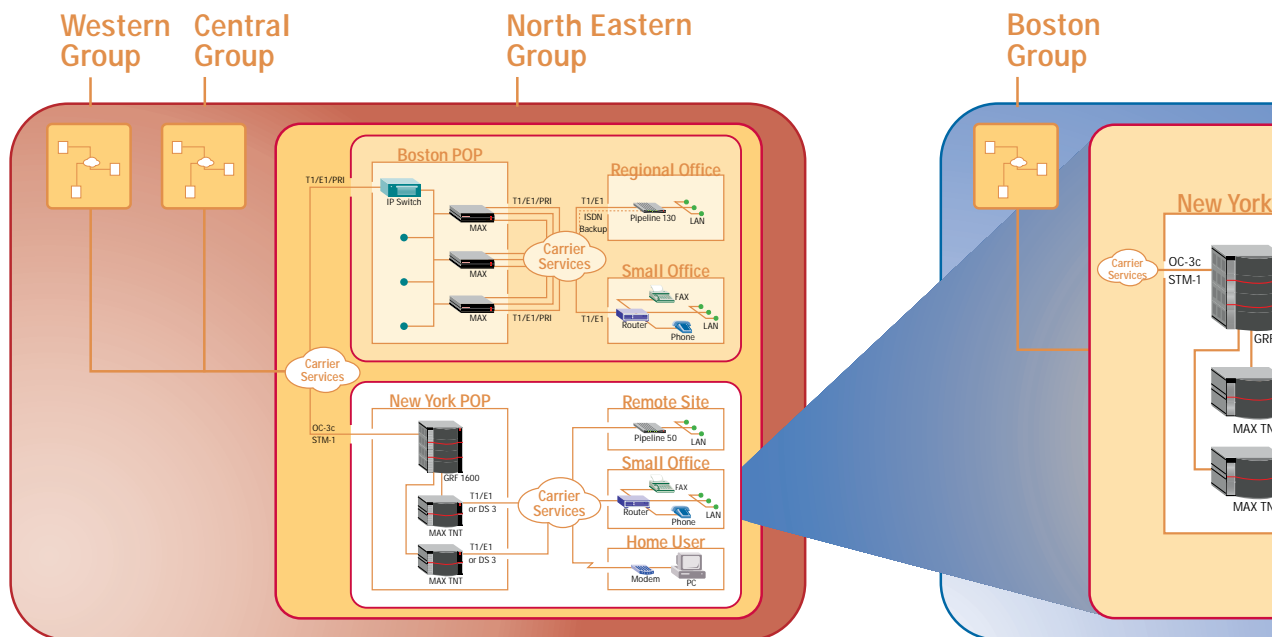
Ascend NavisAccess lets network professionals view the entire network at a glance and implement actions based on group definitions and requirements. Network managers can also drill down into every Ascend MAX, GRF, Pipeline product as well as the other third-party devices to make changes, gauge performance or isolate problems.

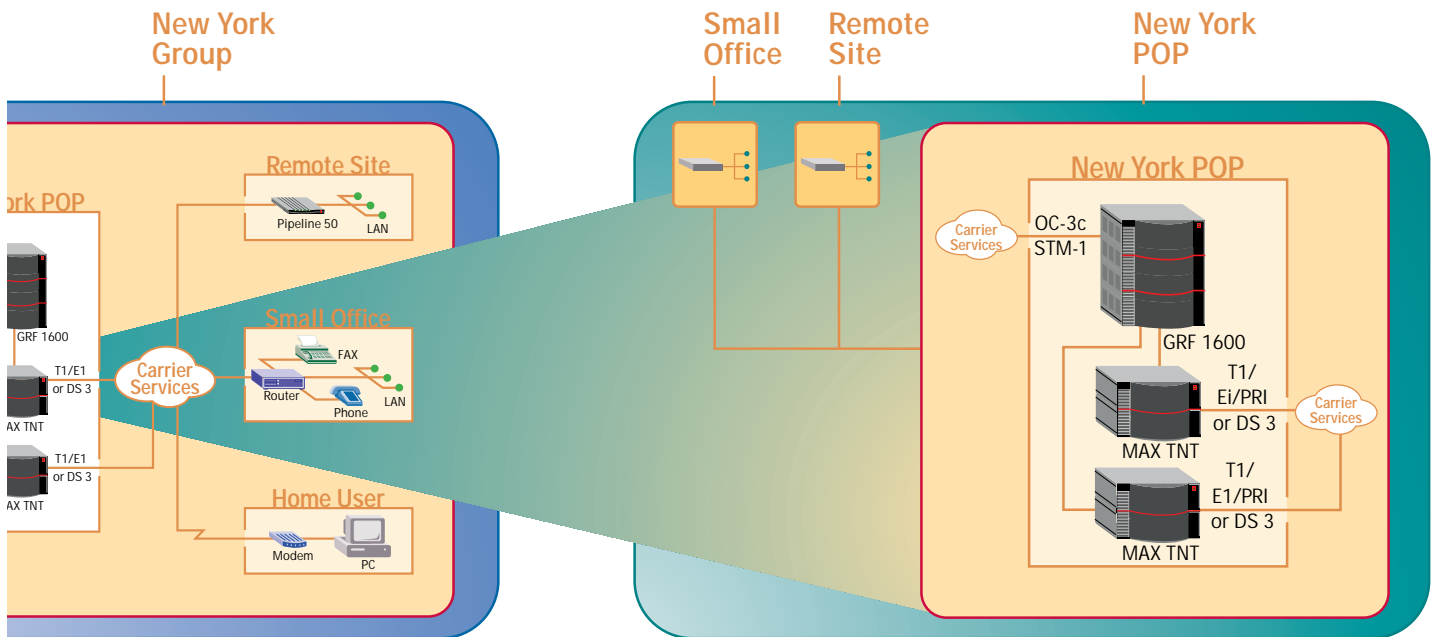## Performance management features monitor the utilization of network resources

Network managers can monitor the network in real-time and collect historical data on the performance of the network. Multiple applications monitor different aspects of the network. Data collection can be automated and run in the background on a predetermined schedule.

- Historical trending of aggregate performance data
- Access device utilization information including percentage of channel utilization, percentage of modem utilization, line utilization, number of calls, number of calls dropped
- Integrated reporting with data collection automatically producing daily and weekly reports
- Web-based reports provide a graphical view of performance information
- Utilization information by protocol (IP, IPX, AppleTalk) including packet statistics and routing tables
- Frame Relay interface DLCI and Virtual Circuit link statistics measure CIR service levels
- Serial line utilization statistics provided for both directions of duplex links
- Statistics for Ethernet, token ring, FDDI or serial connections
- Predefined reports cover all aspects of performance trending

Fault detection capabilities provide immediate notification and isolate network problems

NavisAccess provides continuous monitoring of all the routers, switches and access devices on the network. When a problem arises, fault detection tools provide a visual alert to the operator. The operator can immediately pinpoint the problem to a specific device and/or location on the network.

- Alerts are sent to the management console when problems occur
- Threshold values can be set to send alerts only when a specified error level is reached, eliminating needless message generation
- Thresholds can be monitored by device, device group, protocol and interface
- Intelligent event processing spots trends in event streams, notifying the console of chronically severe problems
- Fault detection pinpoints the problem to a specific device or area of the network
- Pathfinder tool traces the network path between any two elements, indicating all links and devices while reporting performance and error information
- Multivendor device MIBs supported
- Protocol MIBs (IP, IPX, AppleTalk), service MIBs (Frame Relay, ATM) and interface MIBs (DS1, ISDN, T1/E1, OC-3c/STM-1, HSSI) supported

New York Group

Remote Site
Pipeline 50 — LAN

Small Office
FAX — Router — Phone — LAN

Home User
Modem — PC

York POP
GRF 1600
T1/E1 or DS 3
AX TNT
T1/E1 or DS 3
AX TNT
Carrier Services

Small Office
Remote Site

New York POP

New York POP
Carrier Services — OC-3c STM-1
GRF 1600
T1/Ei/PRI or DS 3 — MAX TNT
Carrier Services
T1/E1/PRI or DS 3 — MAX TNT

Integrated accounting features gather detailed information about user activity

Integrated accounting features let organizations gather information about user activity, connect time and Quality of Service. This provides details on how and when network resources are being utilized, which is essential for proper billing and reporting.

- Data can be gathered on usage and resource utilization for cost allocation and bill back
- Accounting information is derived from a RADIUS database, reducing the need for SNMP polling and thereby eliminating excessive network traffic

Multivendor support provides comprehensive management and ensures interoperability

NavisAccess supports Ascend products as well as most third-party devices. This lets network managers control the following devices:

- Ascend's products: MAX™, MAX TNT™, GRF™ and Pipeline®
- Cisco System's routers and Catalyst switches
- Digital Equipment Corporation's networking products
- Bay Network's networking products
- 3Com's networking products

Security features offer granular control and customized access privileges

NavisAccess is configurable based on business needs, allowing network managers to determine who will be allowed to access and manage particular parts of the network. Access privileges can be granted based on logins, devices, device groups, geographic domains and business domains. Consequently, organizations have the flexibility needed to implement multilayered security schemes.

- Access privileges granted based on device, device group, geographic domains and business domains
- Flexible password and lockout options for granular control
- Complements Ascend's comprehensive security solution

Frame Relay Virtual Circuit Utilization
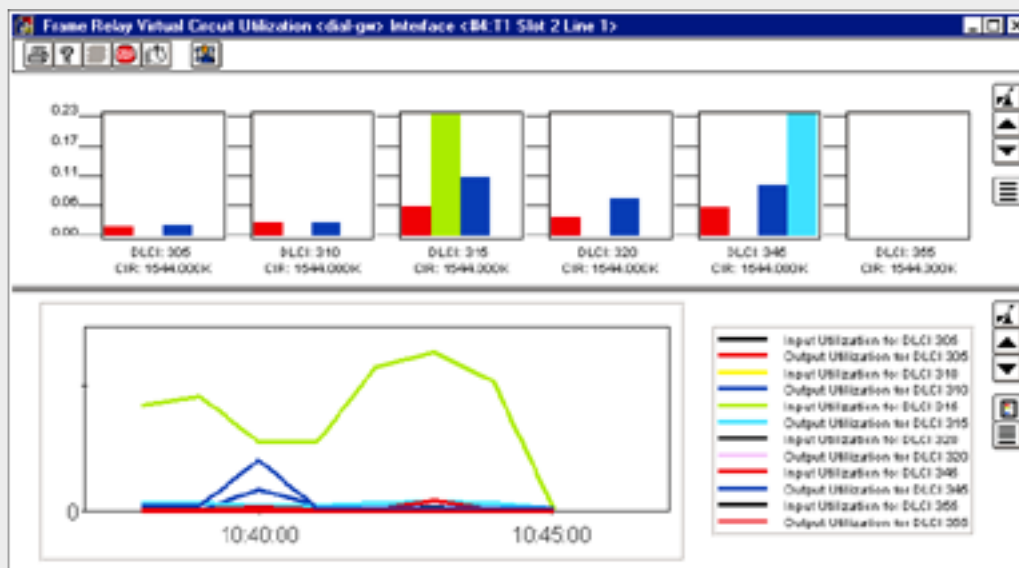
NavisAccess offers network managers detailed information about the network. This view shows the Frame Relay Virtual Circuit Utilization for a five minute interval.

NavisAccess is the first and only software solution to bring comprehensive network management to the access layer of the network. AccessWatch is a specialized application which summarizes key network operating parameters and gives you easy, UI-based access to key device functions, such as disconnecting a caller and enabling/disabling a channel or modem. AccessWatch reports aggregate performance statistics for elements and groups of elements. Status information for even the largest networks is consolidated and delivered to a single-point-of-view console.

Among the statistics reported by AccessWatch are active sessions, dropped calls, modem utilization and channel utilization. Easy-to-use, drill down capability takes you from a high-level overview to a close-up look at performance on a single modem card. System alerts and threshold warnings are monitored and reported by AccessWatch.

NavisAccess delivers the only world-class solution for managing, understanding and trouble-shooting the access layer.

Modem Capacity

NavisAccess provides many preconfig-ured historical reports that provide infor-mation vital to capacity planning. Report data for a single device or device group is collected in the background, and reports are produced automatically based on user-defined schedules. Access layer reports include active sessions, average connect time, network and channel availability, modem utilization and more.
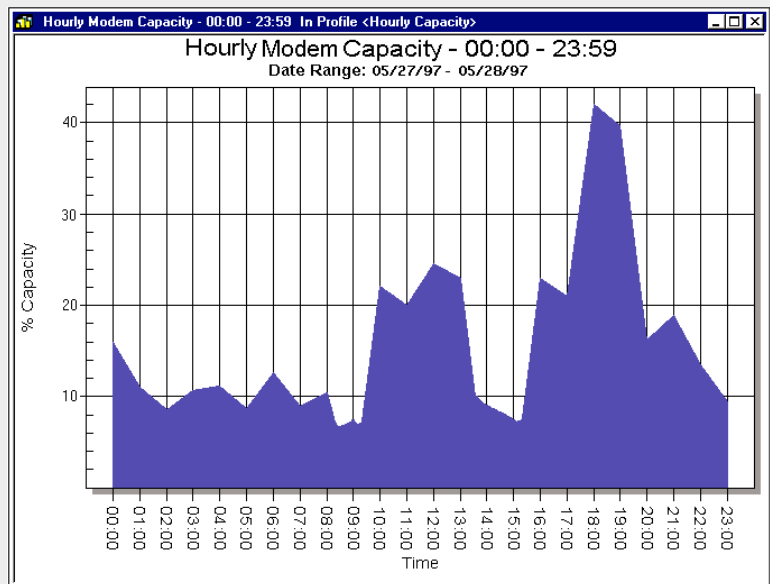
Remote Management of All Installed Equipment

A remote, physical view of device back-panels shows exactly what cards and interfaces are present on a device. NavisAccess applications can be launched from the physical view screen, and downed interfaces are highlighted in red. Any physical change to the device triggers an alarm, and the screen view is updated to reflect the addition or removal of an interface card.
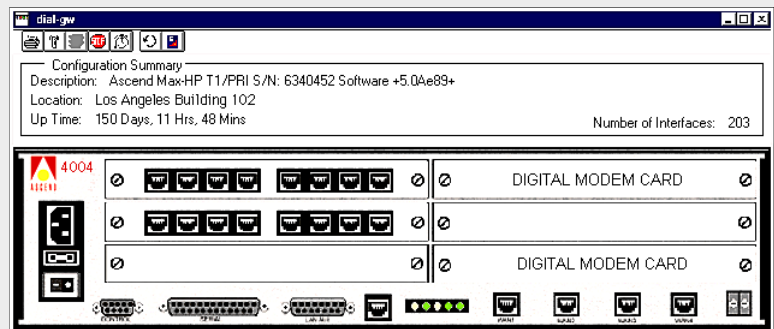
Hardware Specifications

Workstation Configurations

HP OpenView on Solaris:	SunSPARC stations 5, 10, 20, SPARC classics and Sun server, including X Windows and OSF/Motif Solaris 2.5 128 MB RAM 2 GB hard disk
HP OpenView on HP UX:	HP 9000 servers and workstations, excluding Series 300 and 400 HP-UX 10.x, including X Windows and OSF/Motif 128 MB RAM 2 GB hard disk
Stand-alone UNIX:	Same as above for Solaris and HP UX
Windows NT:	Pentium 133 Mhz or higher 64 MB RAM 2 GB hard disk Windows NT 4.0 (Service Pack 3) or higher
Managed Router Configurations	Ascend Software Release 4.6 or higher for MAX/Pipeline Ascend Software Release 1.2 or higher for MAX TNT Ascend Software Release 1.0 or higher for GRF Cisco System's router software v. 8.2 or higher Wellfleet router software v.5.x, 7.x, 8.x, 9.x or higher 3Com router software v. 6.2 or higher Novell MPR software v. 2.11 or higher Digital Equipment Corporation's router software DECNIS DECRouter 90 & higher
Requirements	TCP/IP protocol support on LAN/WAN SNMP option enabled

Platform Support

Ascend NavisAccess is available on the following platforms:

• HPOV 4.1 on Solaris 2.5
• Stand-alone on UNIX
• Stand-alone on Windows NT
• HPOV 4.1 on HP UX 10.0

NavisAccess is tightly integrated with HPOV events, maps and SNMP APIs. Stand-alone versions also offer platform-like features.

Product Support

NavisAccess supports the following vendors/products:

• Ascend's products: MAX, MAX TNT, GRF and Pipeline
• Cisco System's routers and Catalyst switches
• Digital Equipment Corporation's networking products
• Bay Network's networking products
• 3Com's networking products

Ascend Communications, Inc. develops, manufactures and sells wide area networking solutions for telecommunications carriers, Internet service providers, and corporate customers worldwide. For more information about Ascend and its products, please visit the Ascend web site at http://www.ascend.com, or e-mail info@ascend.com.

Ascend markets the B-STDX, CBX, GRF, IP, MAX, Multiband, MultiDSL, Navis, Pipeline, SA, SecureConnect and STDX families of products. Ascend products are available in more than 40 countries worldwide.

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