



# NetVanta 4305

## Multi-slot Access Router Supporting up to Eight T1s of Bandwidth

### Product Features

- Three-slot, dual-Ethernet IP access router for eight T1s of bandwidth
- Dual auto-sensing 10/100Base-T interface for LAN segmentation
- Stateful inspection firewall for network security
- Quality of Service (QoS) for delay-sensitive traffic like Voice over IP (VoIP)
- Voice Quality Monitoring (VQM) and Mean Opinion Score (MOS) prediction
- Inherent URL filtering
- VLAN Trunking (802.1Q) for routing between VLANs
- Optional Virtual Private Network (VPN) for secure corporate connectivity across the Internet
- Recognizable Command Line Interface (CLI) and intuitive Web-based Graphical User Interface (GUI)
- Network Address Translation (NAT) conceals private IP addresses
- Built-in DSU/CSU for circuit protection
- Feature-rich ADTRAN® Operating System (AOS)
- Industry-leading five-year North American warranty

The NetVanta® 4305 is an access router designed for cost-effective Internet access, corporate Frame Relay, point-to-point connectivity, ADSL, and VPN for large-bandwidth applications supporting up to eight T1s.

#### Modular Hardware

Residing in a 1U high, 19" rackmountable metal enclosure, the NetVanta 4305 is a single platform that offers one wide module slot, two Network Interface Module (NIM) slots and dual 10/100Base-T Ethernet LAN ports for true LAN segmentation or DMZ applications. The single wide module slot within the NetVanta 4305 will house the Octal T1/E1 Wide Module, while the NIM slots will support a variety of the NetVanta NIMs and Dial Backup Modules (DIMs). For dial backup, an analog modem DIM or an ISDN BRI DIM is available for preventing downtime by dialing around a failed circuit to any PPP-compliant device.

#### Standards Protocols

The versatile hardware platform of the NetVanta 4305 is further complemented with the AOS. The AOS allows for the support of static and default routes, demand and policy-based routing, and allows for fast, accurate network convergence using routing protocols such as BGP, OSPF, RIP, and PIM Sparse Mode for multi-cast routing. In addition, the AOS terminates MPLS, Frame Relay, Multilink Frame Relay, PPP, Multilink PPP, PPPoE, PPPoA, RFC 1483, 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 4305 uses Low Latency Queuing, Weighted Fair Queuing (WFQ), Class-based WFQ, and DiffServ marking to establish priority of IP packets routed over the WAN.

#### VoIP Ready

In combination with the QoS features, a specialized Session Initiation Protocol (SIP) Application Layer Gateway (ALG) allows SIP traffic to traverse NAT-enabled firewalls. For an enterprise network, 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 4305 also deploys 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. The firewall 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 4305 also adds the support for IPSec-compliant VPN. The NetVanta 4305 supports up to 500 simultaneous VPN tunnels, while also supporting encryption algorithms like DES, 3DES, and AES. With this upgrade, the NetVanta 4305 is fully compatible with other IPSec VPN-equipped NetVanta products.

#### Administration

The AOS offers both a CLI that mimics the widely deployed industry *de facto* standard and an intuitive Web-based GUI with step-by-step configuration wizards.



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## Multi-slot Access Router Supporting up to Eight T1s of Bandwidth

### Physical Interface

- **One Wide Slot:** Octal T1/E1 Wide Module
- **Dual NIM Slots:** 56/64k, T1/FT1, T1/FT1 with DSX-1, Dual T1, ADSL, SHDSL, E1/FE1, E1/FE1 with G.703, and Serial
- **DIM:** Analog Modem and ISDN BRI (U and S/T)
- **Dual LAN Ports:** Auto-Sensing 10/100Base-T Ethernet Ports (RJ-45)
- Console Port

### Diagnostics LEDs

- Power
- **Slots:** status, activity, test
- **LANs:** link, transmit, receive

### Processor and Memory

- 450 Mhz, MPC 8250
- **RAM:** 256 MB
- **FLASH:** 32 MB

### Protocols

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

### Quality of Service (QoS)

- Class-based Weighted Fair Queuing, Low Latency, and Weighted Fair Queuing
- DiffServ marking and packet 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

- Familiar Command Line Interface (CLI)
- Web-based GUI
- n-Command® support
- SNMP v3
- TCL Scripting
- SYSLOG logging
- Email alerts (SMTP)
- Policy statistics

### Frame Relay

- Point-to-point
- RFC 1490 Encapsulation (Multiprotocol Over Frame Relay)
- LMI types: LMI, ANSI (Annex D), CCITT (Annex A) and Static

### DHCP

- Client, Server, and Relay

### Security

#### Firewall

- Stateful Inspection Firewall
- Denial of Service (DoS) Protection
- Access Control Lists
- Application Level Gateways (ALGs)

#### Network Address Translation

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

#### Secure Management

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

#### Content Filtering

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

#### Optional Virtual Private Network (VPN)

- **IPSec Tunnel Mode:** 500 Tunnels
- **Encryption:** DES, 3DES, and AES
- **Authentication Mechanisms:**
  - XAUTH
  - X.509 Digital certificates
  - Preshared keys
  - Secure ID
  - DSS Signatures

### 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, rack mountable metal enclosure
- **Dimensions:** 1.75" H, 17.25" W, 11" D
- **Weight:** 7.5 lbs.
- **DC Power:** -48 +24 VDC, 75 W max.

### Agency Approvals

- FCC Part 15
- Industry Canada CS03
- UL & Canadian UL (CUL), IEC/EN, CSA
- CE Mark

## Ordering Information

Equipment	Part #
NetVanta 4305 Chassis (DC)	1202950L1
VPN and VQM Upgrade	4200368E2



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