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 OS6, designed for easier deployment, greater interoperability and a lower learning curve for network administrators. OS6 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.

*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.
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.

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1500 series</td>
<td>N1524: 24x RJ45 1/10/100/1000Mb auto-sensing ports, 4x SFP+ ports, 1 integrated 40W PSU&lt;br&gt;N1524P: 24x RJ45 1/10/100/1000Mb PoE (up to 30.8w) auto-sensing ports, 4x SFP+ ports, 1 integrated 660W PSU (requires C15 plug)&lt;br&gt;N1548: 48x RJ45 1/10/100/1000Mb auto-sensing ports, 4x SFP+ ports, 1 integrated 100W PSU&lt;br&gt;N1548P: 48x RJ45 1/10/100/1000Mb PoE (up to 30.8w) auto-sensing ports, 4x SFP+ ports, 1 integrated 660W PSU (requires C15 plug)</td>
</tr>
<tr>
<td>Power cords</td>
<td>C13 to NEMA 5-15, 3M&lt;br&gt;C13 to C14, 2M&lt;br&gt;C15 to NEMA 5-15, 2M (C15 for POE N-Series only)</td>
</tr>
<tr>
<td>Power supplies (optional)</td>
<td>RPS720 external power supply for N1500 non-POE (720 watts); N1524 and N1548 (sold separately)&lt;br&gt;MPS1000 external power supply for N1500 PoE+ switches (1000 watts): N1524P and N1548P (sold separately)</td>
</tr>
<tr>
<td>Optics (optional)</td>
<td>Transceiver, SFP, 1000BASE-T&lt;br&gt;Transceiver, SFP, 1000BASE-SX, 850nm wavelength, up to 550m reach&lt;br&gt;Transceiver, SFP, 1000BASE-LX, 1310nm wavelength, up to 10km reach&lt;br&gt;Transceiver, SFP, 1000BASE-ZX, 1550nm wavelength, up to 80km reach&lt;br&gt;Transceiver, SFP+, 10GbE, SR, 850nm wavelength, up to 300m reach&lt;br&gt;Transceiver, SFP+, 10GbE, LR, 1310nm wavelength, up to 10km reach&lt;br&gt;Transceiver, SFP+, 10GbE, ER, 1550nm wavelength, up to 40km reach</td>
</tr>
<tr>
<td>Cables (optional)</td>
<td>Dell Technologies Networking cable, SFP+ to SFP+, 10GbE, copper twinax direct</td>
</tr>
</tbody>
</table>

**Technical specifications**

**Hardware specifications**

**Physical**
- 4 integrated front 10GbE SFP+ dedicated ports, 2 10GbE can be used as stacking ports<br>- USB (Type A) port for configuration via USB flash drive<br>- Auto-negotiation for speed and flow control<br>- Auto MDI/MDIX, port mirroring<br>- Flow-based port mirroring<br>- Broadcast storm control<br>- Energy-Efficient Ethernet per port settings<br>- Redundant variable speed fans<br>- Air flow: I/O to power supply<br>- Integrated power supply: 40W AC (N1524), 60W AC (N1524P, N1548P)<br>- RJ45 console port with RS232 signaling (RJ-45 to female DB-9 connector cable included)<br>- Dual firmware images on-board<br>- Switching engine model: Store and forward

**Chassis**
- Size (1RU, H x W x D):<br>  N1524 and N1548: 1.7 in x 17.3 in x 10.1 in (43.2 mm x 440.0 mm x 257.0 mm)<br>  N1524P and N1548P: 1.7 in x 17.3 in x 15.2 in (43.2 mm x 440.0 mm x 387.0 mm)<br>- Approximate weight: 6.6lbs/3kg (N1524), 12.8lbs/5.8kg (N1524P), 8.8lbs/4kg (N1548), 15.4lbs/7kg (N1548P)<br>- Rack mounting kit with 2 mounting brackets, bolts and cage nuts

**Environmental**
- Power supply efficiency: 80% or better in all operating modes<br>- Max. thermal output (BTU/hr): 103.1 (N1524), 2972 (N1524P), 152.2 (N1548), 5824.3 (N1548P)<br>- Power consumption max (watts): 30.2 (N1524), 87.1 (N1524P), 44.6 (N1548), 170.4 (N1548P)<br>- Operating temperature: 32° to 113°F (0° to 45°C)<br>- Operating humidity: 95%

**Storage**
- Storage temperature: –40° to 87°F (–40° to 31°C)<br>- Storage relative humidity: 85%

**Performance**
- MAC addresses: 16K<br>- Static routes: 256 (IPv4)/128 (IPv6)<br>- Dynamic routes: 256 (IPv4)<br>- Switch fabric capacity: 128Gbps (N1524 and N1524P) (full duplex); 176Gbps (N1548 and N1548P)<br>- Forwarding rate: 128Mpps (86 Gbps) N1524 and N1524P<br>- 164Mpps (110 Gbps) N1548 and N1548P<br>- Link aggregation: 64 LAG groups, 144 dynamic ports per stack, 8 member ports per LAG<br>- Priority queues per port: 8<br>- Line-rate Layer 2 switching: All (non-blocking)<br>- Line-rate Layer 3 routing: All (non-blocking)<br>- Flash memory: 256MB<br>- Packet buffer memory: 1.5MB<br>- CPU memory: 1GB<br>- RIP routing interfaces: 128<br>- VLAN routing interfaces: 128<br>- VLANs supported: 512

**Protocol-based VLANs**: Supported<br>- ARP entries: 2,048 (IPv4)/512 (IPv6)<br>- NDP entries: 400<br>- Access control lists (ACL): Supported<br>- MAC and IP-based ACLs: Supported<br>- Time-controlled ACLs: Supported<br>- Max number of ACLs: 100<br>- Max ACL rules system-wide: 2,048<br>- Max rules per ACL: 1,023<br>- Max ACL rules per interface (IPv4): 1,023 (ingress), 1,023 (egress)<br>- Max ACL rules per interface (IPv6): 512 (ingress), 509 (egress)<br>- Max VLAN interfaces with ACLs applied: 24

**IEEE compliance**
- IEEE 802.1AB LLDP<br>- Dell Voice VLAN<br>- Dell ISDP (inter-operates with devices running CDP)<br>- 802.1D Bridging, Spanning Tree<br>- 802.1p Ethernet Priority (User Provisioning and Mapping)<br>- Dell Adjustable WRR and Strict Queue<br>- 802.1Q VLAN Tagging, Double VLAN<br>- 802.1S Multiple Spanning Tree (MSTP)<br>- 802.1v Protocol-based VLANs<br>- 802.1w Rapid Spanning Tree (RSTP)<br>- Dell RSTP Per VLAN (compatible with Cisco's RPVST+)<br>- Dell Spanning tree optional features: STP root guard, BPDU guard, BPDU filtering
- 802.1X Network Access Control, Auto VLAN
Technical specifications

802.2  Logical Link Control  1213  MIB-II
802.3  10BASE-T  1215  SNMP Traps
802.3ab  Gigabit Ethernet (1000BASE-T)  1286  Bridge MIB
802.3ac  Frame Extensions for VLAN Tagging  1442  SMIPv2
802.3ad  Link Aggregation with LACP  1451  Manager-to-Manager MIB
802.3ae  10 Gigabit Ethernet (10GBASE-X)  1482  TACACS+
802.3at  PoE+ (N1524P and N1548P)  1493  Managed Objects for Bridges MIB
802.3AX  LAG Load Balancing  1573  Evolution of Interfaces
802.3az  Energy Efficient Ethernet (EEE)  1612  DNS Resolver MIB Extensions
802.3u  Fast Ethernet (100BASE-TX) on Management Ports  1643  Ethernet-like MIB
802.3x  Flow Control  1757  RMON MIB
802.3z  Gigabit Ethernet (1000BASE-X)  1867  HTML/2.0 Forms with File Upload Extensions
ANSI  LLDP-MED (TIA-1057)  1901  Community-based SNMPv2
MTU  9,216 bytes  1907  SNMPv2 MIB

General Internet protocols
General Internet protocols are supported. For a detailed list, please contact your Dell Technologies representative.

General IPv4 protocols
General IPv4 protocols are supported. For a detailed list, please contact your Dell Technologies representative.

General IPv6 protocols
General IPv6 protocols are supported. For a detailed list, please contact your Dell Technologies representative.

Layer 3 functionality
1058  RIPv1
2082  RIP-2 MDS Auth
1724  RIPv2 MIB Extension
2453  RIPv2

Multicast
2932  IPv4 MIB
4541  IGMP v1/v2/v3
Snoping and Querier
IEEE 802.1ag draft 8.1– Connectivity Fault Management

Quality of service
2474  DiffServ Field
Dell  Flow Based GoS
2475  DiffServ Architecture
Services Mode
2597  Assured Fwd PHB
(IPv4/IPv6)
Dell  L4 Trusted Mode
Dell  Port Based GoS (TCP/UDP)
Services Mode
Dell  UDLD

Network Management and Security
1155  SMIPv1
1157  SNMPv1
1212  Concise MIB Definitions

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
Eurasia 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, Canada, EU, 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.

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