



NetVanta 3450

Product Features

- Modular access router supporting up to four T1s
- *RapidRoute*™ technology for greater performance
- Voice Quality Monitoring (VQM) and Mean Opinion Score (MOS) prediction
- Inherent URL filtering
- Standards-based routing/switching protocols
- Feature-rich ADTRAN® Operating System (AOS)
- IPv6 ready
- CompactFlash® slot for auto-provisioning
- Stateful inspection firewall for network security
- Optional IPSec Virtual Private Network (VPN) for secure corporate connectivity across the Internet
- Onboard hardware encryption accelerator
- Recognizable Command Line Interface (CLI) and intuitive Web-based Graphical User Interface (GUI)
- Network Address Translation (NAT)-compatible Session Initiation Protocol (SIP) Application Layer Gateway (ALG) for Voice over IP (VoIP)
- Wi-Fi® Access Controller for centralized management of NetVanta Wireless Access Points (WAPs)
- Industry-leading five-year North American warranty

Modular Access Router Supporting Metro Ethernet and up to Four T1s of Bandwidth

The NetVanta® 3450 is an ideal solution for multi-T1 and Metro Ethernet deployments.

This modular access router uses *RapidRoute* technology to deliver the high-packet throughput required for IP telephony, corporate connectivity, and Internet access. Supporting up to 4 T1s worth of bandwidth and 100 Mbps for Metro Ethernet throughput, this performance-enhanced platform delivers wire-speed throughput, even with advanced services enabled like Quality of Service (QoS), NAT, firewall, and VPN.

Modular Hardware

The NetVanta 3450 is a modular, 1U-high, rackmountable metal chassis that offers two 10/100Base-T Ethernet interfaces for WAN access LAN segmentation, DMZ, or even broadband backup. The dual-slot chassis houses any of the NetVanta Series Network Interface Modules (NIMs) and Dial Backup Interface Modules (DIMs). For dial backup, an analog modem DIM or an ISDN BRI DIM is available, preventing downtime by dialing around a failed circuit to any PPP-compliant device.

Standards Protocols

Complementing the versatile hardware, the AOS allows for the support of standards-based switching, Virtual LAN (VLAN) tagging, static and default routes, and demand routing. This enables fast, accurate network convergence using routing protocols such as BGP, OSPF, and RIP. In addition, the AOS terminates Ethernet, MPLS, Frame Relay, Multilink Frame Relay, PPP, Multilink PPP, and HDLC Wide Area Network (WAN) protocols. Multihoming is also available to provide redundant or backup WAN links to multiple ISPs, guaranteeing a wide-area connection.

QoS

QoS is also supported for delay-sensitive traffic like VoIP or video. To prioritize mission-critical traffic and control network congestion, the NetVanta 3450 uses Low Latency Queuing, Weighted Fair Queuing (WFQ), Class-based

WFQ, and DiffServ marking to establish the priority of IP packets routed over the WAN.

VoIP Ready

In combination with the QoS features, a specialized SIP ALG allows SIP traffic to traverse NAT-enabled firewalls. For enterprise networks, this interoperability allows IP PBXs, phones, and other SIP-based devices to set up, tear down, and pass voice and call control messages seamlessly through the integral NAT-enabled firewall.

The NetVanta 3450 also features VQM to capture MOS, jitter, delay, and packet loss statistics necessary to troubleshoot VoIP calls over the WAN. This powerful, yet graphically intuitive, diagnostic tool allows for quick isolation of network issues to ensure superior call quality.

Security

The AOS provides a powerful, high performance stateful inspection firewall that can identify and protect against common Denial of Service (DoS) attacks like TCP syn flooding, IP spoofing, ICMP redirect, ping of death, and IP reassembly problems.

In addition, the AOS is capable of providing an inherent URL-filtering package without the use of an external server. URL-filtering is another level of security that allows system administrators to restrict Internet access by permitting or denying specific URLs. This URL filtering feature also includes the ability to produce top website reports of the most frequently requested websites, allowing system administrators to modify the URL filter lists.

The NetVanta 3450 also supports up to 500 simultaneous IPSec VPN tunnels and encryption algorithms like DES, 3DES, and AES. By supporting IPSec, the NetVanta 3450 is fully compatible with other IPSec VPN-equipped NetVanta products.

Administration

The AOS offers both a GUI and a CLI for configuration and management. The Web-based GUI provides ease of management including step-by-step configuration wizards. The CLI mimics the widely deployed industry *de facto* standard.



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TL19.1270



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61200823G1-8C December 2011
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Modular Access Router

Product Specifications

Physical Interface

- **NIM:** 56/64k, T1/FT1, T1/FT1 with DSX-1, Dual T1, 3G Cellular, E1/FE1, E1/FE1 with G.703, ADSL, SHDSL, and Serial
- **DIM:** Analog Modem and ISDN BRI (U and S/T)
- **LAN:** Two auto-sensing 10/100Base-T ports (RJ-45)

Diagnostics LEDs

- Status
- Ethernet 1
- WAN
- Ethernet 2
- DBU

Memory

- RAM: 128 MB
- FLASH: 32 MB
- CompactFlash® Slot

Protocols

- eBGP/iBGP
- OSPF
- RIP (v1 and v2)
- PIM Sparse Mode
- Demand Routing
- Policy-based Routing
- GRE
- ATM (ADSL)
- Frame Relay
- Multilink Frame Relay
- Layer 3 Backup
- Multi-VRF CE
- PPP
- Multilink PPP
- PPPoE
- PPPoA
- IGMP v2
- RFC 1483
- HDLC
- PPP Dial Backup
- PAP and CHAP
- Multihoming
- VRRP

Quality of Service

- Low Latency, WFQ and Class-based WFQ
- DiffServ Packet Marking and Recognition
- Frame Relay Fragmentation
- Traffic Monitoring (NetFlow 9)

Voice Quality Monitoring (Optional)

- Mean Opinion Score (MOS) prediction
- Jitter, Delay and Packet Loss
- Past and Active Calls

Administration

- CLI
- Email Alerts (SMTP)
- Policy Statistics
- TCL Scripting
- Flash Provisioning
- Web-based GUI
- n-Command® Support
- SNMP v3
- SYSLOG Logging

DHCP

- Client, Server, and Relay

Firewall

- Stateful Inspection Firewall
- DoS Protection
- Access Control Lists
- ALGs

Network Address Translation

- Basic NAT (1:1), NAT (Many:1), and Port Translation
- NAT-compatible SIP ALG

Secure Management

- Multi-level access control
- TACACS+
- RADIUS AAA
- SSH CLI and SSL GUI
- Port Authentication (802.1x)

Content Filtering

- Inherent URL filter
- Top website reports
- Integration with Websense®

Optional VPN

- **IPSec Tunnel Mode:** 500 Tunnels
- **Encryption:** DES, 3DES, and AES
- **Authentication Mechanisms:** XAUTH, Digital certificates, Pre-Shared Keys, and Secure ID

Environment

- **Operating Temperature:** 0° to 50 °C (32° to 122 °F)
- **Storage Temperature:** -20° to 70 °C (-4° to 158 °F)
- **Relative Humidity:** Up to 95%, non-condensing

Physical

- **Chassis:** 1U, rackmountable metal enclosure
- **Dimensions:** 1.25" H, 17.25" W, 7.75" D
- **Weight:** 7.5 lbs.
- **Power:** 100-250 VAC, 50/60 Hz, 6 W max.

Agency Approvals

- FCC Part 68
- Industry Canada CS03
- UL & Canadian UL (CUL), IEC/EN, CSA
- CE Mark
- RoHS

Ordering Information

Equipment	Part #
NetVanta 3450	1200823G1
NetVanta 3450 EFP	4200823G2
NetVanta 3450 EFP Upgrade	1950823G2



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