The N1500 switch series offers a power-efficient Gigabit Ethernet (GbE) network-access switching solution with integrated 10GbE uplinks. With high-performance capabilities and wire-speed performance, utilizing a non-blocking architecture to easily handle unexpected traffic loads, the switches offer simple management and scalability via an 40Gbps (full-duplex) high availability stacking architecture that allows management of up to four switches from a single IP address. An integrated 80PLUS-certified power supply and features such as Energy-Efficient Ethernet and short cable detection provide energy efficiency to help decrease power and cooling costs.

Modernize campus network architectures

Modernize campus network architectures with a power-efficient and resilient 1/10GbE switching solution with Power over Ethernet Plus (PoE+). Select N1500 models offer 24 or 48 ports of PoE+ to deliver clean power to network devices such as wireless access points (APs), Voice-over-IP (VoIP) handsets, video conferencing systems and security cameras.

Leverage familiar tools and practices

All N-Series switches include Dell EMC Networking OS 6, designed for easier deployment, greater interoperability and a lower learning curve for network administrators. One common command line interface (CLI) and graphic user interface (GUI) using a well-known command language gets skilled network administrators productive quickly. With USB auto-configuration, network administrators can rapidly deploy mirrored configurations to numerous devices by simply inserting a USB key.

Deploy with confidence at any scale

N1500 series switches help create performance assurance with a data rate up to 176Gbps (full duplex) and a forwarding rate up to 164Mpps. Scale easily by stacking with 10GbE ports. Switch stacks of up to 200 1GbE ports can be managed from a single screen using the highly available stacking architecture for high-density aggregation with seamless redundant availability. N-Series switches help provide certainty with a lifetime warranty that covers software upgrades, hardware repair or replacement, and optics and cables purchased with the switch.

Hardware, performance and efficiency

- Up to 48 line-rate GbE RJ-45 ports and four integrated 10GbE SFP+ ports.
- Up to 48 ports of PoE+ with an optional external power supply.
- Up to 200 1GbE ports in a 4-unit stack for high-density, high-availability in IDFs, MDFs and wiring closets.
- Non-stop forwarding and fast failover in stack configurations.
- Energy-Efficient Ethernet and lower power PHYs reduce power to inactive ports and idle links, providing energy savings from the power cord to the port.
- Fresh Air compliance for operation in environments up to 113°F (45°C) helps reduce cooling costs in temperature-constrained deployments.

Deploying, configuring and managing

- USB auto-configuration rapidly deploys the switch without setting up complex TFTP configurations or sending technical staff to remote offices.
- Management via an intuitive and familiar CLI, embedded web server (GUI), SNMP-based management console application (including Dell EMC OpenManage Network Manager), Telnet or serial connection.
- Private VLAN extensions and Private VLAN Edge support.
- AAA authorization, TACACS+ accounting and RADIUS support for comprehensive secure access support.
- Authentication tiering allows network administrators to tier port authentication methods such as 802.1x, MAC Authentication Bypass and Captive Portal in priority order so that a single port can provide flexible access and security.
- Layer 3 Lite IPv4 and IPv6 functionality including static routing and Routing Information Protocol support.
- Remote Switch Port Analyzer (RSPAN) monitors ports across a Layer 2 domain without costly dedicated network taps.

*Select Networking products carry a Lifetime Limited Warranty with Basic Hardware Service (repair or replacement) for life. Repair or replacement does not include troubleshooting, configuration, or other advanced service provided by Dell EMC ProSupport. For details, visit https://www.dell.com/en-us/work/shop/networkingwarranty/cp/networkingwarranty.
<table>
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<tr>
<th>Product</th>
<th>Description</th>
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| N1500 series     | N1524: 24x RJ45 10/100/1000Mb auto-sensing ports, 4x SFP+ ports, 1 integrated 40W PSU  
|                  | N1524P: 24x RJ45 10/100/1000Mb PoE+ (up to 30.8w) auto-sensing ports, 4x SFP+ ports, 1 integrated 600W PSU (requires C15 plug)  
|                  | N1548: 48x RJ45 10/100/1000Mb auto-sensing ports, 4x SFP+ ports, 1 integrated 100W PSU  
|                  | N1548P: 48x RJ45 10/100/1000Mb PoE+ (up to 30.8w) auto-sensing ports, 4x SFP+ ports, 1 integrated 600W PSU (requires C15 plug)  |
| Power cords      | C13 to NEMA 5-15, 3M  
|                  | C13 to C14, 2M  
|                  | C15 to NEMA 5-15, 2M (C15 for POE N-Series only)  |
| Power supplies (optional) | RPS720 external power supply for N1500 non-POE (720 watts); N1524 and N1548 (sold separately)  
|                  | MPS1000 external power supply for N1500 PoE+ switches (1000 watts); N1524P and N1548P (sold separately)  |
| Optics (optional)| Transceiver, SFP, 1000BASE-T  
|                  | Transceiver, SFP, 1000BASE-SX, 850nm wavelength, up to 550m reach  
|                  | Transceiver, SFP, 1000BASE-LX, 1310nm wavelength, up to 10km reach  
|                  | Transceiver, SFP, 1000BASE-ZX, 1550nm wavelength, up to 80km reach  
|                  | Transceiver, SFP+, 10GbE, SR, 850nm wavelength, up to 300m reach  
|                  | Transceiver, SFP+, 10GbE, LR, 1310nm wavelength, up to 10km reach  
|                  | Transceiver, SFP+, 10GbE, ER, 1550nm wavelength, up to 40km reach  |
| Cables (optional) | Dell Technologies Networking cable, SFP+ to SFP+, 10GbE, copper twinax direct  
|                  | Dell Voice VLAN  
|                  | 802.1AB LLDP  
|                  | 802.3z Gigabit Ethernet (1000BASE-X)  
|                  | 802.3x Flow Control  
|                  | 802.3ad Link Aggregation with LACP  
|                  | 802.3ae 10 Gigabit Ethernet (10GBASE-X)  
|                  | 802.3at PoE+ (N1524P and N1548P)  
|                  | 802.3az Energy Efficient Ethernet (EEE)  
|                  | 802.3Ka Fast Ethernet (100BASE-TX) on Management Ports  
|                  | 802.3x Flow Control  
|                  | 802.3z Gigabit Ethernet (100BASE-X)  
|                  | ANSI LLDP-MED (TIA-1057)  
|                  | MTU 9,216 bytes  
|                  | RFC compliance and additional features  
|                  | General Internet protocols  
|                  | General IPv4 protocols  
|                  | General IPv6 protocols  |

**Technical specifications**

| Physical | 4 integrated front 10GbE SFP+ dedicated ports, 2 10GbE can be used as stacking ports  
|          | USB (Type A) port for configuration via USB flash drive  
|          | Auto-negotiation for speed and flow control  
|          | Auto MDI/MDIX, port mirroring  
|          | Flow-based port mirroring  
|          | Broadcast storm control  
|          | Energy-Efficient Ethernet per port settings  
|          | Redundant variable speed fans  
|          | Air flow: I/O to power supply  
|          | Integrated power supply: 40W AC (N1524), 100W AC (N1548), 600W AC (N1524P, N1548P)  
|          | RJ45 console port with RS232 signaling (RJ-45 to female DB-9 connector cable included)  
|          | Dual firmware images on-board  
|          | Switching engine model: Store and forward  
|          | Chassis  
|          | Size (H x W x D):  
|          | N1524 and N1548: 17 in x 17.3 in x 10.1 in (43.2 mm x 440.0 mm x 257.0 mm)  
|          | N1524P and N1548P: 17 in x 17.3 in x 15.2 in (43.2 mm x 440.0 mm x 387.0 mm)  
|          | Approximate weight: 6.6lbs/3kg (N1524), 12.8lbs/5.8kg (N1548), 15.4lbs/7kg (N1548P)  
|          | Rack mounting kit with 2 mounting brackets, bolts and cage nuts  
|          | Environment  
|          | Power supply efficiency: 80% or better in all operating modes  
|          | Max. thermal output (BTU/hr): 1031 (N1524), 2972 (N1524P), 152.2 (N1548), 5824.3 (N1548P)  
|          | Power consumption max (watts): 30.2 (N1524), 87.1 (N1524P), 44.6 (N1548), 1704 (N1548P)  
|          | Operating temperature: 32° to 113°F (0° to 45°C)  
|          | Operating humidity: 85%  
|          | Storage temperature: –40° to 65°C  
|          | Storage relative humidity: 85%  
|          | Performance  
|          | MAC addresses: 16K  
|          | Static routes: 256 (IPv4)/128 (IPv6)  
|          | Dynamic routes: 256 (IPv4)  
|          | Switch fabric capacity: 128Gbps (N1524 and N1548P) (full duplex); 176Gbps (N1548 and N1548P)  
|          | Forwarding rate: 128Gmps (86 Gbps) N1524 and N1548P  
|          | 164Mpps (110 Gbps) N1548 and N1548P  
|          | Link aggregation: 64 LAG groups, 144 dynamic ports per stack, 8 member ports per LAG  
|          | Priority queues per port: 8  
|          | Line-rate Layer 2 switching: All (non-blocking)  
|          | Line-rate Layer 3 routing: All (non-blocking)  
|          | Flash memory: 256MB  
|          | Packet buffer memory: 1.5MB  
|          | CPU memory: 1GB  
|          | RIP routing interfaces: 128  
|          | VLAN routing interfaces: 128  
|          | VLANS supported: 512  
|          | Protocol-based VLANS: Supported  
|          | ARP entries: 2,048 (IPv4)/512 (IPv6)  
|          | NDP entries: 400  
|          | Access control lists (ACL): Supported  
|          | MAC and IP-based ACLs: Supported  
|          | Time-controlled ACLs: Supported  
|          | Max number of ACLs: 100  
|          | Max ACL rules system-wide: 2,048  
|          | Max rules per ACL: 1,023  
|          | Max ACL rules per interface (IPv4): 1,023  
|          | (ingress), 1,023 (egress)  
|          | Max ACL rules per interface (IPv6): 512 (ingress), 509 (egress)  
|          | Max VLAN interfaces with ACLs applied: 24  
|          | IEEE compliance  
|          | 802.1AB LLDP  
|          | Dell Voice VLAN  
|          | Dell ISDP (inter-operates with devices running CDP)  
|          | 802.1D Bridging, Spanning Tree  
|          | 802.1p Ethernet Priority (User Provisioning and Mapping)  
|          | Dell Adjustable WRR and Strict Queue Scheduling  
|          | 802.3ad VLAN Tagging, Double VLAN Tagging, GVRP  
|          | 802.1S Multiple Spanning Tree (MSTP)  
|          | 802.1v Protocol-based VLANs  
|          | 802.1W Rapid Spanning Tree (RSTP)  
|          | Dell RSTP-Per VLAN (compatible with Cisco’s RPVST+)  
|          | Dell Spanning tree optional features: STP root guard, BPDU guard, BPDU filtering  
|          | 802.1x Network Access Control, Auto VLAN  
|          | 802.2 Logical Link Control  
|          | 802.3 10BASE-T  
|          | 802.3ab Gigabit Ethernet (1000BASE-T)  
|          | 802.3ac Frame Extensions for VLAN Tagging  
|          | 802.3ad Link Aggregation with LACP  
|          | 802.3ae 10 Gigabit Ethernet (10GBASE-X)  
|          | 802.3at PoE+ (N1524P and N1548P)  
|          | 802.3AX LAG Load Balancing  
|          | 802.3az Energy Efficient Ethernet (EEE)  
|          | 802.5u Fast Ethernet (100BASE-TX) on Management Ports  
|          | 802.3x Flow Control  
|          | 802.3z Gigabit Ethernet (100BASE-X)  
|          | ANSI LLDP-MED (TIA-1057)  
|          | MTU 9,216 bytes  
|          | General Internet protocols  
|          | General IPv4 protocols  
|          | General IPv6 protocols  |
Layer 3 functionality
1058 RIP v1
2082 RIP-2 MD5 Auth
1724 RIP-2 MIB Extension
2453 RIP v2

Multicast
2392 IPv4 MIB
4541 IGMP v1/v2/v3
Snooping and Querier
IEEE 802.1ag draft 81–
Connectivity Faulty
Management

Quality of service
2474 DiffServ Field
Dell Flow Based QuS
2475 DiffServ Architecture
Services Mode
2597 Assured Fwd PHB
(IPv4/IPv6)

Network management and security
1155 SMIV1
1157 SNMPv1
1212 Concise MIB
Definitions
1213 MIB-II
1215 SNMP Traps
1286 Bridge MIB
1442 SMIV2
1451 Manager-to-
Manager MIB
1492 TACAC+S
1493 Managed Objects
for Bridges MIB
1573 Evolution of Interfaces
1612 DNS Resolver MIB
Extensions
1643 Ethernet-like MIB
1757 RMON MIB
1867 HTML/2.0 Forms
with File Upload Extensions
1901 Community-based
SNMPv2
1907 SNMPv2 MIB
1908 Coexistence
Between SNMPv1/v2

Dell
L4 Trusted Mode
Dell Port Based QuS (TCP/UDP)
Services Mode
UDLD

Regulatory, environment and other compliance

Safety and emissions
Australia/New Zealand: ACMA RCM Class A
Canada:ICES Class A; cUL
China: CCC Class A; NAL
Europe: CE Class A
Japan: VCCI Class A
USA: FCC Class A; NRTL UL; FDA 21 CFR 1040.10 and 1040.11
Europea Customs Union: EAC
Germany: GS mark
Product meets EMC and safety standards in many countries inclusive of USA, Canada, EU, Japan, China.
For more country-specific regulatory information and approvals, please see your Dell Technologies representative.

RoHS
Product meets RoHS compliance standards in many countries inclusive of USA, China, and India.
For more country-specific RoHS compliance information, please see your Dell Technologies representative.

EU WEEE
EU Battery Directive
REACH

Energy
Japan: JEL
Certifications (available or coming soon)
Available with US Trade Agreements Act (TAA) compliance.
N-Series products have the necessary features to support a PCI-compliant network topology.

Learn more at DellTechnologies.com/Services