NetVanta 1355

VoIP Multiservice Access Gateway

Product Features

- All-in-one Hosted IP voice and data solution

- Integral SIP gateway, router, PoE switch, and security

- Full-featured IP router supporting up to three T1s for data and Internet access

- Managed, 24-port Power over Ethernet (802.3af PoE) Switch

- Up to 10 analog POTS interfaces with remote survivability

- Compatible with industry-leading soft switches and call agents security

- Stateful inspection firewall for network security

- Supports IP, analog, and digital phones/phone systems; fax machines and modems, Wireless Access Points (WAPs)

- Dynamic bandwidth allocation affords more efficient utilization

- Standardized voice compression requires less bandwidth per voice call

- Quality of Service (QoS) for delay sensitive traffic

- Standards-based routing/switching protocols based on the widely deployed NetVanta Series

- CompactFlash slot for IP phone configuration files and firmware

- Optional IPSec VPN for secure corporate connectivity across the Internet

- Recognizable Command Line Interface (CLI) eliminates retraining

- User-friendly Web-based Graphical User Interface (GUI)

- Feature-rich ADTRAN Operating System (AOS)

The NetVanta 1355 Multiservice Access Gateway is a unique, all-in-one solution for Hosted VoIP PBX services, Internet access, and business connectivity. This powerful platform combines the voice functionality of ADTRAN's industry-leading Total Access 900e Multiservice Access Device and the widely deployed NetVanta Power over Ethernet (PoE) Switch-Router into a compact 1U chassis. This all-in-one product includes a robust SIP-Gateway, a full-featured IP router, stateful inspection firewall, VPN, 24-port powered (802.3af) Fast Ethernet switch with Gigabit uplinks, and two expansion slots for Network and Voice Interface Modules (NIMs/VIMs).

Hardware and System Features

The modular NetVanta 1355 is powered by the ADTRAN Operating System (AOS) and includes data networking features such as multiple routing protocols and Layer 3 Quality of Service (QoS). The integral switch provides 24 powered (802.3af) 10/100 Ethernet ports, with 802.1Q VLANs, Link Aggregation, and Gigabit uplinks for stacking. Voice support includes built-in dual FXO and FXS interfaces for analog connections and E911 dialing. Network and voice expansion options include analog four-port trunk, analog four-port station, analog two-trunk/two-station, PRI, and T1/FT1 modules provide support for up to three network T1s and up to 10 FXS/FXO interfaces. Wall or rack mount applications are supported.

SIP Gateway and Voice Functionality

The NetVanta 1355 includes a robust SIP gateway, providing interoperability with industry-leading softswitches, feature servers, and media gateways. For customers implementing a Hosted PBX service, the NetVanta 1355 supports IP phones, digital telephony equipment and analog phones, fax machines, or modems. In addition, the NetVanta 1355 works in conjunction with industry-leading feature servers to support many popular calling features including caller ID, call hold, forward, transfer, and call waiting. A dual IP and TDM backplane architecture supports both IP and analog devices to smooth network migration and eliminate common performance problems associated with converting TDM analog devices to IP. For example, fax and modem devices connect directly to the

NetVanta 1355 and achieve full-rate performance across the PSTN.

Remote Survivability

The NetVanta 1355 includes a SIP Back-to-Back User Agent (B2BUA) to facilitate remote survivability in the event of a service interruption on the WAN. If connection to the feature server is lost, calls may continue between IP and analog phones to an FXO POTS line to the PSTN. Voice Activity Detection (VAD) and silence are supported.

Standard-based Routing Protocols

Complementing the versatile hardware, the ADTRAN Operating System (AOS) allows for the support of standards-based switching, VLAN tagging, static and default routes, demand routing, Network Address Translation (NAT), and DHCP client/server/relay. This enables fast, accurate network convergence using routing protocols such as BGP OSPF and RIP. In addition, the NetVanta 1355 terminates Frame Relay, Multilink Frame Relay, PPP Multilink PPP and HDLC WAN protocols.
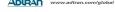
Quality of Service (QoS)

QoS is also supported for delay-sensitive traffic. To prioritize mission-critical traffic and control network congestion, the NetVanta 1355 uses Low Latency Queuing, Weighted Fair Queuing (WFQ), Class-based WFQ, DiffServ marking, and Frame Relay Fragmentation.

Security

The NetVanta 1355 provides a powerful, high performance, stateful inspection firewall that can identify and protect against common Denial of Service (DoS) attacks.

Administration

The NetVanta 1355 offers a standard Command Line Interface (CLI) that mimics the widely adopted, industry *de facto* standard, virtually eliminating training costs associated with relearning a new operating system. The CLI also allows for configuration scripts to be used, saved, and downloaded as a quick and easy recovery mechanism. In addition, an intuitive Web-based GUI provides step-by-step configuration wizards, management capability, and the ability to upload firmware updates. The ability to discover devices, make mass configuration changes or firmware upgrades, backup and restore device configurations, push mass configuration changes, upgrade firmware to groups of devices, and generate inventory reports for asset management is available using ADTRAN's n-Command tool.

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Physical Interfaces

Network Interface Modules (NIMs)
- T1/FT1
- Dual T1
- T1/FT1 with DSX-1

Voice Interface Modules (VIMs)
- T1/PRI
- Four-port Analog Trunk (FXO)
- Four-port Analog Station (FXS)
- Two-port Analog Trunk/Two-port Analog Station (FXO/FXS)

24 Fast Ethernet PoE Ports
- 10/100 Base-T
- Auto-Duplex
- Auto-Rate
- Auto-MDI/MDI-X
- 802.3af PoE Compliant

Gigabit Ethernet Port
- Two 10/100/1000Base-T Ports for Copper Connectivity
- Two SFP Slots for Optical Connectivity
- Auto-Duplex
- Auto-Rate
- Auto-MDI/MDI-X

Integrated
- Two Analog Trunks (FXO)
- Two Analog Stations (FXS)
- CompactFlash®
- Page
- 10/100Base-T Ethernet
- DB-9 Craft Port
- Door Relay

Status LEDs
- Power
- WAN: Link, Activity, Alarm, Test
- DB9: Link, In DBU, Alarm, Test
- Ethernet Port Status: Link, Activity, PoE Status

Analog Phone Features
- Analog Trunks
  - Loop Start/Ground Start
  - FSK Capture of Caller ID Name/Number
  - Two Integral, 10 Maximum
- Analog Stations
  - Loop Start DTMF
  - 1500 Feet over 26 AWG
  - Two Integral, 10 Maximum
- Call Detail Records (SMDR)
- Caller ID Name/Number Override (Internal and External)
- Classes of Service

- Codec Support Includes G.711 and G.729
- Configurable Dial Plan
- Door Relay
- Door Phones
- Global Call Coverage Lists
- IP Stations (100 Maximum; SIP Hardphone or Softphone)
- Least-Cost Routing
- Outgoing Number Substitution
- Ring Groups (Ring All, Circular Hunt Group, UCD, Executive)
- System Speed Dial
- T1 trunks
- Trunk Groups
- Variable Length Extension Numbers (3-digit, 4-digit)
- Voice Mail (via External Server)
- Virtual Extensions (20)

IP Station Features
(Works with feature server/gateway)
- Call Drop
- Call Forward (All, Busy, No Answer)
- Call Forward to Outside Line (Cell Phone)
- Call Hold
- Call ID Name/Number
- Call Logs
- Call Park
- Call Park Retrieve
- Call Transfer
- Call Waiting
- Conferencing (3-person)
- Do Not Disturb
- Headset Jack
- Message Waiting Light
- Missed Call Indicator
- Multiple Call Appearances
- Music on Hold
- Mute
- Overhead Paging
- Personal Call Routing (Call Coverage)
- Redial
- Speakerphone
- Volume Control

Calling Feature Support
(Works with feature server/gateway)
- Caller ID
  - ○ Name and Number
  - ○ Name
  - ○ Number
  - ○ Call Waiting IAD
- Voice Mail
  - ○ Stutter dialtone
  - ○ Vissel Message Waiting Indicator (VMWI)
- Call Hold
- Call Forward
  - ○ Busy Line
  - ○ No Answer
- Call Transfer
  - ○ Blind, Attended
- Call Waiting
- Distinctive Ring
- Do Not Disturb
- Three-way Calling
- Call Return
- Speed Dial

Packet-based Voice Resources
- CODECs
  - ○ G.711-64k PCM
  - ○ G.729a-8k CS-ACELP
- G.168 Echo Cancellation
- 64ms Echo-tail Length
- Supports up to 16 Channels

Media Stream
- RTP/VUDP/IP (RFS 3550)
- RTP Payload for DTMF Digits (RFC 2833)
- Supports Port-to-port Hairpin Call
- SDP (RFC 2327)

NAT Traversal and Remote Survivability
- B2BUA
- SIP Registrar for IP phones

Switching Performance
- Non-blocking
- 8,000 MAC Addresses
- 16-MB Memory Shared by all Ports
- 8.8 Gbps Maximum Forwarding Bandwidth

Power over Ethernet
- 802.3af (15.4 watts/port)
- 370 Total Watts
- Power Provided over Ethernet Data Leads

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
- 128 MB DRAM
- 32 MB Flash

Protocols
- e-BGP/i-BGP
- 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
- SIP

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 DiffServ
- Four Output Queues per Egress Port
- Weighted Round Robin
- Strict Priority Queuing

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

Network Address Translation
- Basic NAT (1:1), NAPT (Many:1), and Port Translation
- NAT Compatible SIP ALG

Secure Management
- Multilevel Access Control ■ TACACS+
- RADIUS AAA ■ SSH CLI and SSL GUI

Network Access Control
- Port Authentication (802.1x)
- MAC-based Port Security

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

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,19" Rackmountable Metal Enclosure
- **Dimensions:** 1.75" H, 17.25" W, 12.80" D
- **Weight:** 11 lbs.
- **Power:** 100-250 VAC, 50/60 Hz, 450 Watts

Agency Approvals
- FCC Part 15 Class A
- FCC Part 68
- UL 1950/CSA

Warranty
- Five-year (North America)

Ordering Information

Equipment	Part #
NetVanta 1355	1200740L1
T1 / PRI VIM	1200695L1
4-Port Analog Trunk (FXO)	1200891L1
4-Port Analog Station (FXS)	1200890L1
Dual Analog Trunk/Station (2 each)	1200892L1