Dell EMC PowerSwitch
N2200-ON Series Switches

Cost-effective open networking Multigigabit Ethernet switches for modernizing and scaling infrastructure

The N2200-ON switch series offers a power-efficient Multigigabit Ethernet network-access switching solution with integrated 25GbE 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 160Gbps (full duplex) high availability stacking architecture that allows management of up to twelve switches from a single IP address. An integrated 80PLUS Platinum certified power supply provides energy efficiency to help decrease power and cooling costs.

Modernize campus network architectures

Modernize campus network architectures with a power-efficient and resilient 1/2.5/25GbE switching solution with 802.3bt Type-3 (60W) Power over Ethernet. PoE ports can deliver clean power to network devices such as wireless access points (APs), Voice-over-IP (VoIP) handsets, video conferencing systems, security cameras, LED luminaries and many more. For greater interoperability in multivendor networks, N2200-ON switches offer the latest open-standard protocols.

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. 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. N2200-ON switches also support the Open Network Install Environment (ONIE), enabling installation of alternate network operating systems.

Deploy with confidence at any scale

N2200-ON series switches help create performance assurance with a data rate up to 600Gbps (full duplex) and a forwarding rate up to 833Mpps. Scale easily with built-in rear stacking ports. Switch stacks of up to 624 1/2.5/25GbE 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

- 1RU switches with up to 48 line-rate 1/2.5GbE RJ-45 ports and four integrated 25GbE SFP28 ports.
- Up to 48 ports of 30W PoE including 24 ports which can scale up to 60W PoE.
- Up to 624 1/2.5/25GbE ports in a 12-unit stack for high-density, high-availability in IDFs, MDFs and wiring closets.
- Non-stop forwarding and fast failover in stack configurations.
- Dell Fresh Air compliance for operation in environments up to 113°F (45°C) helps reduce cooling costs in temperature constrained deployments.

*Dell 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. Details at https://www.dell.com/en-us/work/shop/networkingwarranty/cp/networkingwarranty

Dell EMC Networking N2200-ON Spec Sheet
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Deploying, configuring and managing

- USB auto-configuration rapidly deploys the switch without 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 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.
- Achieve high availability and full bandwidth utilization with MLAG and support firmware upgrades without taking the network offline.
- Layer 3 Standard IPv4 and IPv6 functionality including static routing, RIP, and OSPF support.
- VXLAN-Lite support in hardware only (can be used if enabled by Open Networking (ON) partner network operating system).

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<th>Product</th>
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<td><strong>N2200-ON Series</strong></td>
<td><strong>OS6 Options (with pre-installed OS6 NOS)</strong></td>
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<td>• N2224X-ON IO/PS airflow with OS6: 24x RJ45 10M/100M/1G/2.5G auto-sensing ports, 4x SFP28 ports, 2x 40G QSFP+ ports, 1x 550W PSU included</td>
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<td>• N2224X-ON PS/IO airflow with OS6: 24x RJ45 10M/100M/1G/2.5G auto-sensing ports, 4x SFP28 ports, 2x 40G QSFP+ ports, 1x 550W PSU included</td>
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<td>• N2224PX-ON IO/PS airflow with OS6: 12x RJ45 10M/100M/1G/2.5G 802.3at (up to 30W) PoE auto-sensing ports, 12x RJ45 10M/100M/1G/2.5G 802.3bt Type-3 (up to 60W) PoE auto-sensing ports, 4x SFP28 ports, 2x 40G QSFP+ ports, 1x 1050W PSU included</td>
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<td>• N2248X-ON IO/PS airflow with OS6: 48x RJ45 10M/100M/1G/2.5G auto-sensing ports, 4x SFP28 ports, 2x 40G QSFP+ ports, 1x 550W PSU included</td>
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<td></td>
<td>• N2248X-ON PS/IO airflow with OS6: 48x RJ45 10M/100M/1G/2.5G auto-sensing ports, 4x SFP28 ports, 2x 40G QSFP+ ports, 1x 550W PSU included</td>
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<td>• N2248PX-ON IO/PS airflow with OS6: 24x RJ45 10M/100M/1G/2.5G 802.3at (up to 30W) PoE auto-sensing ports, 24x RJ45 110M/100M/1G/2.5G 802.3bt Type-3 (up to 60W) PoE auto-sensing ports, 4x SFP28 ports, 2x 40G QSFP+ ports, 1x 1600W PSU included</td>
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<td><strong>Power cords</strong></td>
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<td>C13 to C14, 2M</td>
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<td><strong>Power shelves (optional)</strong></td>
<td>C13 to NEMA 5-15, 3M</td>
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<td>C13 to C14, 2M</td>
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<td><strong>Power supplies (optional)</strong></td>
<td>550W AC hot swappable with IO/PS airflow, adds redundancy to N2224X-ON, N2248X-ON 550W AC hot swappable with PS/IO airflow, adds redundancy to N2224X-ON, N2248X-ON 1050W AC hot swappable with IO/PS airflow, adds redundancy and/or extends PoE budget for N2224X-ON. Also used with MPS-1S shelf, MPS-3S Shelf 1600W AC hot swappable with IO/PS airflow, adds redundancy and/or extends PoE budget for N2248PX-ON. Also used with MPS-1S shelf, MPS-3S Shelf 2000W-AC hot swappable with IO/PS airflow, extends PoE budget, used with MPS1S Shelf, MPS-3S Shelf ** 550W DC hot swappable with IO/PS airflow, adds redundancy to N2224X-ON, N2248X-ON ** 1300W DC hot swappable with IO/PS airflow, adds redundancy and/or extends PoE budget for N2224PX-ON, N2248PX-ON **</td>
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** Planned in Roadmap

*** Auto-negotiation not supported, using 1G optics require manual configuration and all 4x10G SFP+ or 4x25G SFP28 ports to be set to same speed. 100M speed not supported.

**** Auto-negotiation not supported, using 10G cables or optics require manual configuration and all 4x25G SFP28 ports to be set to same speed. 100M/1G speed not supported.
### Technical specifications

#### Hardware specifications

**Physical**
- 2 integrated rear 40GbE QSFP+ stacking ports
- Out-of-band management port (10/100/1000BASE-T)
- USB (Type A) port for configuration via USB flash drive
- MicroUSB (Type B) console port (MicroUSB to USB connector cable included)
- RJ45 console port with RS232 signaling (RJ45 to female DB-9 connector cable included)
- Auto-negotiation for speed and flow control
- Additional 1.18 in dual fan tray handle

**Environmental**
- Power supply efficiency: 80% or better in all operating modes
- Max. thermal output (BTU/hr): 2697 (IPv4)
- 802.3ac Frame Extensions for VLAN Tagging (ingress), 509 (egress)
- Max ACL rules per interface (IPv6): 1023 (ingress), 1023 (egress)
- Max ACL rules per interface (IPv4): 1023 (ingress), 1023 (egress)
- Max ACL rules per interface (IPv6): 1023 (ingress), 1023 (egress)
- Max VLAN interfaces with ACLs applied: 24

**Cables**
- 802.3ad Link Aggregation with LACP
- 802.3ae 10 Gigabit Ethernet (10GBase-X)
- 802.3at PoE+ (N2024P and N2048P)
- 802.3AX LAG Load Balancing
- Dell Multi-Chassis LAG (MLAG)
- Dell Policy Based Forwarding
- Dell Fast Ethernet (1000BASE-TX) on Management Ports
- Dell Flow Control
- Dell Gigabit Ethernet (1000BASE-X)
- ANSI LLDP-MED (TIA-1057)
- MTU 9,216 bytes

**Chassis**
- Size (1RU, H x W x D): 1.71 in x 17.09 in x 15.75 in (power supply/fan tray handle adds additional 1.18 in)
- Approximate weight (Switch with 1 PSU installed): 14.3lbs/6.5kg (N2224X-ON), 16.6lbs/7.5kg (N2248X-ON), 16.8lbs/7.2kg (N2248PX-ON)
- Two integrated rear 40GbE QSFP+ stacking ports
- Out-of-band management port (10/100/1000BASE-T)
- USB (Type A) port for configuration via USB flash drive
- MicroUSB (Type B) console port (MicroUSB to USB connector cable included)
- RJ45 console port with RS232 signaling (RJ-45 to female DB-9 connector cable included)
- Auto-negotiation for speed and flow control
- Additional 1.18 in dual fan tray handle

**System**
- Power supply efficiency: 80% or better in all operating modes
- Max. thermal output (BTU/hr): 2697 (IPv4)
- 802.3ac Frame Extensions for VLAN Tagging (ingress), 509 (egress)
- Max ACL rules per interface (IPv6): 1023 (ingress), 1023 (egress)
- Max ACL rules per interface (IPv4): 1023 (ingress), 1023 (egress)
- Max VLAN interfaces with ACLs applied: 24

### Quality of service

- Dell DiffServ Field
- Dell DiffServ Architecture
- Dell Assured Fwd PHB
- Dell Flow Based QoS Services Mode
- Dell QoS Services Mode

### General Internet protocols

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

- 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

- IPv4
- IPv6
- IPv4/IPv6
- IPv4/IPv6/IPv6

### Multicast

- Admin scoped IP Mcast
- IPv4 MIB
- IGMP v1/v2/v3 Snooping and Querier
- Multicast
- IEEE 802.1ag draft 8.1 – Connectivity Fault Management

### Management

- Dell 802.1D Bridging, Spanning Tree
- Dell 802.1p Ethernet Priority (User Provisioning and Mapping)
- Dell 802.1Q VLAN Tagging, Double VLAN Tagging, GVRP
- Dell 802.1S Multiple Spanning Tree (MSTP)
- Dell 802.1v Protocol-based VLANs
- Dell 802.1w Rapid Spanning Tree (RSTP)
- Dell 802.2 Logical Link Control
- Dell 802.3 10BASE-T
- Dell 802.3ab Gigabit Ethernet (1000BASE-T)
- Dell 802.3ac Frame Extensions for VLAN Tagging

### IEEE compliance

- IEEE 802.1AB LLDP
- IEEE 802.1D Bridging, Spanning Tree
- IEEE 802.1p Ethernet Priority (User Provisioning and Mapping)
- IEEE 802.1Q VLAN Tagging, Double VLAN Tagging, GVRP
- IEEE 802.1S Multiple Spanning Tree (MSTP)
- IEEE 802.1v Protocol-based VLANs
- IEEE 802.1w Rapid Spanning Tree (RSTP)
- IEEE 802.2 Logical Link Control
- IEEE 802.3 10BASE-T
- IEEE 802.3ab Gigabit Ethernet (1000BASE-T)
- IEEE 802.3ac Frame Extensions for VLAN Tagging
## Technical specifications

**Network Management and Security**

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**Other certifications**

N-Series products have the necessary features to support a PCI compliant network topology.

**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, 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
IT Lifecycle Services for Networking

Experts, insights and ease
Our highly trained experts, with innovative tools and proven processes, help you transform your IT investments into strategic advantages.

Plan & Design
Let us analyze your multivendor environment and deliver a comprehensive report and action plan to build upon the existing network and improve performance.

Deploy & Integrate
Get new wired or wireless network technology installed and configured with ProDeploy. Reduce costs, save time, and get up and running fast.

Educate
Ensure your staff builds the right skills for long-term success. Get certified on Dell EMC Networking technology and learn how to increase performance and optimize infrastructure.

Manage & Support
Gain access to technical experts and quickly resolve multivendor networking challenges with ProSupport. Spend less time resolving network issues and more time innovating.

Optimize
Maximize performance for dynamic IT environments with Dell EMC Optimize. Benefit from in-depth predictive analysis, remote monitoring and a dedicated systems analyst for your network.

Retire
We can help you resell or retire excess hardware while meeting local regulatory guidelines and acting in an environmentally responsible way.

Learn more at DellTechnologies.com/Services