

NetVanta

8424RA/RD

10 Gbps Multi-service Edge Switch



VoIP



Ready



Gigabit



Multi-layer



CE 2.0

Compliant

Benefits

- Supports highly scalable Gigabit residential broadband service delivery
- Supports 1 Gbps and 10 Gbps Carrier Ethernet service delivery
- Supports 4G/LTE expansion services inclusive of indoor small-cell deployments
- Supports the aggregation and middle-mile transport of residential, business and backhaul services
- Certified MEF 2.0-compliant ensuring robust support for SLA-based Carrier Ethernet services
- Cost-effective, hardened, 1RU, low-profile design enables outside-plant deployment
- Enhanced lightning protection enables cell site tower deployment
- SLA management via Ethernet OAM-based troubleshooting and performance monitoring tools
- Resilient access support via Link Protection
- Supports IPTV video service delivery
- Supported by ADTRAN AOE Service Management

Overview

A key strategy of many service providers is the delivery of higher-rate 100 Mbps and differentiating Gigabit services as a means to capture more customers and prepare for the inevitable growth of broadband, cloud and backhaul services. As high-bandwidth services are delivered over the access network, the effective aggregation of those services is required. In response, network operators are deploying both fiber-based access and packet-optical aggregation solutions closer to the customer edge to support the delivery and aggregation of these premium services.

Gigabit services delivery in particular presents challenges to service providers as they look to preserve a high quality of experience while battling network congestion. High-density buildings like apartments and condominiums, known as Multi-Dwelling Units (MDUs) present a unique set of challenges. In MDUs you may find the coexistence of commercial suites in the lower floors with residential suites on the upper floors. This drives the need for Carrier Ethernet solutions that can effectively support a mix of SLA-based business Ethernet

services and residential services. In addition, these types of high-rise buildings suffer from poor mobile service coverage and therefore are targets for small-cell deployments by mobile operators. These small-cell sites each require 50-100 Mbps of specialized backhaul access. An Optical Networking Unit (ONU) that can simultaneously address this wide variety of requirements greatly expands the addressable market for premium Fiber-to-the-Home (FTTH) services.

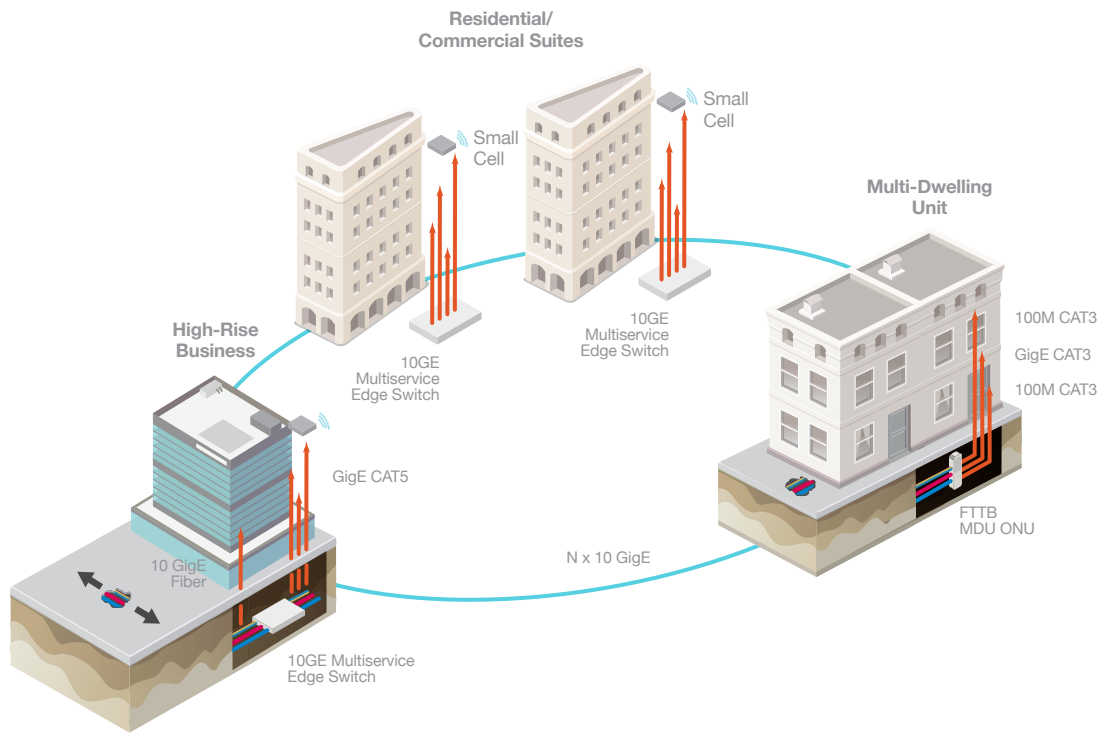
The ADTRAN® NetVanta® 8424 RA/RD is a versatile, multi-service 10 Gbps Carrier Ethernet switch purpose-built for deployment at the customer edge. The core Ethernet access features of this product includes a powerful Ethernet processor, four flexible 10 Gbps SFP+ interfaces, and 24 10/100/1000 Mbps electrical interfaces. Power can be AC or DC sourced. Flexible bandwidth management; Ethernet flow mapping, prioritization and tagging; and versatile management options make the NetVanta 8424 RA/RD an excellent choice as a premium Ethernet service termination and aggregation solution.



NETVANTA 8424 RA/RD

This Carrier Ethernet-centric solution uniquely delivers residential broadband applications such as IPTV by supporting IGMPv3 and DHCP Option 82 or IPv6 LDRA. The NetVanta 8424 Series also supports dozens of Gigabit-level Internet services. Along with robust Ethernet services support, these network devices can simultaneously support the delivery of IPTV.

To support small-cell backhaul applications collocated with business Ethernet and/or premium residential broadband services, these solutions allow an operator to recover network clocking at the customer site using only packet transport via a variety of methods.



Product Specifications

Front Panel Interfaces

- 24 10/100/1000 Base-T Ethernet Interfaces Via RJ-45
- Four 10 Gigabit Ethernet Interfaces Via SFP+ Cages
- All Ethernet Ports May be Used for Either Network WAN or Customer-side LAN Connections
- DB9 Local Craft Port for Support of RS-232 Interface for Local Management
- Field-replaceable Fan Module (May be Required to Support Future Expansion Modules)

Physical Dimensions

- Desk, Rack and Wall Mountable
- Rack-Mountable Solution in 19 in. or 23 in. Telecom Racks
- 1.7 in. x 17.2 in. x 10.0 in. (44 mm x 437 mm x 254 mm) (H x W x D)
- 1.7 in. x 19 in. x 10.0 in. (44 mm x 483 mm x 254 mm) (H x W x D)

Power Supply, Power Consumption, Heat Dissipation

- Redundant, Dual A and B Fed +/- 24/-48 VDC Version (Supported on the NetVanta 8424 RD)
- Wide-Mouth, AC Powering Version (Supported on the NetVanta 8424 RA)
 - ◆ IEC Cord Set Options for US/CDN, EU and Australian 10 A/240 V Plug 100–250 V At 50 or 60 Hz
- Ground/Earth Provided via Post- and Lug-type Connector
- Typical Power Consumption is 45 W Maximum Without Additional Modules Nor Fan Tray Installed

10 Gbps Multi-service Edge Switch

Environmental Hardening

- **Operating Temperature:** -40° F to 149° F (-40° C to 65° C)
- **Storage Temperature:** -40° F to 185° F (-40° C to 85° C)
- **Relative Humidity:** GR-63-CORE Five Percent to 95 Percent, Non-condensing
- **Operating Altitude Range**
- **At 86° F (30° C):** -197 to 13,000 Feet (-60 to 4,000 Meters)
- **At 104° F (40° C):** -197 to 6,000 Feet (-60 to 1,800 Meters)
- **Enhanced Metallic Interface Voltage Surge Protection and Isolation**

Ethernet Services Support

- **Classification of Traffic Based on:**
 - ◆ Per UNI Port, CE VLAN ID (C-tag) and/or CE
 - ◆ VLAN P-Bits, Source and/or Destination MAC Address, DSCP Fields
 - ◆ Single Stack VLAN and Double Stack VLANs (Q-in-Q)
- Manipulation Based on 802.1p and DSCP Fields
- Port-based Service Support
- Service Scale and Flexibility
- MEF 9, 14, 20, 23.1, 30, 33 Compliant E-Line, E-LAN, E-Tree, E-Access.
- Eight Queues, Strict Priority and/or Weighted Fair Schedulers
- Configurable to EtherType and TPID for Service Flexibility
- VLAN IDs 0 – 4095; EVC Configurable in the Range of 2 – 4,094
- Supports 10k Jumbo Frame in Four Byte Increments
- 32k Active MAC Address; Ability to Disable MAC Learning
- Ingress Policers (tr3CM), CIR and EIR Settings to 64 Kbps Granularity, Configurable Burst Through EBS and CBS Settings
- Egress Shaping Per Port and Per Port Per Queue
- QOS COS Map
- QOS Untagged
- Port Mirroring
- LAG & LACP
- Tail Drop

IPTV Support

- Internet Group Management Protocol v2 and v3
- Dynamic Host Configuration Protocol Support with Option 82
- Lightweight DHCPv6 Relay Agent Support

Security

- TACACS+ Authentication, Authorization
- RADIUS Authentication, Authorization
- SSHv1/v2 and SFTP Clock Synchronization/Recovery
- ADTRAN Differential and Adaptive Timing Methods

Regulatory Agency Approvals

- FCC Part 15 Class A
- FCC Part 68
- UL 60950, CAN/CSA C22.2 No. 60950
- EN 60950, IEC 60950, AS 3260/ AS NZS60950
- NEBS Level 3
- RoHS 2002/95/EC
- ITU-T K21:2000

Basic Device Management

- Common Operational Model (i.e. FCAPS) Used for Every Ethernet Access Method
- Local Management via DB-9 RS232 or Via a 10/100/1000 Copper Port
- Telnet Via an IP-Based Connection
 - ◆ Inband Management on Any VLAN From 2 to 4,094
- ADTRAN Advanced Operational Environment Service Management System
 - ◆ TL1 or XML (Future) Gateway
- The Unit Can Be Managed by and Report to up to 16 Different Users Simultaneously
 - ◆ Accounts of Existing and New Users Can Be Defined/ Changed Remotely, Using a Dedicated RADIUS or TACACS+ Server.
 - ◆ The Current Date and Time Can Be Retrieved From a Centralized Location by Synchronizing With a Network Timing Protocol (NTP) Server
 - ◆ Software Upgrades and Configuration Files Can Be Downloaded/Uploaded to/from NTE Via SFTP, FTP, X-Modem, and Y-Modem

NETVANTA 8424 RA/RD

Ordering Information

Equipment	Part No.
NetVanta 8424RA 10 Gbps Multi-service Edge Switch SFP Interfaces and AC Power	1174820F1
NetVanta 8424RD 10 Gbps Multi-service Edge Switch SFP Interfaces and DC Power	1174826F1



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