



# NetVanta 5305

## Multi-slot Access Router Supporting up to Two T3's of Bandwidth

### Product Features

- Six-slot, dual-Ethernet IP access router for two T3s 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
- VLAN Trunking (802.1Q) for routing between VLANs
- Network Address Translation (NAT) conceals private IP addresses
- 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)
- Built-in DSU/CSU for circuit protection
- IPv6 ready
- Feature-rich ADTRAN® Operating System (AOS)
- Industry-leading five-year North American warranty

The NetVanta® 5305 is an access router designed for cost-effective Internet access, corporate Frame Relay, point-to-point connectivity, and VPN for large-bandwidth applications supporting T3 networks.

#### Modular Hardware

Residing in a 3U high, 19" rackmountable metal enclosure, the NetVanta 5305 is a single platform that offers six interface slots and dual 10/100Base-T Ethernet LAN ports for true LAN segmentation or DMZ applications. A single slot within the NetVanta 5305 will house an Unchannelized T3, Octal T1/E1, or HSSI Wide Module.

#### Standard Protocols

The versatile hardware platform of the NetVanta 5305 is further complemented by 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 multicast 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 5305 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 5305 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

For added 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 5305 also adds the support for IPsec-compliant VPN. The NetVanta 5305 supports up to 2,000 simultaneous VPN tunnels, while also supporting encryption algorithms like DES, 3DES, and AES. With this upgrade, the NetVanta 5305 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 Two DS3s of Bandwidth

### Physical Interface

- **Six Wide Slots:** Unchannelized T3, Octal T1/E1 and HSSI
- **Dual LAN Ports:** Auto-sensing 10/100Base-T Ethernet Ports (RJ-45)
- Console Port

### Diagnostics LEDs

- **Power:** 1 and 2
- **Slots:** Status, Activity, Test
- **LANs:** link, transmit, receive

### Processor and Memory

- **1 GHz, Motorola 7447**
- **RAM:** 256 MB
- **FLASH:** 32 MB

### Protocols

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

### 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

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### 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
- TACACS+
- Port Authentication (802.1x)
- RADIUS AAA
- SSH CLI and SSL GUI

#### Content Filtering

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

#### Optional Virtual Private Network (VPN)

- **IPSec Tunnel Mode:** 2,000 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:** 3U, rackmountable metal enclosure
- **Dimensions:** 5.25" H, 17.5" W, 10.25" D
- **Weight:** 21 lbs.
- **Power AC:** 85–250 VAC, 50/60 Hz, 325 watts max.
- **Power DC:** -40–56.7 VDC, 350 watts max.

### Agency Approvals

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

## Ordering Information

Equipment	Part #
NetVanta 5305 AC Chassis	4200990L1
NetVanta 5305 DC Chassis	4200995L1
NetVanta 5305 with VPN and VQM	4200990L2
VPN and VQM Upgrade	4200368L3
T3 Wide Module	1200832L1
Octal T1/E1 Wide Module	1202843E1
HSSI Wide Module	1200934L1
NetVanta 5305 Redundant AC Power Supply	1200840G1#120
NetVanta 5305 Redundant DC Power Supply	1200841L1
<b>Systems</b>	
NetVanta 5305 Chassis with T3 Wide Module	4200992L1