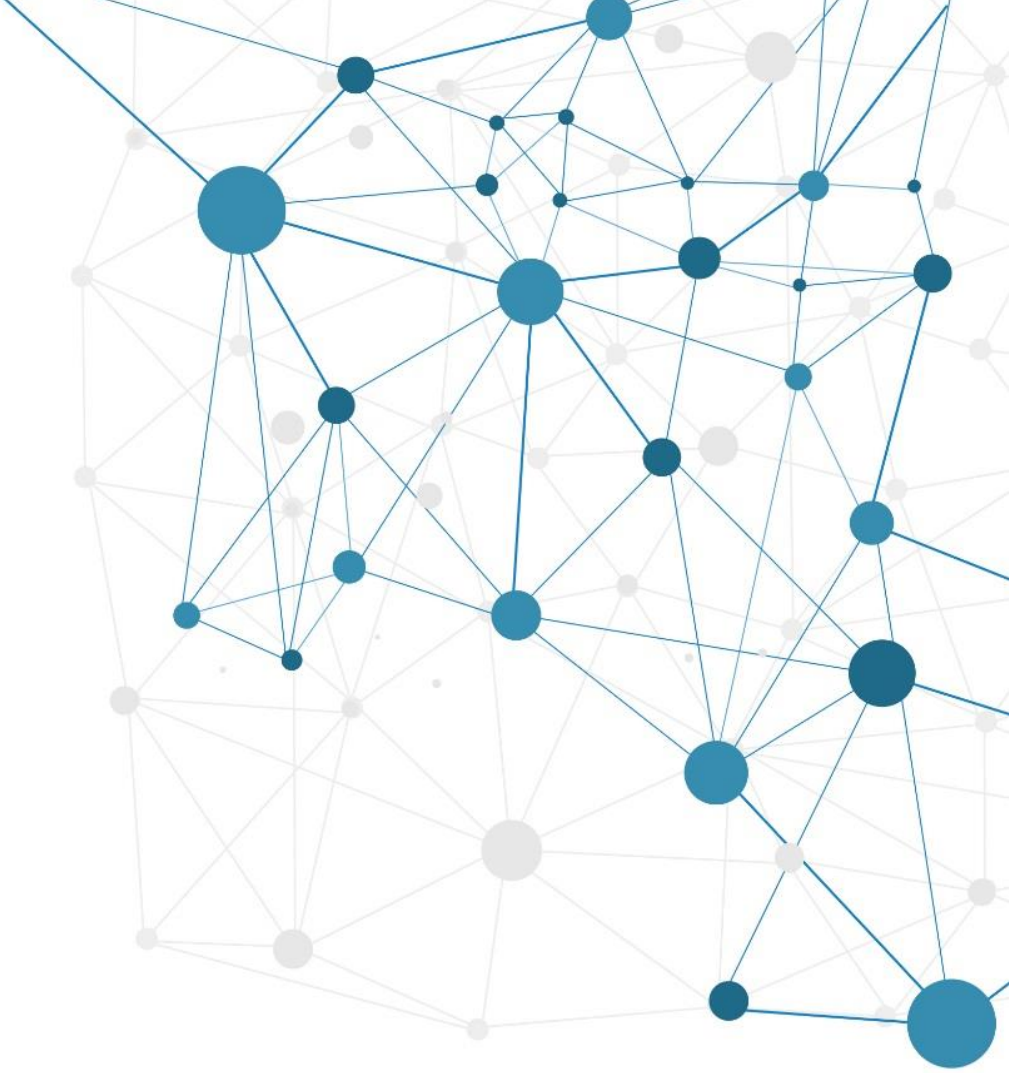




Cisco Catalyst 9300 Switch Datasheet



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Leading Network Hardware Supplier

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OVERVIEW

Cisco Catalyst 9300 Series is the next generation of the industry's most widely deployed stackable switching platform. Built for security, IoT, and the cloud, these network switches form the foundation for Cisco's Software-Defined Access, our leading enterprise architecture. (Figure 1).

APPEARANCE

Figure 1. Cisco Catalyst 9300 Series Switches



Key Features and Benefits

1. Highest wireless scale with Wave 2 access points supported on a single switch with select models
2. UADP 2.0 Application-Specific Integrated Circuit (ASIC) with programmable pipeline and microengine capabilities, along with template-based, configurable allocation of Layer 2 and Layer 3 forwarding, Access Control Lists (ACLs), and Quality of Service (QoS) entries

3. x86 CPU complex with 8-GB memory, and 16 GB of flash and external USB 3.0 SSD pluggable storage slot to host containers
4. USB 2.0 slot to load system images and set configurations
5. Up to 480 Gbps of local stackable switching bandwidth
6. Flexible and dense uplink offerings with 1G, Multigigabit, 10G, 25G, and 40G
7. Flexible downlink options with 1G and Multigigabit links
8. Leading PoE capabilities with up to 384 ports of PoE per stack, 60W Cisco UPOE, and PoE+
9. Intelligent Power Management with Cisco StackPower technology, providing power stacking among members for power redundancy
10. Line-rate, hardware-based Flexible NetFlow (FNF), delivering flow collection of up to 64,000 flows
11. IPv6 support in hardware, providing wire-rate forwarding for IPv6 networks
12. Dual-stack support for IPv4/IPv6 and dynamic hardware forwarding table allocations, for ease of IPv4-to-IPv6 migration
13. IEEE 802.1ba AV Bridging (AVB) built in to provide a better audio and video experience through improved time synchronization and QoS
14. Precision Time Protocol (PTP; IEEE 1588v2) provides accurate clock synchronization with sub-microsecond accuracy making it suitable for distribution and synchronization of time and frequency over network
15. Cisco IOS XE, a modern operating system for the enterprise with support for model-driven programmability including NETCONF, RESTCONF, YANG, on-box Python scripting, streaming telemetry, container-based application hosting, and patching for critical bug fixes. The OS also has built-in defenses to protect against runtime attacks
16. SD-Access: The Cisco Catalyst 9300 Series Switches form the foundational building block for SD-Access, Cisco's lead enterprise architecture:
 - (1) Policy-based automation from edge to cloud
 - (2) Simplified segmentation and micro-segmentation, with predictable performance and scalability

(3) Automation through the Cisco Application Policy Infrastructure Controller Enterprise Module (APIC-EM)

(4) Policy handled through the Cisco Identity Services Engine (ISE)

(5) Network assurance provided through the Network Data Platform

(6) Faster launch of new business services and significantly improved issue resolution time

17. Plug and Play (PnP) enabled: A simple, secure, unified, and integrated offering to ease new branch or campus device rollouts or updates to an existing network

18. Advanced security

(1) Encrypted Traffic Analytics (ETA): You benefit from the power of machine learning to identify and take actions toward threats or anomalies in your network, including malware detection in encrypted traffic (without decryption) and distributed anomaly detection

(2) Support for AES-256 with the powerful MACsec 256-bit encryption algorithm available on all models

(3) Trustworthy systems: Hardware anchored Secure Boot and Secure Unique Device Identification (SUDI) support for Plug and Play, to verify the identity of the hardware and software

IOS OF CISCO CATALYST 9300 SERIES SWITCHES

Cisco Catalyst 9300 Series Switches has 16 common models. Each of them supports Network Essentials or Network Advantage IOS.

Table 1. Supported IOS

Product Number	IOS
24 port Switch	
C9300-24T-E	Network Essentials
C9300-24T-A	Network Advantage
C9300-24P-E	Network Essentials
C9300-24P-A	Network Advantage

Product Number	IOS
C9300-24U-E	Network Essentials
C9300-24U-A	Network Advantage
C9300-24UX-E	Network Essentials
C9300-24UX-A	Network Advantage
48 port Switch	
C9300-48T-E	Network Essentials
C9300-48T-A	Network Advantage
C9300-48P-E	Network Essentials
C9300-48P-A	Network Advantage
C9300-48U-E	Network Essentials
C9300-48U-A	Network Advantage
C9300-48UXM-E	Network Essentials
C9300-48UXM-A	Network Advantage

Table 2. The difference between Essentials and Advantage

Features	Network Essentials	Network Advantage
Switch Fundamentals Layer 2, Routed Access (RIP, EIGRP, OSPF – 1000 routes), PBR, PIM Stub Multicast (1000 routes)), PVLAN, VRRP, PBR, CDP,	√	√

Features	Network Essentials	Network Advantage
QoS, FHS, 802.1X, MACsec-128, CoPP, SXP, IP SLA Responder, SSO		
Advanced switch capabilities and scale BGP, EIGRP, HSRP, IS-IS, BSR, MSDP, PIM-BIDIR, IP SLA, OSPF	×	✓
Network segmentation VRF, VXLAN, LISP, SGT, MPLS, mVPN	×	✓
Automation NETCONF, RESTCONF, gRPC, YANG, PnP Agent, ZTP/Open PnP, GusetShell (On-Box Python)	✓	✓
Telemetry and visibility Model-driven telemetry, sampled NetFlow, SPAN, RSPAN	✓	✓
High availability and resiliency NSF, GIR, ISSU/FSU	×	✓
IOT integration AVB, PTP, CoAP	×	✓
Security MACsec-256	×	✓

1. Uplink Modules

There are five types of uplink modules that catalyst 9300 supported.



Table 3. Five types of uplink modules.

Network Module	Description
C9300-NM-4G	Catalyst 9300 4 x 1GE Network Module
C9300-NM-8X	Catalyst 9300 8 x 10GE Network Module
C9300-NM-2Q	Catalyst 9300 2 x 40GE Network Module
C9300-NM-4M	Catalyst 9300 4 x mGig Network Module
C9300-NM-2Y	9300 Series 2x 25G Network Module

Especially, some modules of catalyst 3850 also can be used in catalyst 9300. However, we need to know that we can't use C9300 uplink modules in catalyst 3850.

Table 4. Supported uplink modules of each models.

Product	C9300 Unlink Modules	Supported C3850 Unlink Modules
C9300-24T-E	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-24T-A	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-48T-E	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-48T-A	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-24P-E	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G ,

Product	C9300 Unlink Modules	Supported C3850 Unlink Modules
		C3850-NM-8-10G
C9300-24P-A	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-48P-E	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-48P-A	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-24U-E	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-24U-A	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G ,

Product	C9300 Unlink Modules	Supported C3850 Unlink Modules
		C3850-NM-8-10G
C9300-48U-E	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-48U-A	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-4-1G , C3850-NM-4-10G , C3850-NM-2-40G , C3850-NM-8-10G
C9300-24UX-E	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-8-10G
C9300-24UX-A	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-8-10G
C9300-48UXM-E	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y, C9300-NM-4M	C3850-NM-8-10G
C9300-48UXM-A	C9300-NM-4G, C9300-NM-8X, C9300-NM-2Q, C9300-NM-2Y,	C3850-NM-8-10G

Product	C9300 Unlink Modules	Supported C3850 Unlink Modules
	C9300-NM-4M	

2. License

Table 5. Optional license.

DNA license	
C9300-DNA-E-24-3Y	Used in -E 24 port Switch, DNA
C9300-DNA-E-24-5Y	Used in -E 24 port Switch, DNA
C9300-DNA-E-24-7Y	Used in -E 24 port Switch, DNA
C9300-DNA-E-48-3Y	Used in -E 48 port Switch, DNA
C9300-DNA-E-48-5Y	Used in -E 48 port Switch, DNA
C9300-DNA-E-48-7Y	Used in -E 48 port Switch, DNA
C9300-DNA-A-24-3Y	Used in -A 24 port Switch, DNA
C9300-DNA-A-24-5Y	Used in -A 24 port Switch, DNA
C9300-DNA-A-24-7Y	Used in -A 24 port Switch, DNA
C9300-DNA-A-48-3Y	Used in -A 48 port Switch, DNA
C9300-DNA-A-48-5Y	Used in -A 48 port Switch, DNA
C9300-DNA-A-48-7Y	Used in -A 48 port Switch, DNA
C1 license	
C1A1TCAT93002-3Y	Used in -A 48 port Switch, DNA + C 1AA1

C1A1TCAT93002-5Y	Used in -A 48 port Switch, DNA + C 1AA1
C1A1TCAT93002-7Y	Used in -A 48 port Switch, DNA + C 1AA1
C1A1TCAT93001-3Y	C1AA1 License
C1A1TCAT93001-5Y	C1AA1 License
C1A1TCAT93001-7Y	C1AA1 License

Note :

1. The switches support Essentials IOS only can choose DNA Licenses.

The switches support Advantage IOS can choose DNA or C1 Licenses.

2. Customer made devices must be equipped with a kind of license. At present, all three-year licenses are in stock on the market. The 5 years and 7 years licenses must be ordered.

3. The switches support Advantage IOS can choose Advantage's licenses or Essentials' licenses when their license become due.

3. Cable

There are stack cables and console cables needed to choose. You can choose the length you needed. You should know that stack cables are not shipped the chassis. They need to be purchased separately.

Table 6. Stack cables and console cables.

Stack Cables	Description	Note
STACK-T1-50CM=	50CM Type 3 Stacking Cable	Purchased Separately
STACK-T1-1M=	1M Type 3 Stacking Cable	Purchased Separately
STACK-T1-3M=	3M Type 3 Stacking Cable	Purchased Separately
CAB-SPWR-30CM=	Cisco Catalyst 3850 StackPower cable 30cm spare	Purchased Separately

CAB-SPWR-150CM	Cisco Catalyst 3850 StackPower cable 150cm spare	Purchased Separately
Console Cables	Description	Note
CAB-CONSOLE-USB	Console Cable 6 ft with USB Type A and mini-B	Optional
CAB-CONSOLE-RJ45	Console Cable 6ft with RJ45 and DB9F	Optional

Note: The machine's power cord is included. It doesn't need to order separately.

SOURCES

https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-9300-series-switches/data_sheet-c78-738977.html#Product-Overview-Features