NetVanta 1335

Multiservice Access Router

Product Features

- Multiservice Access Router with integrated Layer 3 PoE switch, and 802.11a/b/g Dual Radios
- *RapidRoute*™ technology for greater performance
- Supports up to two T1s worth of bandwidth
- 24-port Ethernet, Fast Ethernet, or 802.3af PoE functionality
- Gigabit SFP/1000Base-T Ethernet port(s) support stacking capability
- Stacking up to 16 switches using single IP address to manage
- 8.8 Gbps non-blocking switching capacity
- Link Aggregation, GVRP, and LLDP
- MAC-based port security
- SIP ALG for NAT traversal in VoIP applications
- IPSec VPN for secure corporate connectivity across the Internet
- Wi-Fi CERTIFIED™
- Recognizable Command Line Interface (CLI) and intuitive Web GUI
- Free firmware updates
- Industry-leading five-year North American warranty

The NetVanta® 1335 Multiservice Access Router is a performance-enhanced platform that addresses the need of multiple networking devices in a single compact platform. The NetVanta 1335 integrates a modular IP access router, 802.11a/b/g Wireless Access Point (WAP) 24-port Layer 3 Power over Ethernet (PoE) switch, firewall, VPN appliance, and DSU/CSU, all in one platform. In addition, the NetVanta 1335, injected with *RapidRoute*™ technology, delivers enhanced-performance necessary for IP telephony, corporate connectivity and Internet access, even with advanced services enabled.

Modular Hardware

The NetVanta 1335 is a modular, 1U-high, rack-mountable metal chassis that offers a single-slot to house any of the NetVanta Series of Network Interface Modules (NIMs) and Dial backup Interface Module (DIMs). The NetVanta 1335 also includes Gigabit SFP/1000Base-T Ethernet interface(s) for uplink or stacking capabilities and a fully managed, non-blocking, 24-port, Layer 3 switch. In addition, the NetVanta 1335 also offers an 802.3af PoE version, delivering the full 15 watts per port.

Standards Protocols

Based on the ADTRAN® Operating System (AOS), the NetVanta 1335 allows for the support of standards-based switching and routing functions. Switching features include 802.1Q VLANs, Storm Control, 802.1D and 802.1w Spanning/ Rapid Spanning Tree, Link Aggregation, Port Mirroring, GVRP, and Link Layer Discovery Protocol (LLDP) to auto-discover neighboring Ethernet devices. For IP routing it enables fast, accurate network convergence using routing protocols such as BGP, OSPF, RIP, static and default routes, and demand routing.

Quality of Service (QoS)

The NetVanta 1335 supports QoS to prioritize mission-critical traffic and control network congestion at various layers of the OSI model. On the LAN, the NetVanta 1335 offers 802.1p and DiffServ Class of Service (CoS). To assign priority to traffic, Weighted Round Robin and Strict Priority Queuing is used with four egress queues per port. For the WAN, DiffServ marking, Low Latency Queuing, Weighted Fair Queuing (WFQ), and Class-based WFQ provide priority for IP packets routed over the WAN. Together these features offer a powerful end-to-end QoS story.

VoIP Ready

In combination with the QoS features, a specialized SIP Application Layer Gateway (ALG) allows SIP traffic to traverse NAT enabled firewalls. For corporate 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.

Wi-Fi®

The Wi-Fi version of the NetVanta 1335 concurrently provides an 802.11b/g and 802.11a radio support at speed up to 54Mbps. Standard wireless security features apply, with advanced business-class needs, including multiple SSIDs, disabled SSID broadcasts, 802.1x for user-based authentication, WPA and WPA2 pre-shared keys, with TKIP and AES encryption. The NetVanta 1335 with Wi-Fi also employs Virtual Access Points (VAPs), the equivalent of wireless Virtual LANS (VLANs). VAPs allow customers to securely segment their wireless network like that of their wired network.

Security

The NetVanta 1335 provides a powerful, high performance stateful inspection firewall to stop intruders and common Denial of Service (DoS) attacks. In addition, a variety of data security features including MAC-based port security, SSH and SSL for encrypted user login, and user authentication using TACACS+, RADIUS or RSA SecurID. For data integrity and added security, the NetVanta 1335 supports 500 IPSec VPN tunnels using DES, 3DES or AES encryption.

Administration

The AOS offers both a Command Line Interface (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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Product Specifications

Interfaces

Network Interface Modules (NIMs)

- 56/64K
- Dual T1
- T1/FT1 with DSX-1
- E1/FE1 with G.703
- T1/FT1
- ADSL
- E1/FE1
- Serial (V.35, X.21/V.11)

Dial Backup Interface Modules (DIMs)

- Analog Modem
- ISDN BRI 'U' and 'ST'

24 Fast Ethernet Ports

- 10/100 Base-T
- Auto-Rate
- Auto-Duplex
- Auto-MDI/MDI-X

24 Fast PoE Ports (Optional)

- 802.3af and Legacy (15.4 watts/port)
- 370 total watts
- Power provided over Ethernet data leads

Gigabit Ethernet Port(s)

- Non-Wi-Fi® Versions
  - Two combo Gigabit Ethernet ports supporting both 10/100/1000 Base-T and SFP slots for copper or optical connectivity
  - Auto-Duplex, Auto-Rate, Auto-MDI/MDI-X
- Wi-Fi Versions
  - A combo Gigabit Ethernet port supporting both 10/100/1000 Base-T and SFP slots for copper or optical connectivity
  - Auto-Duplex, Auto-Rate, Auto-MDI/MDI-X

Status LEDs

- Power
- **WAN:** Link, Activity, Alarm, Test
- **DBU:** Link, In DBU, Alarm, Test
- **Ethernet Port Status:** Link, Activity, PoE Status
- **WLAN:** Activity (Wi-Fi version)

Switching Performance

- Non-blocking
- 8,000 MAC addresses
- 16-MB memory shared by all ports
- 8.8 Gbps maximum forwarding bandwidth
- Layer 3 switching for 16 networks

Spanning Tree Support

- 802.1D Spanning Tree
- 802.1w Rapid Spanning Tree

VLAN Support

- Port based VLANs
- 802.1Q tagged trunked VLANS
- Support for up to 255 active VLANs
- Inter-VLAN routing
- GARP VLAN Registration Protocol (GVRP)

Link Aggregation

- 802.3ad link aggregation
- Support for six trunk groups
- Trunk groups consist of up to eight access ports

Routing Performance

- 266 MHz Freescale MPC 8248
- 128Mb DRAM
- 32MB Flash
- 45,000 PPS
- 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
- PPP
- Multilink PPP
- PPPoE
- PPPoA
- IGMP v2
- RFC 1483
- HDLC
- PPP Dial Backup
- PAP and CHAP
- Multihoming

Quality of Service

- Low Latency Queuing
- Weighted Fair Queuing
- Class-based Weighted Fair Queuing
- DiffServ aware/marking
- Frame Relay Fragmentation (FRF.12)

Class of Service

- Enforces 802.1p priorities
- Four output queues per egress port
- Weighted Round Robin
- Strict Priority Queuing

Security

- Stateful Inspection Firewall
- Denial of Service (DoS) protection
- Access control lists
- Application Level Gateways (ALGs)

Network Address Translation

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

Secure Management

- Multi-level access control
- TACACS+
- RADIUS AAA
- SSH CLI and SSL GUI

Network Access Control

- Port authentication (802.1x)
- MAC-based port security

Content Filtering

- Integration with Websense®

Virtual Private Network (VPN)

- **IPSec Tunnel Mode:** 500 Tunnels
- **Encryption:** DES, 3DES, and AES
- **Authentication Mechanisms:** XAUTH, Digital Certificates, Preshared keys, and SecurID

Wireless Access (Wi-Fi)

Antennas

- Two removable dual-band antennas with R-SMA connectors
- Frequency: 2.4 GHz and 5 GHz
- **Gain:** 2 dBi
- **Length:** 5.5 in (14 cm)

Wireless

- IEEE 802.11a/b/g up to 54 Mbps
- Adjustable Transmit Power Control (TPC)
- WMM™ QoS (Wi-Fi Multimedia Quality of Service)

802.11a

- **Radio Technology:** Orthogonal Frequency Division Multiplexing (OFDM)
- **Modulation Type:** BPSK, QPSK, 16-QAM, 64-QAM
- **Operating Channels:**
  - **US and Canada:** 13
  - **ETSI:** up to 19 (country dependent)
  - **Japan:** four
- **Data rates:** 54, 48, 36, 24, 18, 12, 9, 6 Mbps

802.11b

- **Radio Technology:** Direct Sequence Spread Spectrum (DSSS)
- **Modulation Type:** CCK, BPSK, QPSK
- **Operating Channels:**
  - **US and Canada:** 11
  - **ETSI:** up to 13 (country dependent)
  - **Japan:** 13
- Data rates: 11, 5.5, 2, 1 Mbps

802.11g

- **Radio Technology:** Orthogonal Frequency Division Multiplexing (OFDM)
- **Modulation Type:** BPSK, QPSK, 16-QAM, 64-QAM
- **Operating Channels:**
  - **US and Canada:** 11
  - **ETSI:** up to 13 (country dependent)
  - **Japan:** 13
- Data rates: 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps

Authentication & Security

- SSID, Multiple SSID, and Disable SSID broadcast
- Shared-key authentication
- MAC address authentication
- 802.1x RADIUS user authentication
- WEP (Wired Equivalent Privacy)
- WPA (Wi-Fi Protected Access)
  - TKIP (Temporal Key Integrity Protocol)
  - PSK (Pre-Shared Keys)
- WPA2 (802.11i)
  - AES (Advanced Encryption Standard)
- VPN pass-through

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

DHCP

- Client, Server, and Relay

Administration

- Familiar Command Line Interface (CLI)
- Web-based GUI
- n-Command® support
- SNMP v3
- SYSLOG Logging
- Email alerts (SMTP)
- Policy Statistics

Diagnostics

- Port mirroring
- Traceroute
- Ping
- LLDP (802.1ab)

Physical

Non-PoE Versions

- **Chasis**: 1U, 19" rackmountable metal enclosure
- **Dimensions**: 1.75" H, 17.25" W, 9.5" D
- **Weight**: 7 lbs.
- **Auto-ranging Power**: 110-250 VAC, 50/60 Hz, 36 watts

PoE Versions

- **Chasis**: 1U, 19" rackmountable metal enclosure
- **Dimensions**: 1.75" H, 17.25" W, 12.9" D
- **Weight**: 12 lbs.
- **Auto-ranging Power**: 110-250 VAC, 50/60 Hz, 450 watts

Agency Approvals

- FCC Part 15 Class A
- CE Mark
- FCC Part 68
- RoHS
- WEEE
- FCC Part 15 Subpart C 15.207, 15.247
- FCC Part 15 Subpart E 15.407
- ICES-003 Class A
- CE Mark
  - ETS 300 328 2.4 GHZ
  - ETS 301 893 5.4 GHZ
  - ETS 301 489 EMC
  - EN60950-1/EC60950-1
  - EN55022, EN55024
- AS/NZS CISPR 22 Class A (Australia & New Zealand)
- AS/NZS 4771 (C-tick)
- Industry Canada CS03
- UL Listed UL60950-1
- UL Listed (Canadian Electrical Code/CSA 22.2 No. 60950-1)

Ordering Information

Equipment	Part #
NetVanta 1335	1700515E2
NetVanta 1335 with PoE	1700525E2
NetVanta 1335 with Wi-Fi	1700515E12
NetVanta 1335 with PoE & Wi-Fi	1700525E12

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TL 9000 TELECOMMUNICATIONS
ISO 9001:2000 QUALITY
ISO 14001 ENVIRONMENT

ADTRAN is an ISO 9001, ISO 14001, and a TL 9000 certified supplier.

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