



Dell Networking

Product Portfolio Guide



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Fixed port switch comparison



Data center switching



Speed	Model	Overview	Capacity and ports		Data Center Core	Aggregation / Layer 3	Top of Rack	Campus LAN	Aggregation / Layer 3	Edge / Layer 2	Branch office	Small office	Features	PoE / PoE+	Stacking (maximum stack)	Open Automation ¹	iSCSI optimization ²	Hot-swap power ³	Redundant power ⁴	Airflow option ^{3, 4, or 5}	Warranty
10/40 GbE	Z9000	High-performance, scalable, distributed core switch delivers industry-leading capacity in a 2RU footprint.	2.5 Tbps	32 ports 40 GbE QSFP+ or 128 ports 10 GbE SFP+	●	●												✓	✓	✓ ^{*3}	1 yr
1/10/40 GbE	S4810	Low latency switch with FCoE transit capability and serves as building block of distributed core architecture.	1.28 Tbps	48 ports 10 GbE and four 40 GbE QSFP+ uplinks or 64 ports 10 GbE SFP+	●	●	●								6	✓	✓	✓	✓	✓ ^{*3}	1 yr
1/10 GbE	S60	Built with 1.25 Gb of deep buffer memory to smooth out traffic spikes and reduce packet loss associated with high-demand applications.	176 Gbps	44 ports Base-T with four SFP uplinks or four SFP+ uplinks			●								12	✓	✓	✓	✓	✓ ^{*3}	5 yr
	S55	High-performance, low latency, and low power switch optimized for top-of-rack deployments.	192 Gbps	44 ports Base-T with four SFP uplinks or four SFP+ uplinks			●								8	✓	✓	✓	✓	✓ ^{*3}	5 yr
	S25/50 Series	Transform your data center and deliver critical functionality and throughput to the network edge.	144/288 Gbps	24/48 ports Base-T or 24 ports SFP/Base-FX SFP, four XFP or CX4 uplinks			●							P	8		✓		✓	✓ ^{*3}	5 yr

Campus LAN switching



10/40 GbE	8100 Series	High density connectivity and efficient performance for large enterprise campus distribution and small network cores.	640 Gbps /1.2 Tbps	24/48 ports (10GbBase-T or SFP+) with one expansion module (dual QSFP+, quad 10GbBase-T, or quad SFP+) 48 port models include two extra QSFP+ ports											6		✓	✓	✓	*4	Life	
10 GbE	8000 Series	Flexible performance for enterprise campus LAN, distributed branch offices or small networks.	480 Gbps	24 ports 10GbBase-T with four SFP+ combo ports or 24 ports SFP+ with four 10GbBase-T combo ports											6		✓	✓	✓	*4	Life	
1/10 GbE	7000 Series	High density with energy-efficiency & high-availability for enterprise LAN, server aggregation, and wiring closets requiring PoE+.	176/ 224 Gbps	24/48 ports Base-T or 24 ports SFP, four combo ports, and dual 10G slots supporting four ports of 10GbBase-T, SFP+, or CX4										P+	12		✓	R	R	R	*4	Life
	6200 Series	Flexible performance and value for small to medium-sized businesses and branch office wiring closets.	136/ 184 Gbps	24/48 ports Base-T or 24 ports SFP, four combo ports, and dual 10G slots supporting 4 ports of 10G Base-T, SFP+, CX4, or XFP										P	12		✓		E		*4	Life
	5500 Series	Advanced end-user and workgroup connectivity with energy-efficiency and scalability.	128/ 176 Gbps	24/48 ports Base-T with two SFP+ uplinks										P	8				E		*4	Life
1 GbE	2800 Series	Quiet and simple to manage for small offices connecting PCs and peripherals at faster Gigabit speeds.	16-96 Gbps	8-48 ports with SFP combo ports (varies by model)																	*4 or *5	Life
100 Mb	3500 Series	Entry-level switch connectivity where full management capabilities are a priority over speed.	12.8/ 176 Gbps	24/48 ports Base-T with two SFP copper or fiber uplinks										P	8				E		*4	Life

● Recommended deployment

* (1) Open Automation is an advanced software suite of network management tools to automate data center processes and hypervisor switch communications. See page 5 for details. (2) iSCSI optimization automatically configures QoS policies for Dell storage arrays. (3) Air flow direction (front to rear or rear to front) must be selected upon ordering. (4) Air flow moves from front ports and side towards back. Airflow for 7048R model has reversible fan. (5) Fanless models 2808 & 2816. E = External redundant power supply optional. R = 7048R model only. Power-over-Ethernet (PoE/PoE+) available on select models. Life = Lifetime Warranty (hardware repair or replacement). Info at: dell.com/lifetimewarranty



Distributed core solutions

Fabrics for any size data center

Dell distributed core architecture is a non-blocking leaf-spine design built using the Z9000 and S4810 switches. These distributed core fabrics scale to support thousands of 10 GbE server and storage ports. The architecture eliminates the need for expensive chassis-based products and allows you to collapse the core and aggregation layers, resulting in a simpler and more efficient network. You can easily build and monitor the entire distributed core architecture using the Dell Fabric Manager software to automate the network.

Cost-effective, space-saving 10/40G fabrics

Distributed core design options Z9000 and S4810 building blocks



Design a fabric that fits your workload needs.

Fabric size	Spine switches	Leaf switches	User ports
Extra large	16 x Z9000	32 x Z9000	2,048 x 10 GbE non-blocking or 512 x 40 GbE non-blocking
Large	4 x Z9000	32 x S4810	1,536 x 10 GbE 3:1 over-subscription
Medium	4 x S4810	12 x S4810	576 x 10 GbE 3:1 over-subscription
Small	2 x S4810	4 x S4810	128 x 10 GbE non-blocking

Modular core & aggregation systems

High-density one and 10 Gigabit chassis

Deployment	Capacity and ports	Model	Line cards
Data center core and aggregation	3.5 Tbps, 560 ports 10 GbE (140*), 1,260 ports GbE	E1200i	14
	1.75 Tbps, 280 ports 10 GbE (70*), 630 ports GbE	E600i	7
Campus LAN & wiring closets (PoE capable)	1.536 Tbps, 64 ports 10 GbE, 384 ports GbE	C300	8
	768 Gbps, 32 ports 10 GbE, 192 ports GbE	C150	4

All ports are full non-blocking throughput unless noted. *Maximum ports at line-rate speed.

Best selling line cards (E-Series)		Best selling line cards (C-Series)	
10 GbE SFP+ or XFP (10 ports)		10 GbE XFP (4 or 8 ports)	
1 GbE SFP (50 ports)		10/100/1000 Base-T with PoE (48 ports)	
10/100/1000 Base-T (90 ports)		FlexMedia card - 10/100/1000 Base-T with PoE (36 ports), 1 GbE (8 ports), & 10 GbE (2 ports)	

More line card options for both E and C Series chassis available.



The C-Series and E-Series chassis systems provide flexible, high-density 1/10 GbE connectivity for data centers and enterprise LANs. The E-Series is ideal for cost-effective, collapsed-core designs and large-scale aggregation deployments. The C-Series is best suited for end-user aggregation and campus LAN wiring closet environments. The C-Series also supports Power-over-Ethernet for VoIP phones, IP security cameras, and other campus applications.

Fibre Channel

Leading connectivity options for your SAN



Capacity and ports	Model
16 Gbps, (24, 36, or 48 ports)	Brocade 6510
16 Gbps, (12 or 24 ports)	Brocade 6505
8 Gbps, (24 ports DCB/FCoE & 8 ports FC)	B-8000 →
8 Gbps, (48, 64 or 80 ports)	Brocade 5300
8 Gbps, (24, 32 or 40 ports)	Brocade 5100
4 or 8 Gbps, (8, 16, or 24 ports)	Brocade 300
Modular, 8 Gbps, (192 ports)(supports DCB/FCoE)	DCX 4S →
Modular, 16 Gbps, (192 or 384 ports)	DCX 8510

Blade Interconnects

Transforming your Dell M1000e blade server enclosure



Capacity and ports	Model
1/10/40 GbE with iSCSI / FCoE transit (56 ports with two FlexIO modules)	Force10 MXL →
1/10 GbE with iSCSI / FCoE transit (24 ports with one FlexIO module)	M8024-k →
10 GbE (24 ports) and 8 Gbps FC (4 ports)	M8428-k →
1/10 GbE (48 ports)	M6348
1/10 GbE (20 ports with two FlexIO modules)	M6220
8 Gbps Fibre Channel (12 or 24 ports)	M5424

Find more blade interconnects, HBAs, and NICs on dell.com



The Dell PowerConnect W-Series wireless networking portfolio is highly secure, simple to deploy, and easy to manage. Enable optimized delivery of e-mail, video conferencing, and real-time VoIP telephony and unified communication solutions. More information at: dell.com/wireless

Wireless Access Points



Dell PowerConnect W-Series Access Points (APs) are available in two types. Controller-based APs and Instant APs.

Controller-based APs require a separate W-Series controller and are ideal for organizations that seek maximum functionality and centralized management features. This architecture can enforce policies and security from one console and fully encrypt data from the AP all the way back to the data center. Controller-based APs can also serve as a termination point for your Virtual Private Network.

Instant APs combine enterprise capabilities with entry-level simplicity. This device has a built-in virtual controller and requires no additional software. It is ideal for organizations seeking easy setup and management, but not centralized policy enforcement or VPN termination capability.

Both types of APs:

- are 802.11n certified
- provide strong Wi-Fi security
- include an Extended Lifetime Warranty

Dell wireless networking provides a flexible architecture with options to best meet your deployment scenarios and needs.

Overview	Controller-based APs	Instant APs	MIMO antennas (Multiple Input/Multiple Output)
High-performance, 900 Mbps, Dual radio, Dual band (450Mbps per radio)	W-AP135	W-IAP135	6 internal (3x3, 3 streams)
	W-AP134	W-IAP134	3 external (3x3, 3 streams)
Mainstream, 600 Mbps, Dual radio, Dual band (300 Mbps per radio)	W-AP125	-	3 internal (3x3, 2 streams)
	W-AP124	-	3 external (3x3, 2 streams)
	W-AP105	W-IAP105	4 internal (2x2, 2 streams)
	W-AP104	-	4 external (2x2, 2 streams)
	W-AP175 [†] (PoE, AC, DC)	-	4 external (2x2, 2 streams) [†] No extended life warranty
Entry-level, 300 Mbps, Single radio, Dual band	W-AP93	W-IAP93	2 internal (2x2, 2 streams)
	W-AP93H	-	2 internal (2x2, 2 streams) with ports: 4x100Mb & 1xGb
	W-AP92	W-IAP92	2 external (2x2, 2 streams)

Flexible mounting kits, external antennas & AC adapters purchased separately. Models with external antennas work best for special deployment situations.

Wireless Controllers



Deployment	Model	Maximum users	Maximum APs supported	Firewall throughput
Headquarters or large campus	W-6000 chassis with W-6000M3 module	32,768 users (8,192 per module)	Control 2,048 APs (512 APs per module)	80 Gbps (20 Gbps per module)
Medium to large enterprise	W-3600	8,192 users	Control 128 APs	4 Gbps
	W-3400	4,096 users	Control 64 APs	4 Gbps
	W-3200	2,048 users	Control 32 APs	3 Gbps
Small office or Branch office	W-650	512 users	Control 16 APs	2 Gbps
	W-620	256 users	Control 8 APs	800 Mbps

Optional Controller-based Software

Wireless Intrusion Protection (WIP) - Safeguard against wireless security threats, provide visibility into sources of RF interference, and eliminate the need for separate RF sensors and security appliances.

Policy Enforcement Firewall (PEF) - Provide identity-based controls to enforce application-layer security, prioritization, traffic forwarding, and network performance policies for wired and wireless networks.

Policy Enforcement Firewall with VPN (PEF-V) - Same as above, but with VPN (Virtual Private Network) termination capability.

Advanced Cryptography (ACR) - Deliver military-grade cryptography and enable secure access to networks that handle controlled unclassified, confidential and classified information.

Wireless Guest Access & BYOD

Easily and securely onboard personal-owned devices, IT-issued devices, and guests that connect to the network with ClearPass GuestConnect. This Visitor Management and BYOD (Bring Your Own Device) system frees your IT staff from the on-boarding process and allows you to create a customized brand experience as your users login.

Model	Details
CPGC 100	Dell server pre-loaded with 100 licenses, expandable to 5,000
CPGC 2500	Dell server pre-loaded with 2,500 licenses, expandable to 25,000
CPGC SW 100	Software only (Virtual machine for VMware™)

AirWave Network Management



Multi-vendor network management software that delivers a consolidated view of: the RF environment, controllers, APs, and the wired infrastructure, with an intuitive user interface.

Virtual Internet Access (VIA)



Create a secure Virtual Private Network for remote users that intelligently configures connection settings to ensure a consistent user experience.

AirWave and VIA (Virtual Internet Access) software licenses are available for both Instant AP or Controller-based AP architectures.



Data center network automation

Open Automation

The Dell Networking Open Automation framework provides an open standards-based automation solution for data center operations. The Open Automation Framework is a suite of inter-related network management tools that can be used together or independently. These tools provide data center managers with a complete set of capabilities required in today's dynamic, virtual data center environments.

Bare Metal Provisioning



Automatic network switch configuration

- Reduce installation time
- Enforce standard configurations
- Eliminate configuration errors
- Simplify OS upgrades

Smart Scripting



Perl & Python scripting environment for custom monitoring & mgmt

- Increased network uptime
- Reduce time for problem resolution
- Improve configuration management & auditing

Virtual Server Networking



Hypervisor switch communications to ease Virtual Machine & Virtual LAN management

- Increase data center flexibility
- Maintain network connectivity & security with VM migration
- Reduce OpEx

Programmatic Management



Seamless integration with programmatic interfaces & system management tools

- Simplify network management
- Minimize number of management tools
- Reduce OpEx

Networking Management



Simplify the complex

As your infrastructure gets larger and more complex, it can be a real headache to keep track of every device in your network. You need to know the status of those devices, how they are performing, and have the ability to manage their configuration for optimal performance. With Dell you are able to regain control of the network with **OpenManage Network Manager**. View complete physical and logical inventories of your network, get detailed connectivity information of each device, and automate network functions. [Try it for free](#). Information at dell.com/networkmanager.

Advanced Infrastructure Manager



Make your server, storage and networking infrastructure a seamless fabric of resources with the help of Dell Advanced Infrastructure Manager (AIM). You can create a simplified, flexible data center infrastructure that supports workload mobility and allows for rapid deployment and speedy disaster recovery. Use AIM's integration packages to expand functionality with other existing software investments.

Dell AIM lets you move workloads and repurpose servers in minutes. AIM can also help you manage each server's network connectivity, storage (SAN/iSCSI) access and power state.

Networking Services

Whether you are seeking product support or complete IT outsourcing, Dell can deliver services based on your need. Get a free business consultation at dell.com/networkconsulting



Workshop



Assessment



Design



Implementation



Manage / Support

Consulting services

Achieve better business outcomes with professional guidance pertaining to your network. Improve network performance, add functionality, and leverage existing infrastructure to maximize your investment.

Deployment services

Let us install and correctly optimize your network with a comprehensive set of remote and onsite deployment services.

Managed services

Free yourself to focus on your business and allow Dell to fully manage and monitor your multi-vendor network with triage, resolution, and tier 2 and 3 engineering support.

Support Services

Gain access to networking professionals 24 hours a day who help you configure, troubleshoot, and diagnose your network. Dell ProSupport™ experts also help resolve complex issues related to third-party connectivity to Cisco, Brocade, Juniper, HP, and Aruba.

Learn more at dell.com/networking