



Campus LAN switching

Quick Reference Guide



Last update: March 2015

	10/40GbE				1/10GbE (Layer 2 and 3 switching)				
Series	N4000 Series				N3000 Series				
Overview	High density, power efficient and flexible 1/10/40GbE switches for large enterprise campus distribution and small network cores.				Power efficient and resilient 1/10GbE switches with advanced Layer 3 distribution and dense PoE+ for small to medium-sized businesses and office wiring closets.				
Models (all sized 1RU)	N4032	N4032F	N4064	N4064F	N3024	N3048	N3024F	N3024P	N3048P
Performance									
Switch capacity (Gbps)	640		1280		212	260	212	212	260
Forwarding capacity (Mpps)	476		952		158	193	158	158	193
Buffer size	9MB				4MB				
Ports									
10/100/1000 Base-T	-	-	-	-	24	48	2 combo	24	48
1GbE (SFP)	-	-	-	-	2 combo	2 combo	24	2 combo	2 combo
10GbE	24 (up to 32 using 2 QSFP ports and cables)		48 (up to 64 using 4 QSFP ports and cables)		2 fixed SFP+ and 2 modular (auto-negotiate 1/10Gb)				
40GbE (QSFP+)	2 using module		2 built-in (up to 4 using module)		-				
Expansion module slots	1 slot with 3 optional modules: 2 port QSFP+, 4 port SFP+, 4 port 10GBase-T				1 slot with 2 optional modules: 2 port SFP+, 2 port 10GBase-T				
Power-over-Ethernet ports	-				-			24 PoE+	48 PoE+
Power and cooling									
Power consumption (watts)	240	176	395	220	52.8	74.8	67.1	1287	2145
AC power supplies	2 hot-swappable power supply bays, 2 PSUs included				2 hot swappable power supply bays, 1 PSU included				
Redundant power	Yes, built-in				Optional (internal)			Yes, dependent upon configuration	
Airflow	I/O panel to PSU								
Features									
Stacking	Stacks up to 12 using 10Gb or 40Gb user ports				Stacks up to 12 using dedicated ports				
VLANs	4094								
VLAN support	Voice VLAN, Private Edge, Protocol and MAC-based, GVRP								
Layer 2 and 3	Layer 3 Advanced								
IPv4/IPv6 routing	IPv4/IPv6, RIP, OSPFv3, VRRP, static routing								
Multicast support	IGMP v1/v2/v3, IGMP Proxy, IGMP Snooping and Querier, DVMRP, PIM-DM, PIM-SM								
Rapid deployment	Ready rails, deploy switch configuration files, stacking commands and firmware updates by simply inserting a USB device into the port.								
iSCSI optimization	iSCSI aware (detect and prioritize iSCSI traffic into pre-defined QoS); iSCSI auto-configuration (switch configuration routine automatically sets up and optimizes performance with Dell EqualLogic storage arrays)								
Management and security									
Switch security	Strong passwords, password masking, management access control - privilege levels. RADIUS and TACACS+ support, 802.1x port-based authentication.								
SNMP support	SNMPv1/2/3								
sFlow	Yes								
Management	GUI access via http/https. CLI via console, Telnet, SSH								



When we say "Lifetime," we mean it.

All the switches in this guide are backed by an industry-leading, Lifetime Warranty which guarantees Basic Hardware Service (hardware repair or replacement) for as long as you own the product*.

*Repair or replacement does not include configuration or other advanced service and support provided by Dell ProSupport Services. Details: Dell.com/LifetimeWarranty

Network Management

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. **OpenManage Network Manager** allows you to view complete physical and logical inventories of your network, get detailed connectivity information of each device, and automate network functions. **Try it free.** Dell.com/networkmanager

Network Services

Most organizations benefit from additional levels of support to protect their IT investment and maximize productivity. Choose:

- Consulting Services
- Deployment Services
- Managed Services
- Support Services

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Campus Edge												
Series	N2000 Series				N1500 Series				3500 Series			
Overview	Powerful 1/10GbE switches providing efficient Layer 2+ access for personal computers, entry-level servers and other network devices.				Gigabit Ethernet switches providing a cost-effective upgrade path from aging 10/100GbE access switches.				Entry-level switch connectivity where full management capabilities and PoE are priority over speed.			
Models (all sized 1RU)	N2024	N2048	N2024P	N2048P	N1524	N1548	N1524P	N1548P	3524	3548	3524P	3548P
Performance												
Switch capacity (Gbps)	172	220	172	220	128	176	128	176	13	18	13	18
Forwarding capacity (Mpps)	128	164	128	164	128	164	128	164	9	13	9	13
Buffer size	4MB				1.5MB				128KB			
Ports												
10/100/1000 Base-T	24	48	24	48	24	48	24	48	24 or 48 (10/100 only) and 2 (1000 only)			
1GbE (SFP)	-				-				2			
10GbE	2 SFP+ (auto-negotiate 1/10Gb)				4 SFP+ (auto-negotiate 1/10Gb)				-			
Expansion module slots	-				-				-			
Power-over-Ethernet ports	-	-	24 PoE+	48 PoE+	-	-	24 PoE+	48 PoE+	-	-	24 PoE	48 PoE
Power and cooling												
Power consumption (watts)	42.9	53.9	913	1738	30.2	44.6	871	1704	15	19	33	38
AC power supplies	One				One				One			
Redundant power	External RPS-720		External MPS-1000		External RPS-720		External MPS-1000		External RPS-600		External EPS-470	
Airflow	I/O panel to PSU				I/O panel to PSU				I/O panel to PSU			
Features												
Stacking	Stacks up to 12 using dedicated ports				Up to 4 using SFP ports				Up to 8 using SFP ports			
VLANs	4094				512				256			
VLAN support	Voice VLAN, Private Edge VLAN, Protocol-based VLANs, Guest VLANs, GVRP, 802.1x Auto VLAN				Voice VLAN, Private Edge, Protocol-based, Auto VLAN				Voice VLAN, Private Edge VLAN, GVRP			
Layer 2 and 3	Layer 3 Standard				Layer 3 Lite with static routing and RIP				Layer 2 only			
IPv4/IPv6 routing	IPv4/IPv6, static routing, RIP, OSPFv2				IPv4/IPv6, static routing, RIP				IPv4 only, no routing			
Multicast support	IGMP v1/2/3 snooping and querier				IPv4 MIB, IGMP v1/v2/v3 snooping and querier				IGMP v2 snooping			
Rapid Deployment	Deploy switch configuration files, stacking commands, and firmware updates by simply inserting a USB device.				Deploy switch configuration files, stacking commands, and firmware updates by simply inserting a USB device.				N/A			
iSCSI optimization	N/A				N/A				N/A			
Management and security												
Switch security	Strong passwords, password masking, management access control - privilege levels. RADIUS and TACACS+ support, 802.1x port-based authentication											
SNMP support	SNMPv1/2/3											
sFlow	Yes				v1.3 draft 5				N/A			
Management	GUI access via http/https. CLI via console, Telnet, SSH											



Small and Medium Business													
Series	2800 Series				X Series								
Overview	Quiet and simple to manage for small offices connecting PCs and peripherals at faster Gigabit speeds.				Smart managed 1GbE and 10GbE switches designed for small and medium businesses who crave enterprise-class network control fused with consumer-like ease.								
Models (all sized 1RU)	2808	2816	2824	2848	X1008	X1008P	X1018	X1018P	X1026	X1026P	X1052	X1052P	X4012
Performance													
Switch capacity (Gbps)	16	32	48	96	16	16	36	36	52	52	176	176	240
Forwarding capacity (Mpps)	12	24	36	71	11.9	11.9	26.8	26.8	38.7	38.7	131	131	178.6
Buffer size	128KB				8MB								
Ports													
10/100/1000 Base-T	8	16	24	48	8	8	16	16	24	24	48	48	-
1GbE (SFP)	-	-	2	4	-	-	2	2	2	2	-	-	-
10GbE	-				-	-	-	-	-	-	4 SFP+	4 SFP+	12 SFP+
Power-over-Ethernet ports	-				-	8 PoE, up to 123W total	-	16 PoE, up to 246W total	-	24 PoE/PoE+, up to 369W total	-	24 PoE/PoE+, up to 369W total	-
Power and cooling													
Power consumption (watts)	7	9	14	24	9.9	141.8	14.7	289.9	17.5	452.8	60.1	475	41.7
AC power supplies	One				One (external)				One				
Airflow	Fanless		I/O panel to PSU		Fanless	Fanless	Fanless	I/O panel to PSU	Fanless	I/O panel to PSU	I/O panel to PSU	I/O panel to PSU	I/O panel to PSU
Features													
VLANs	64				4094								
VLAN support	Voice VLAN, Private Edge VLAN, GVRP				Protocol based, GVRP, Voice VLAN, Guest VLAN, Private VLAN								
Layer 2 and 3	Layer 2 only				Layer 2+								
IPv4/IPv6 routing	IPv4 only, no routing				IPv4/IPv6, static routes								
Multicast support	IGMP v2 snooping				IPv4 MIB, IGMP v1/v2/v3 snooping and querier								
Management and security													
Switch security	Switch access password protection. Restricted IP address. RADIUS support, 802.1x port-based auth.				Switch access password protection. Restricted IP address. RADIUS support, 802.1x port-based auth.								
SNMP support	SNMPv1/2				SNMPv1/2/3								
sFlow	-				v1.5 [on X1052, X1052P and X4012 only]								
Management	Web managed switch with limited CLI				Web managed switch with limited CLI								

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