NetVanta 3000 Series

# 3148

## Fixed-Port Secure Access Ethernet Router

**Gigabit** | **eSBC Ready** | **VQM** | **VoIP**

## Benefits

- Managed Router With Four Gigabit Ethernet Interfaces and 8-Port PoE Switch
- PoE Option Includes 200W PoE Budget
- Voice Quality Monitoring (VQM) and Mean Opinion Score (MOS) Prediction
- Utilizes Standards-Based Routing Protocols Used By the Widely Deployed NetVanta Series
- Compatible With Industry-Leading Soft-Switches and Call Agents
- Dynamic Bandwidth Allocation Affords More Efficient Utilization
- Stateful Inspection Firewall for Network Security
- Quality of Service (QoS) for Delay- and-Jitter Sensitive Traffic Like VoIP
- Supports 802.1q Virtual LAN (VLAN) Trunking
- Command Line Interface (CLI) Mimics Industry De Facto Standard
- Network Address Translation (NAT) For IP Address Concealment
- Feature-Rich Adtran® Operating System (AOS)
- Industry-Leading, North American Five-Year Warranty
- Optional IPSec Virtual Private Network (VPN) For Secure Tunneling
- Optional Full-Featured eSBC For Robust Network Security and Voice Interoperability

## Overview

**The NetVanta® 3148 is a fixed-port, high-performance Ethernet router supporting converged access and high-quality voice services.** It provides four routed, autosensing Gigabit interfaces, two of which can be fiber fed, and an 8-port PoE Ethernet switch. This product is ideal for carrier bundled service offerings up to 500Mbps, and enterprise-class Internet access for secure, high-speed corporate connectivity. The NetVanta 3148 is available as a 1U-high rack-mountable platform.

### Flexibility and Redundancy

The NetVanta 3148 is ideal for multiple applications where Ethernet redundancy is needed. There are four Gigabit ports that can be either LAN or WAN facing. With two Ethernet delivered access services providing immediate failover to the active link anytime a link down event occurs. Many deployments still feature separate voice and data networks. The NetVanta 3148 is a perfect fit for these situations with a single WAN link, using the other Gigabit interfaces to accomplish this.

### Standards Protocols

The NetVanta 3148 is further complemented by AOS. The AOS allows for the support of static and default routes, demand-and policy-based routing, and allows fast, accurate network convergence using routing protocols such as BGP, OSPF, RIP, and PIM Sparse Mode for multicast routing. Multihoming is also available to provide redundant or backup WAN links to multiple ISPs, guaranteeing a WAN connection.

### Hierarchal QoS

QoS is also supported for delay-sensitive traffic like VoIP or video. To prioritize mission-critical traffic and control network congestion, the NetVanta 3148 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

The NetVanta 3148 is VoIP-ready with QoS, Class of Service (CoS), Session Initiation Protocol (SIP) Transparent Proxy, Net Flow 9 Traffic Monitoring, and VQM. Traffic Monitoring is for collecting and measuring network traffic patterns, while VQM is a graphically intuitive interface displaying captured data for MOS, jitter, delay, and packet loss statistics necessary to troubleshoot VoIP calls.

The NetVanta 3148 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.

### Enterprise Session Border Control (eSBC)

The NetVanta 3148 can provide optional eSBC functional-ity delivering a truly converged application platform at the customer premises. This feature is becoming mandatory in today's service deployments to normalize, secure and troubleshoot SIP-to-SIP communication between a carrier network and the customer's SIP-compliant equipment. The strength of the NetVanta 3148 is its ability to grow as your VoIP services expand, supporting up to 300 calls.

### Security

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 capa-ble 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 feature also includes the ability to produce top website reports of the most frequently requested websites, allowing system administrators to modify their URL filter lists.

### PoE

The eight-port switch in the NetVanta 3148P provides up to 200 watts of 802.3af (PoE), 802.3at (PoE+) and Legacy PoE for powering IP phones, WAPs, and other devices requiring LAN power. It also adds the support for IPSec-compliant VPN. The NetVanta 3148 supports encryption algorithms like DES, 3DES, and AES. With this upgrade, the NetVanta 3148 is fully compatible with other IPSec VPN equipped NetVanta products.

### Management

The NetVanta 3148 can be remotely managed by Adtran's n-Command® MSP platform. Adtran n-Command platforms offer the ability to discover devices, make mass configuration changes or firmware upgrades, backup/restore configurations, and generate inventory reports for asset management. Adtran n-Command MSP also offers VoIP VQM and reporting, as well as an indutry-leading, easy-to-use, Graphical User Interface (GUI). The NetVanta 3148 is rack mountable and is backed by an industry-leading warranty.

### Administration

The AOS offers an intuitive Web-based GUI that pro-vides step-by-step configuration wizards, management capability, and the ability to upload firmware updates. In addition, it has a standard CLI that mimics the widely adopted, industry de facto standard. The sequence of commands required to configure similar devices is almost identical, eliminating training costs typically associated with learning a new operating system or obtaining costly industry certifications. The CLI also allows for configu-ration scripts to be used, saved, and downloaded as a quick-and-easy recovery mechanism.

## Product Specifications

### Physical Interfaces
- 2 – 1.0/2.5 Gbps SFP Ports
- 2 – 1.0 Gigabit Ethernet Interfaces
- 8 – 10/100/1000Base-T PoE Ethernet Switch
- Full Duplex
- Auto-Negotiation
- RJ-45
- USB 2.0
- Console Port

### Status LEDs
- Status (Power)
- USB
- PoE (NetVanta 3148P Only)

- Gigabit Ports 1 - 4
- Ethernet Switch 1 - 8

### Throughput
- Routing/NAT/FW: 1Mpps
- VPN iMIX: 150Mbps

### Quality of Service (QoS)
- Low Latency and Weighted Fair Queuing (WFQ)
- Class-Based WFQ
- DiffServ Packet Marking and Recognition
- Traffic Monitoring (NetFlow 9)

### Voice Quality Monitoring (VQM)
- Mean Opinion Score (MOS) Prediction
- Jitter, Delay and Packet Loss
- Past and Active Calls

## Traffic and Network Quality Monitoring

- ICMP and TWAMP Probes and Tracks
- One-Way Delay
- Round-Trip Loss and Delay
- Inter-Packet Delay Variance
- Traffic Flow Collection and Analysis
- Packet Capture

## Administration

- Familiar Command Line Interface (CLI)
- Web-Based GU
- n-Command Support
- SNMP V2 and V3
- SYSLOG Logging
- Email Alerts (SMTP)
- Policy Statistics
- TCL Scripting
- Login Privilege Levels
- Telnet, Craft/Console Port, SSH, Ping
- Trace Route and NTP

## DHCP

- Client, Server and Relay

## Firewall

- Stateful Inspection Firewall
- Denial of Service (DOS) Protection
- Access Control Lists
- Application Level Gateways
- Packet Filtering

## Protocols

- EBGP/iBGP
- OSPF
- RIP (V1 and V2)
- PPPoE
- PIM Sparse Mode
- Multilink PPPoE
- IGMP V2
- Demand Routing
- GRE
- RFC 1483
- PPP Dial Backup
- Multihoming
- PAP and CHAP
- Layer 3 Backup
- Multi-VRF CE
- VRRP
- TWAMP

## Network Address Translation

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

## NAT Traversal and Remote Survivability

- B2BUA
- SIP Registrar for IP Phones
- SIP Proxy With Survivability
- Transparent/Stateful/Outbound

## Content Filtering

- Inherent URL Filtering
- Top Website Reports
- Integration With Websense

## Secure Management

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

## PoE (NetVanta 3148P only)

- 802.3at
- 802.3af
- 200W PoE Budget

## VPN (Optional)

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

## Environment

- Operating Temperature: 32° to 122° F (0° to 50° C)
- Storage Temperature: –40° to 158° F (–20° to 70° C)
- Relative Humidity: Up to 95%, Non-Condensing

## Physical and Power

- 1U Metal Rackmount
- Dimensions: 1.75 in. x 17.25 in. x 9.63 in. (H x W x D), (4.45 cm x 43.82 cm x 24.45 cm)
- Weight: 8 lbs. (3.6 kg)
- Power: AC (Auto-ranging, 100 to 250 VAC, 50/60 Hz, 0.4 A Maximum)

## Agency Approvals

- FCC Part 15 Class A
- CE Mark
- UL and Canadian UL
- RoHS
- C-Tick for Australia and New Zealand

## Ordering Information

| Equipment | Part No. |
|---|---|
| NetVanta 3148 | 17003148F1 |
| NetVanta 3148 with EFP (VPN and VQM) | 47003148F2 |
| NetVanta 3148 25-Session SBC | 47003148F2#25 |
| NetVanta 3148 50-Session SBC | 47003148F2#50 |
| NetVanta 3148 100-Session SBC | 47003148F2#100 |
| NetVanta 3148 300-Session SBC | 47003148F2#300 |
| NetVanta 3148P | 17003148F11 |
| NetVanta 3148P with EFP (VPN and VQM) | 47003148F21 |
| NetVanta 3148P 25-Session SBC | 47003148F21#25 |
| NetVanta 3148P 50-Session SBC | 47003148F21#50 |
| NetVanta 3148P 100-Session SBC | 47003148F21#100 |
| NetVanta 3148P 300-Session SBC | 47003148F21#300 |
| **Software Options** | |
| NetVanta 3148 EFP Upgrade | 19503148F2 |
| NetVanta 3148 SBC Upgrade, 5 Calls | 1963SBCF5 |
| NetVanta 3148 SBC Upgrade, 10 Calls | 1963SBCF10 |
| NetVanta 3148 SBC Upgrade, 25 Calls | 1963SBCF25 |
| NetVanta 3148 SBC Upgrade, 50 Calls | 1963SBCF50 |
| NetVanta 3148 SBC Upgrade, 100 Calls | 1963SBCF100 |
| NetVanta 3148 SBC Upgrade, 300 Calls | 1963SBCF300 |



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