



NX-5330 Series Enhanced Gigabit Access Switches



OVERVIEW

NX-5330 Series Switch – A simple (fixed power design), cost-effective and easy to deploy access switching solution with POE+ that offers enhanced security, high-density GE and 10GbE uplinks, static route, RIP, OSPF, SDN and IRF enabled, flexible management, which meet the requirements for SME access, enterprise desktop access and high-density campus access. NX-5330 Series Switch – A simple (fixed power design), cost-effective and easy to deploy access switching solution with POE+ that offers enhanced security, high-density GE and 10GbE uplinks, static route, RIP, OSPF, SDN and IRF enabled, flexible management, which meet the requirements for SME access, enterprise desktop access and high-density campus access.

NX-5330 series Ethernet switch includes the following models:

NX-5330S-28S-E: 24*10/100/1000BASE-T Ports and 4*1G/10G BASE-X SFP Plus Ports,(AC) NX-5330S-52S-E: 48*10/100/1000BASE-T Ports and 4*1000BASE-X SFP Ports,(AC) NX-5330S-28S-PE: 24*10/100/1000BASE-T PoE+ Ports, *100/1000BASE-X SFP Combo Ports, and 4*1G/10G BASE-X SFP Plus Ports,(AC)

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NX-5330S-52S-PE: 48*10/100/1000BASE-T PoE+ Ports and 4*1000BASE-X SFP Ports,(AC)

FEATURES HIGHLIGHTS

- > Software Defined Network (SDN)
- > IRF2 (Intelligent Resilient Framework 2)
- > Comprehensive Security Control
- > High Availability
- > Abundant QoS
- > Professional Surge Protection Function
- > Excellent Manageability
- > Green Design







PRODUCT FEATURES

Software Defined Network (SDN)

Software Defined Network (SDN) is an innovative network architecture that simplifies network management and reduces maintenance complexity by separating network control layer and network forwarding layer through OpenFlow. More importantly, it implements flexible network flow control and provides a well-defined network platform for core network application and innovation.

The NX-5330 series switch supports a large network flow table. Combined with SDN controller, it can easily implement a two-layer network architecture and quickly add functions in existing network in order to drastically reduce network management complexity while substantially lowers network maintenance cost.

IRF2 (Intelligent Resilient Framework 2)

The NX-5330 series switch supports IRF2 technology that connects multiple physical devices (up to 9) to a logical device that users can manage and use these devices as a single device. IRF can bring the following benefits to the user :

Simplify the management: Any one of the ports can be connected to any of the devices to login to a unified logical device, and to manage the whole system and all the members of the system through the configuration of a single device, without the physical connection to each member of the device.

High scalability: With IRF2, plug-n-play device aggregation can be achieved by adding one or more switches into the IRF2 stack and enabling IRF2 stacking on the new device. New devices can be managed with a single IP, and upgraded at the same time to reduce network expansion cost.

High reliability: IRF2 patented 1: N standby technology allows each slave device in the IRF2 stack to serve as the backup of the master, creating control and data link redundancy, as well as uninterrupted layer-3 forwarding. This improves the reliability, avoids unplanned business downtime and serves to improve overall performance. When the master device fails, traffic remains uninterrupted.

Load balancing: IRF2 supports cross-device link aggregation, upstream and downstream can be connected to more than one physical link, which creates another layer of network redundancy and boosts the network resource utilization.

Availability: NX Implements IRF2 through standard Gigabit Ethernet (1GE) ports or 10 Gigabit Ethernet (10GE) ports which allocates bandwidth for business and application access and reasonably splits local traffic and upstream traffic.

Comprehensive Security Control

NX-5330 series switch supports innovative single-port multi-authentication function, the access authentication modes supported by different clients are different. For example, some clients can only perform MAC addresses Authentication (such as the printer terminal), and some user host for 802.1X authentication, and some user hosts only want to access through the Web portal authentication. In order to flexibly adapt to the multi-authentication requirements of the network environment, the NX-5330 switch series support single-port multi-authentication unified deployment.

NX-5330 series switch supports SSHv2 (Secure Shell V2) to secure information security, and strong authentication protect the Ethernet network switch from attacks such as IP address spoofing and clear text interception.

ARP attack and ARP virus are major threats to LAN security, so the NX-5330 switch series comes with diverse ARP protection functions such as ARP Detection to challenge the legitimacy of client, validate the ARP packets, and set a speed limit for ARP to prevent ARP swarm attacks from targeting CPU.







NX-5330 series switch supports EAD (End User Admission Domination) function. With the iMC (intelligent Management Centre) system, EAD integrates terminal security policies, such as anti-virus and patch update, network access control and access right control policies to form a cooperative security system. By checking, isolating, updating, managing, and monitoring access terminals, EAD changes to passive mode, single point network protection to active, comprehensive network protection, and changes separate management to centralized management, enhancing the network capability for preventing viruses, worms, and new threats.

High Availability

NX-5330 series switch features multiple redundancy measures at the device and link levels, support current and voltage surge control, overheat protection, power and fan troubleshooting and alert, as well as fan speed adjustment when the temperature changes. NX-5330 series also supports hot swappable AC/DC dual power supply.

Apart from device level redundancy, NX-5330 series switch also provides diverse link redundancy support such as LACP/STP/RSTP/MSTP/Smart Link protocols. It supports IRF2 and 1: N redundancy backup as well as cross-device link aggregation which substantially increases network reliability.

Abundant QoS

NX-5330 series switch supports packet filtering at Layer 2 through Layer 4, and traffic classification based on source MAC addresses, destination MAC addresses, source IP addresses, destination IP addresses, TCP/UDP port numbers, protocol types, and VLANs. It supports flexible queue scheduling algorithms based on ports and queues, including strict priority (SP), weighted round Robin (WRR) and SP+WRR. The NX-5330 switch series enables committed access rate (CAR) with the minimum granularity of 8 kbps. It supports port mirroring in the outbound and inbound directions, to monitor the packets on the specific ports, and to mirror the packets to the monitor port for network detection and troubleshooting. Professional Surge Protection Function

NX-5330 series switch uses professional built-in surge protection technology and supports the industry-leading 10KV service port surge protection capability, which greatly reduces the damage rate of surge strikes to equipment even in harsh working environments.

Excellent Manageability

NX-5330 series switch makes switch management with ease with the support of SNMPv1/v2c/v3, which can be managed by NM platforms, such as Open View and iMC. With CLI and Telnet switch management is made easier. And with SSH 2.0 encryption, switch management security is enhanced.

Green Design

The NX-5330 series switch implements a variety of green energy saving features, including auto-power-down (port automatic energy saving), if the interface status has been down for a period of time, the system automatically stops the interface power and the system enters power-saving mode. They also support EEE energy feature, by which if a port stays idle for a period of time, the system will set the port to energy-saving mode. The NX-5330 switch series is also compliant with material environmental protection and the EU RoHS safety standard.







TECHNICAL SPECIFICATIONS

SPECIFICATIONS	NX-S3830- 28C-4SFP	NX-S3830- 28PE-4SFP	NX-S3830- 52PE-4SFP	NX-S3830- 52C-4SFP	NX-S3830- 52PE-4SFP	NX-S3830- 28C-4SFP	NX-S3830- 28PEH-4SFP
Port Switching Capacity	128Gbps	128Gbps	176Gbps	104Gbps	104Gbps	56Gbps	56Gbps
Forwarding capacity	96Mpps	96Mpps	131Mpps	75Mpps	75Mpps	42Mpps	42Mpps
Box Switching Capacity	336Gbps						
CPU	1 Core, 800MHz						
Flash/SDRAM	256MB/512MB						
Latency (64byte/µs)	GE: < 5µs						
	10GE < 3µs						
Dimensions(W× D×H)mm	440×160×43.6	440×260×43.6	440×400×43.6	440×400×43.6	440×400×43.6	440×160×43.6	440×260×43.6
Weight	≤2.5kg	≤ 4.5kg	≤ 6kg	≤ 3.5kg	≤ 6kg	≤2.5kg	≤4.5kg
10/100/1000 Base-T port	24 (4*SFP combo)	24 (4*SFP combo)	48 (4*SFP combo)	48 (4*SFP combo)	48 (4*SFP combo)	24 (4*SFP combo)	24 (4*SFP combo)
SFP+ port	4	4	4	4	4	4	4
Maximum Stacking Bandwidth	80Gbps	80Gbps	80Gbps	16Gbps	16Gbps	16Gbps	16Gbps
Maximum Stacking num	9	9	9	9	9	9	9
Input Voltage	AC: Rated voltage range: 100V~240V AC, 50/60Hz						
	MIN:	MIN:	MIN:	MIN:	MIN:	MIN:	MIN:
Power consumption	AC:10W	AC: 16W	AC: 36W	AC: 18W	AC: 36W	AC:9W	AC: 23W
(full configuration)	MAX:	MAX:	MAX:	MAX:	MAX:	MAX:	MAX:
	AC:24W	AC: 445W	AC: 467W	AC: 41W	AC: 467W	AC:23W	AC: 446W
		(PoE 370W)	(PoE 370W)		(PoE 740W)		PoE 370W)
Fan NUM	1	3	1	1	3	Fanless	3
MTBF(Year)	131.97	85.69	50.19	115.68	50.19	150.86	52.81
MTTR(Hour)	1	1	1	1	1	1	1
Operating	-5°C ~ 50°C(normal operating temperature)						
Temperature	-5°C ~ 45°C(When using transceiver modules with maximum transmission distance < 80km)						
	-5°C ~ 40°C(When using transceiver modules with maximum transmission distance ≥ 80km)						
Storage Temperature	-40°C ~ 70°C						
Operating & Storage Relative Humidity(noncondensing)	5% ~ 95%						







SOFTWARE SPECIFICATIONS

SPECIFICATIONS	NX-5330 Series
VLAN	VLAN ID range 0 to 4095(Total 4096, 0 and 4095 are reserved for the system) Access/Trunk/Hybrid VLAN port-based VLAN MAC-based VLAN IP subnet-based VLAN protocol-based VLAN IEEE 802.1P(CoS priority) Private VLAN Voice VLAN Guest VLAN MVRP (Multiple VLAN Registration Protocol) (compliance with GVRP) QinQ (802.1Q-in-802.1Q) Vlan mapping Static/Dynamic/Blackhole/Multiport unicast MAC MAC automatic learning and aging port-based/VLAN-based MAC learning limit MAC filter Port isolation Loop detection STP(Spanning tree protocol) RSTP (Rapid Spanning Tree Protocol) MSTP (Multiple Spanning Tree Protocol) PVST (Per-VLAN Spanning Tree) (compatible with PVST+/RPVST+) BPDU/root/loop/TC-BPDU/PVST BPDU guard Role/TC-BPDU transmission restriction LLDP (Link Layer Discovery Protocol) and LLDP-MED Jumbo frame Store-and-forward
Ethernet link aggregation	static aggregation dynamic aggregation GE/10GE port aggregation LACP (Link Aggregation Control Protocol) S-MLAG (Simple multichassis link aggregation)
IP Services	ARP snooping/fast-reply/direct route advertisement/ping ARP attack detection ARP source suppression DHCP (Dynamic Host Configuration Protocol) DHCP Server/relay agent/client/snooping DNS (Domain Name System) UDP helper ND (Neighbor Discovery) ND snooping/proxy/direct route advertisement/ping

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SPECIFICATIONS	NX-5330 Series
	DHCPv6 Server/relay agent/client/snooping/guard HTTP redirect
Routing	Static routing, RIP, OSPF IPv6 static routing, RIPng, OSPFv3 IPv4/IPv6 dual stack Pingv6, Telnetv6, FTPv6, TFTPv6, DNSv6, ICMPv6
Multicast	PIM snooping IGMP Snooping Multicast VLAN IPv6 PIM snooping MLD Snooping IPv6 Multicast VLAN
ACL/QoS	ACL (Access Control List) Advanced ACL Ingress and Egress ACL Diff-Serv QoS Eight queues on a port 802.1P/DSCP Priority marking and remarking 802.1p, TOS, DSCP priority mapping Flexible queue scheduling algorithms including SP, WRR, SP+WRR Traffic shaping Time ranges Traffic classification based on source MAC, destination MAC, source IP, destination IP, port, protocol, and VLAN
Security	RBAC (Role-based access control) AAA (Authentication, Authorization, and Accounting) RADIUS (Remote Authentication Dial-In User Service) TACACS (Terminal Access Controller Access Control System) HWTACACS (HW Terminal Access Controller Access Control System) (Same authentication processes and implementations with TACACS+) 802.1X authentication Portal authentication MAC authentication Web authentication Triple authentication Port security SSH1.x and SSH2.0 (Secure Shell) SSL (Secure Sockets Layer) HTTPs Public Key Infrastructure (PKI) Control Plane Protection (CoPP)







SOFTWARE SPECIFICATIONS

SPECIFICATIONS	NX-5330 Series
	Attack detection and prevention CPU attack prevention ARP attack prevention ICMP attack prevention TCP attack prevention Storm suppression based on PPS/BPS/port bandwidth percentage Broadcast traffic/Multicast traffic/Unknown unicast traffic suppression IPSG (IP source guard) IPv6 RA Guard MFF (MAC-forced forwarding) SAVI (Source Address Validation Improvement) FIPS (Federal Information Processing Standards) Hierarchical user management and password protection EAD (Endpoint Admission Defense) Basic and advanced ACLs for packet filtering OSPF, RIPv2 plain text and MD5 authentication
High Availability	Ethernet OAM (IEEE 802.3ah) CFD (Connectivity Fault Detection)(IEEE 802.1ag and ITU-T Y.1731) DLDP (Device Link Detection Protocol) RRPP (Rapid Ring Protection Protocol) ERPS (G.8032 Ethernet Ring Protection Switching) Smart Link Monitor Link VRRPv2(Virtual Router Redundancy Protocol) VRRPv3 BFD (Bidirectional forwarding detection) BFD for VRRP/OSPF/RSVP/static routing Track CPU protection Link aggregation VCT (virtual cable test)
Network Management	NQA (Network quality analyzer) performance management through gRPC or NETCONF NTP (Network Time Protocol) SNMPv1/SNMPv2c/SNMPv3 RMON (Remote Network Monitoring) and groups 1,2,3 and 9 NETCONF/YANG EAA (Embedded Automation Architecture) Port mirroring SPAN (Switch Port Analyzer)/RSPAN(Remote SPAN) Flow mirroring sFlow Information center

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SOFTWARE SPECIFICATIONS

SPECIFICATIONS	NX-5330 Series
	VCF (Virtual Converged Framework) CWMP (CPE WAN Management Protocol/TR-069) System logs Debugging information output Configuration through CLI, Web UI, Telnet, and console port Zero Touch Provisioning Loading and upgrading through XModem/FTP/TFTP/SFTP/USB iMC network management system SmartNMC (Smart Network Management Center) Member
Stacking	IRF2(Intelligent Resilient Framework 2) Distributed device management Distributed link aggregation Distributed resilient routing Stacking through standard Ethernet ports Local device stacking and remote device stacking LACP-, BFD-, and ARP-based multi-active detection (MAD)
Visualization	gRPC (Google remote procedure call)
Programmability and Automation	Auto DevOps by using Python, NETCONF, TCL, and Restful APIs for automated network programming
Forwarding	Wire-speed/Line-rate architecture
Energy Saving	EEE (802.3az Energy Efficient Ethernet)
EMC	EMC FCC Part 15 Subpart B CLASS A ICES-003 CLASS A VCCI CLASS A CISPR 32 CLASS A EN 55032 CLASS A AS/NZS CISPR32 CLASS A CISPR 24 EN 55024 EN 61000-3-2 EN 61000-3-3 ETSI EN 300 386
Safety	UL 60950-1 CAN/CSA C22.2 No 60950-1 IEC 60950-1 EN 60950-1 AS/NZS 60950-1 FDA 21 CFR Subchapter J GB 4943.1

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ORDERING INFORMATION

Product ID	Product Description
NX-5330S-52S-E	NX-5330S-52S-E L2 Ethernet Switch with 48*10/100/1000BASE-T Ports and 4*1000BASE-X
NX-5330S-52S-PE	NX-SEP Poils, (AC) NX-5330S-52S-PE L2 Ethernet Switch with 48*10/100/1000BASE-T PoE+ Ports (AC 370W)
NX-5330S-28S-E	and 4*1000BASE-XINX-SEP Ports,(AC) NX-5330S-28S-E L2 Ethernet Switch with 24*10/100/1000BASE-T Ports and 4*1G/10G
NX-5330S-28S-PE	BASE-X NX-SFP Plus Ports,(AC) NX-5330S-28S-PE L2 Ethernet Switch with 24*10/100/1000BASE-T PoE+ Ports (AC 370W), /*100/1000BASE-X NX-SEP Combo Ports, and /*1G/10G BASE-X NX-SEP Plus Ports (AC)
Power supply	4 100/ 1000 DASE X14X STT COMBOTORS, and 4 10/ 100 DASE X14X STT Hustors, (AC)
NX-PSR75-12A-GI	75/M/AC Dluggable Dower Medule
NX-PSR150-A1-GI	7 SVV AC Pluggable Power Module
NX-PSR150-D1-GI	150VV Asset-manageable AC Power Module
Mounting kit	150VV Asset-manageable DC Power Module
SOHO-SWITCH-FL-02	11 Inch Chassis Mount Angle Component, SOHO/Low-End Access, Network Terminal Shared
Transceivers	13 Inch Chassis Mount Angle Component, SOHO/Low-End Access, Network Terminal Shared
NX-SIF-IE-LX-SIMISIO-A NY-SED-EE-SY-MM1310-A	100BASE-LX NX-SEP Transceiver, Single Mode (1310nm, 15km, LC)
NX SED EE UAO SM1210-A	100BASE-FXINX-SEP Transceiver, Multi-Mode (1310nm, 2km, LC)
	100BASE-LH40 NX-SEP Transceiver, Single Mode (1310nm, 40km, LC)
	1000BASE-LX NX-SEP Transceiver, Single Mode (1310nm, 10km, LC)
	1000BASE-LX NX-SEP Transceiver, Single Mode (1310nm, 10km, LC)
NX-SFP-GE-LH40-SM1310	1000BASE-LH40 NX-SEP Transceiver, Single Mode (1310nm, 40km, LC)
NX-SFP-GE-LH100-SM1550	1000BASE-LH100 NX-SFP Transceiver, Single Mode (1550nm, 100km, LC)
NX-SFP-GE-LH4U-SM155U	1000BASE-LH40 NX-SFP Transceiver, Single Mode (1550nm, 40km, LC)
NX-SFP-GE-LH80-SM1550	1000BASE-LH80 NX-SFP Transceiver, Single Mode (1550nm, 80km, LC)
NX-SFP-GE-SX-MM850-A	1000BASE-SX NX-SFP Transceiver, Multi-Mode (850nm, 550m, LC)
NX-SFP-GE-LX-SM1310-BIDI	1000BASE-LX BIDI NX-SFP Transceiver, Single Mode (TX1310/RX1490, 10km, LC)
NX-SFP-GE-LX-SM1490-BIDI	1000BASE-LX BIDI NX-SFP Transceiver, Single Mode (TX1490/RX1310, 10km, LC)
NX-SEP-GE-T	NX-SFP GE Copper Interface Transceiver Module (100m,RJ45)
NX-SFP-GE-T-D	NX-SFP GE Copper Interface Transceiver Module (100m,RJ45)
NX-SFP-XG-D-AOC-10M	NX-SFP+ to NX-SFP+ 10m Active Optical Cable
NX-SFP-XG-D-AOC-20M	NX-SFP+ to NX-SFP+ 20m Active Optical Cable
NX-SFP-XG-D-AOC-7M	NX-SFP+ to NX-SFP+ 7m Active Optical Cable
NX-SFP-XG-LX-SM1270-BIDI	10G NX-SFP+ BIDI Optical Transceiver Module (TX1270nm/RX1330nm,10km,LC)
NX-SFP-XG-LH40-SM1270-BIDI	10G NX-SFP+ BIDI Optical Transceiver Module (TX1270nm/RX1330nm,40km,LC)
NX-SFP-XG-LX-SM1330-BIDI	10G NX-SFP+ BIDI Optical Transceiver Module (TX1330nm/RX1270nm,10km,LC)
NX-SFP-XG-LH80-SM1490-BIDI	10G NX-SFP+ BIDI Optical Transceiver Module (TX1490nm/RX1550nm,80km,LC)
NX-SFP-XG-LH80-SM1550-BIDI	10G NX-SFP+ BIDI Optical Transceiver Module (TX1550nm/RX1490nm,80km,LC)
NX-SFP-XG-LX-SM1310	NX-SFP+ Module(1310nm,10km,LC)
NX-SFP-XG-LH40-SM1550	NX-SFP+ Module(1550nm,40km,LC)
NX-SFP-XG-LH80-SM1550	NX-SFP+ Module(1550nm.80km.LC)
NX-SFP-XG-SX-MM850-E	NX-SFP+ Module(850nm.300m.LC)
NX-SFP-XG-LX-SM1310-E	NX-SEP+ Module(1310nm.10km.LC)







ORDERING INFORMATION

Product ID	Product Description
NX-SFP-XG-SX-MM850-D NX-SFP-XG-LX-SM1310-D NX-SFP-XG-SX-MM850-A Cable	NX-SFP+ Module(850nm,300m,LC) NX-SFP+ Module(1310nm,10km,LC) NX-SFP+ Module(850nm,300m,LC)
NXWM1STK NXWM2STK NXTM1STK CAB-CON-1.8m NX-SFP-STACK-Kit	NX-SFP+ Cable 0.65m NX-SFP+ Cable 1.2m NX-SFP+ Cable 3m NX-SFP+ Cable 5m Single Cable,Console Serial Port Cable,1.8m,D9F,28UL20276(4P)(P296U),MPH-8P8C NX-SFP Stacking Cable (150cm,including two 1000BASE-T NX-SFP module and one stacking cable)

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