

# Cisco Nexus 9800 Series Switches

## READ ME FIRST

May 22, 2024

---

# Contents

Introduction	2
Scope	2
Positioning	2
Supported Features	2
NDFC Support	4
Software Releases	4
Platform Hardware	5
Additional Resources	6
Licensing	6
Documentation Feedback	6

## Introduction

The Cisco Nexus 9800 Series modular switches support very high port density 400G and 100G line cards. These line cards are based on Cisco Silicon One Q200 ASICs.

## Scope

This document summarizes the current state of the Cisco Nexus 9800 Series product family, including the current software features and hardware products.

## Positioning

The Cisco Nexus 9800 Series modular switch is optimally designed for use as a Layer 3 Spine in data center networking deployments, providing unparalleled scalability, performance, and reliability.

## Supported Features

As of Nexus 9000 Series NX-OS Release 10.4(3)F, Cisco Nexus 9800 modular switches support the following software features:

### Network Interfaces and Speeds

- 400G, 100G, 40G, 4x100 Breakouts, 10G via CVR-QSFP-SFP10G (1G QSA is not supported)
- Breakout (4x25 and 4x10G) options on N9K-X9836DM-A line card
- Breakout (2x200G) for N9K-X9836DM-A and N9K-X98900CD-A (4x25 is not supported)
- Breakout (4x25 and 4x10G) for N9K-X98900CD-A only (4x25 is not supported on some FEC types)
- L3, Loopback, and Sub Interfaces
- Single-hop BFD on routed port, routed-sub interface, breakout port & port-channel

### Operating System, Network Protocols and Serviceability

- 
- Cisco Application Hosting Framework (CAF)
  - CDP
  - DHCP relay, POAP and PTP
  - LDAP, UDLD, DHCP, LLDP (Multi Neighbor and Port-channel)
  - LACP Layer 3 port-channel using default timer
  - LACP Fast timer
  - Layer 3 port-channel interface for SPAN and ERSPAN
  - Consistency Checker – Interfaces, Multicast, Unicast, ACL
  - Ethalyzer
  - Generic Online Diagnostics (GOLD) – health monitoring and non-disruptive diagnostics of FabricConnectivityTest and FabricReachabilityTest.
  - NGOAM ping, traceroute, and pathtrace
  - PTP scale enhancement (144 per line card, 1024 per system)

### Routing & Multicast

- Hashing based on source/destination IP and L4 port number
- 128-way ECMP
- IPv4 and IPv6 dynamic routing
- Multicast L3 for IPv4 & IPv6
- OSPFv2, OSPFv3, EIGRP, Basic BGP, and Advanced BGP
- Route leak between VRFs
- PIM
- IP Fabric for Media
- IGMP host proxy
- MSDP
- PTP Media Profile and One-Step Mode
- VXLANVxLAN Anycast BGW, VXLAN NGOAM
- VXLAN Multi-Site Anycast Border Gateway (BGW)
- TRMv4 Multi-Site Anycast Underlay in Fabric and IR over DCI
- Tenant Routed Multicast (v4)
- SR MPLS (Layer 3 VPN, Layer 3 EVPN)
- NGOAM ping, traceroute, and pathtrace
- Layer 3 Port Channel BFD
- Single hop BFD

### Security and Access Control

- AAA, RADIUS, TACACS+
- ACL – Sup, CoPP
- ACL/QoS scale
- MACsec
- RACL (Ingress-IPv4/IPv6 and Egress-IPv4/IPv6) with statistics
- PBR

### QoS and Monitoring

- CoPP
- QoS classification (ACL), QoS – Queuing and scheduling, Queuing Statistics
- sFlow & sFlow Consistency Checker
- iCAM
- SNMP (MIBs – 400G Optic MIB, Switch MIB, Datapath MIBs, Interface MIB)
- SPAN, ERSPAN

## High Availability and Scalability

- Dual-Supervisors support
- GIR
- Multi VRF

**NOTE:** No Layer 2 support is planned for Q200-based line cards. Contact your Cisco representative to confirm support for your required features.

## NDFC Support

The [Cisco Nexus Dashboard Fabric Controller](#) (NDFC) can provide management and automation for Cisco Nexus 9800 Series Switches.

## Software Releases

**Table 1.** Software Releases

NX-OS Release	What's New
<a href="#">10.4(3)F</a>	Support is added for: <ul style="list-style-type: none"><li>• VXLAN Multi-Site Anycast Border Gateway (BGW)</li><li>• TRMv4 Multi-Site Anycast Underlay in Fabric and IR over DCI</li><li>• Layer 3 Port Channel BFD</li><li>• Single hop BFD</li><li>• SR-MPLS</li><li>• NGOAM ping, traceroute, and pathtrace</li><li>• PTP scale enhancement (144 per line card, 1024 per system)</li><li>• 2x200GE breakout for N9K-X9836DM-A and N9K-X98900CD-A</li><li>• 4x10, 4x25 breakout for N9K-X98900CD-A only</li></ul>
<a href="#">10.4(2)F</a>	Support is added for: <ul style="list-style-type: none"><li>• Dual-Supervisors support on N9K-C9804</li><li>• IPv6 Multicast</li><li>• SPAN/ERSPAN on port-channel interface</li></ul> This is the minimum recommended release for N9K-C9804
<a href="#">10.4(1)F</a>	Support is added for: <ul style="list-style-type: none"><li>• ACL/QoS scale (see the Verified Scalability Guide)</li><li>• Breakout (4x25 and 4x10G) options on N9K-X9836DM-A line card</li><li>• Dual-Supervisors support on N9K-C9808</li><li>• LACP Layer 3 port-channel using default timer</li><li>• LACP Fast timer</li><li>• 128-way ECMP</li></ul>
<a href="#">10.3(4a)M</a>	Support is added for Nexus Dashboard Insights This is the recommended release for the 10.3 train
<a href="#">10.3(3)F</a>	Support is added for: <ul style="list-style-type: none"><li>• Cisco Application Hosting Framework (CAF)</li><li>• iCAM</li><li>• sFlow Consistency Checker</li></ul>

NX-OS Release	What's New
<a href="#">10.3(2)F</a>	This is the minimum recommended release for N9K-C9800

## Platform Hardware

The Nexus 9800 Series includes two modular switch chassis:

- The N9K-C9808, a 16-RU modular chassis with 8 line card slots
- The N9K-C9804, a 10-RU modular chassis with 4 line card slots

The table below lists the currently available Nexus 9800 Series switches, line cards, and accessories. For expanded details about these hardware products, see:

- [Cisco Nexus 9800 Series Switches White Paper](#)
- [Cisco Nexus 9800 Series Switches Data Sheet](#)

**Table 2.** Platform Hardware

Product ID	Description
<b>Switches</b>	
N9K-C9804	10-RU modular switch with slots for up to 4 line cards in addition to two supervisors, 8 fabric modules, 4 fan trays, and 2 power trays
N9K-C9808	16-RU modular switch with slots for up to 8 line cards in addition to two supervisors, 8 fabric modules, 4 fan trays, and 3 power trays
<b>Line Cards and Fabric Modules</b>	
N9K-X9836DM-A	Cisco Nexus 9800 36-port 400G line card with line rate MACsec on all ports
N9K-X98900CD-A	Cisco Nexus 9800 14-port 400G and 34-port 100G line card with line rate MACsec on 16 100G ports
N9K-C9808-FM-A	Cisco Nexus 9800 8-slot chassis fabric module
N9K-C9804-FM-A	Cisco Nexus 9800 4-slot chassis fabric module
<b>Supervisors</b>	
N9K-C9800-SUP-A	Cisco Nexus 9800 Supervisor card
<b>Accessories</b>	
N9K-C9808-FAN-A	Cisco Nexus 9800 8-slot chassis fan tray
N9K-C9804-FAN-A	Cisco Nexus 9800 4-slot chassis fan tray
NXK-HV6.3KW20A-A	Cisco Nexus 9800 6300W 20A AC and HV power supply
NXK-HV6.3KW30A-A	Cisco Nexus 9800 6300W 30A AC and HV power supply

---

## Additional Resources

- [Cisco Nexus 9800 Series Switches](#)
- [Cisco Nexus 9800 Series Switches Data Sheet](#)
- [Cisco Nexus 9800 Series Switches White Paper](#)
- [Cisco Nexus 9800 Series Switches Blog](#)
- [Cisco Nexus 9804 Switch User Documentation](#)
- [Cisco Nexus 9808 Switch User Documentation](#)
- [Cisco Nexus 9000 Series NX-OS Verified Scalability Guides](#)
- [Cisco Optics-to-Device Compatibility Matrix](#)

## Licensing

Cisco Nexus 9800 Series Switches support Cisco Data Center Networking (DCN) Premier, Advantage, or Essentials licenses for appropriate features. Certain features such as MACsec require add-on licenses such as a DCN security license.

## Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, send your comments to [nexus9k-docfeedback@cisco.com](mailto:nexus9k-docfeedback@cisco.com). We appreciate your feedback.

**Americas Headquarters**  
Cisco Systems, Inc.  
San Jose, CA

**Asia Pacific Headquarters**  
Cisco Systems (USA) Pte. Ltd.  
Singapore

**Europe Headquarters**  
Cisco Systems International BV Amsterdam,  
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at <https://www.cisco.com/go/offices>.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: <https://www.cisco.com/go/trademarks>. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)