



The bridge to possible

Cisco Data Center Is Anywhere Your Data Is





Cisco MDS 9700 SAN Directors

Brief overview

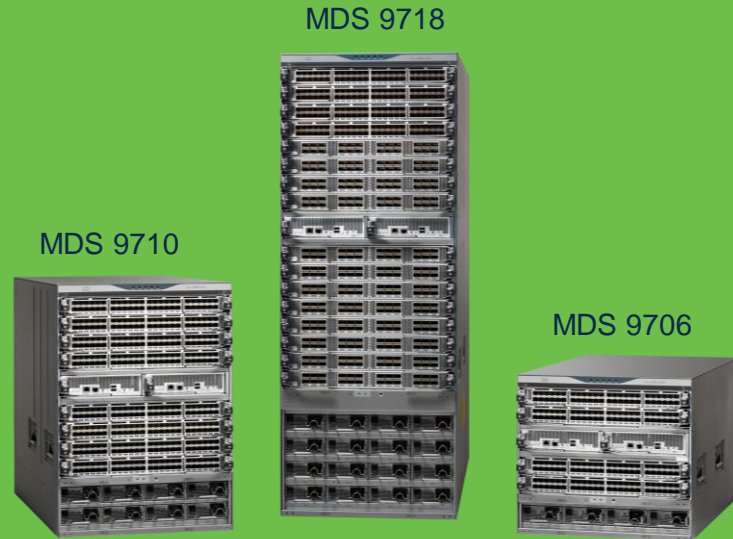
Bhavin Yadav

Technical marketing engineer

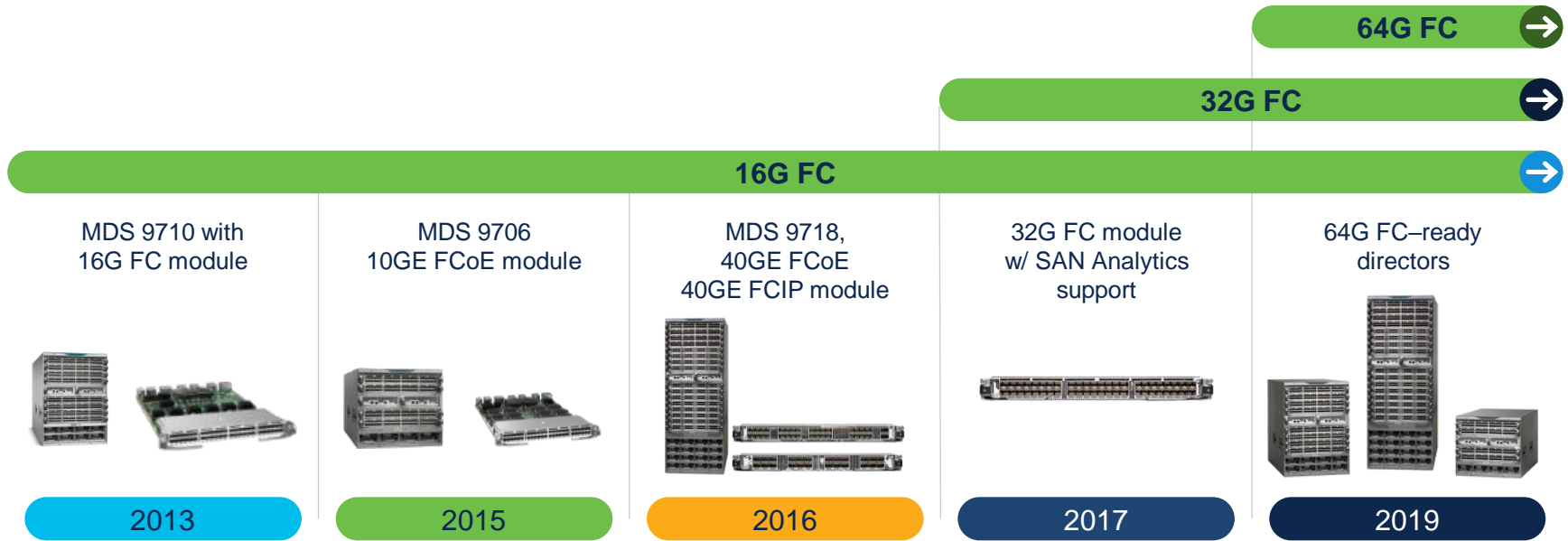
March 25, 2020

Cisco MDS SAN Directors

Cisco MDS 9700 Series Multilayer Directors



Cisco storage networking: Pioneers of investment protection

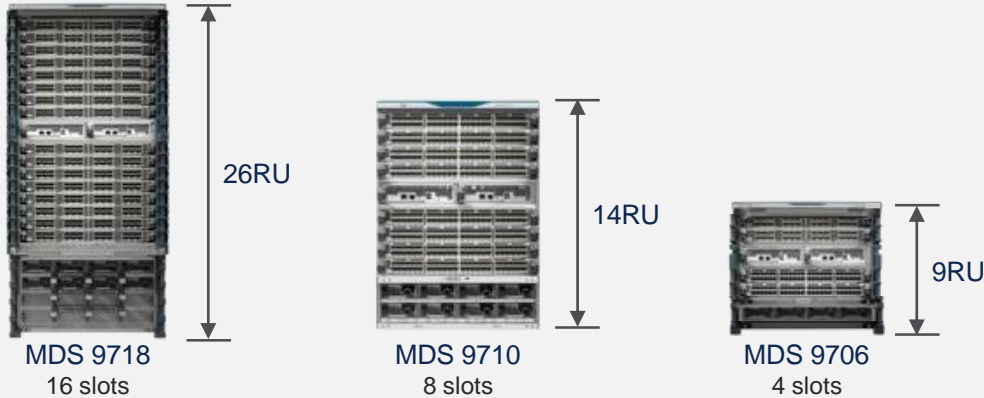


Industry's first 64G FC-ready directors with built-in analytics support

Cisco MDS 9000 Series switch family – overview

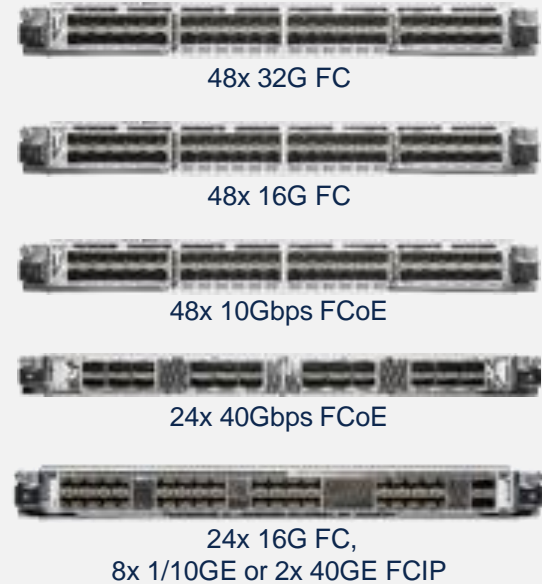
Line-rate, nonblocking, non-oversubscribed, since 2013

SAN Directors



- Built-in SAN Analytics support*
- Next-generation (64G FC) ready chassis
- Security using anti-counterfeit technology
- Transparent NVMe/FC integration
- Automation using Ansible, Splunk, OpenStack, etc.
- Built-in redundancy and flexibility combined with high availability

Modules



* 32G module only

Cisco MDS 9706 Multilayer Director

Powerful small-form-factor director



Launched:
March 2015



Small form factor



192x 32G FC line-rate ports
4-slot capacity

Higher throughput



3 Tbps per slot bandwidth*
12 Tbps switching capacity

Multi-protocol



FC, FCoE, FCIP

Multi-speed



2/4/8/10/16/32G FC
10/40GE FCoE
1/10/40GE FCIP

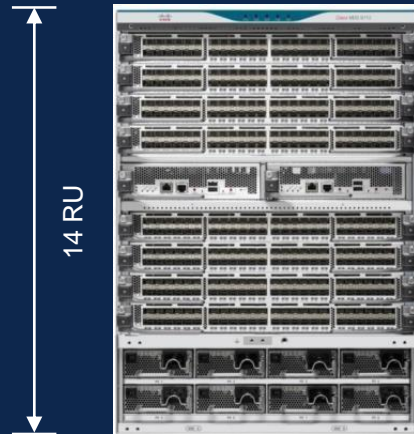
* Using Fabric-3 and Supervisor-4 modules

Cisco MDS 9710 Multilayer Director

Industry-leading reliability



Launched:
March 2013



- Up to 8 line cards
- Up to 6 fabric modules
- Dual supervisors

Performance



3 Tbps per slot bandwidth*
24 Tbps switching capacity

Capacity



384x 32G FC line-rate ports

Reliability



Redundant hardware components

Flexibility



Multi-protocol support

Multi-speed



2/4/8/10/16/32G FC, 10/40GE FCoE
1/10/40GE FCIP

* Using Fabric-3 and Supervisor-4 modules

Cisco MDS 9718 Multilayer Director

Industry's highest-density director



Launched:
February 2016



Highest port density



768x 32G FC line-rate ports
16-slot capacity

Highest scalability



48 to 768 ports
Enhanced scalability

Highest throughput



3 Tbps per slot bandwidth*
48 Tbps per chassis

* Future support

New modules for MDS 9706 and MDS 9710

Cisco MDS 9700 Series Supervisor-4 Module chassis

- Common supervisor for Cisco MDS 9700 Series chassis
- Single 8-core Intel® Broadwell processor
 - Twice the performance of the Supervisor-1 module

Fabric-3 module for MDS 9706 and MDS 9710

The next-generation fabric module for the MDS 9706 and MDS 9710 chassis



Benefits

- Double bandwidth compared to Fabric-1 module
- Only 3x Fabric-3 modules are required for 32G line cards
- 6x Fabric-3 modules will support future 64G line cards

Nondisruptive upgrade support

Supported combinations in Cisco MDS 9700 chassis

(Supervisor modules and fabric modules in MDS 9700 chassis)

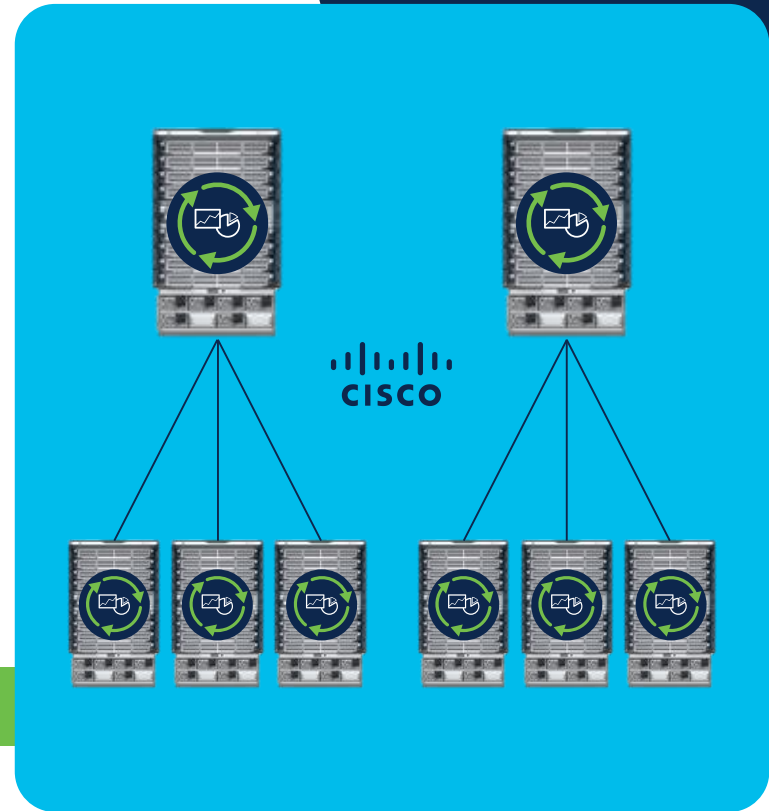
Combination	Supervisor-1 module	Supervisor-4 module	Fabric-1 module	Fabric-3 module
Supervisor-1 module	✓	✗	✓	✗
Supervisor-4 module	✗	✓	✗	✓
Fabric-1 module	✓	✗	✓	✗
Fabric-3 module	✗	✓	✗	✓

Software innovations

Cisco SAN Analytics: Simple and secure

- Simplified solution (No professional services are needed.)
- Secure solution (Data never leaves the switch.)
- Install in seconds, operationalize in minutes
- Easy third-party integration
- No cabling, devices, or ports needed
- Low-cost, affordable solution
- Free 120-day switch evaluation

Cisco® 32Gbps MDS SAN product family



Switch-native line-rate SAN Analytics



Pervasive | No appliance | No probes | Always on



High-performance
onboard analytics engine



Simplified and
secure solution

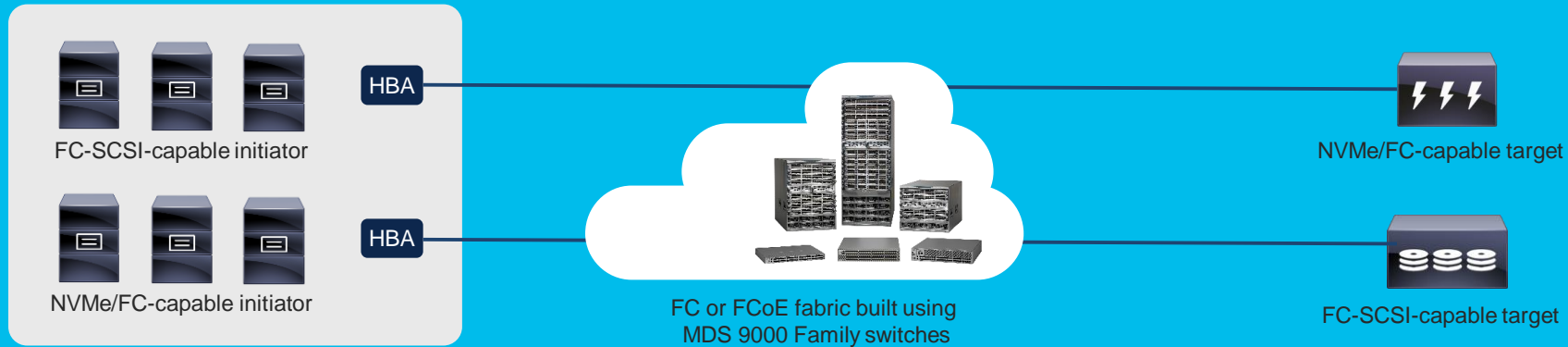


Proactive
identification of issues



Scale with MDS 9700
Director or fabric switch

Transparent NVMe/FC integration



No

Additional license
additional configuration

Supported
across
16G and 32G
platforms

Transparent integration
End-to-end visibility (analytics)
Supported across MDS portfolio

Yes

Anti-counterfeit technology and Cisco Secure Boot

Cisco Secure Boot



- Anti-counterfeit technology using built-in security chip
- Software authentication using SUDI (Secure Device Identifier)
- Run genuine Cisco hardware using genuine Cisco software—transparent integration

→ Image Signing → Integrity Checks

Software features



SAN Analytics



Built-in, on-switch packet visibility with streaming



Investment protection



Next-generation (64G FC) ready chassis



Security



Cisco Secure Boot and anti-counterfeit technology



Automation



OpenStack, Restful API, Ansible, AutoZone

Additional resources

Additional resources

- [Cisco MDS 9700 Series Multilayer Directors data sheet](#)
- [Cisco NX-OS data sheet](#)
- [Interoperability guide](#)
- [Supported optics guide](#)
- [Cisco NX-OS configuration guides](#)
- [Cisco NX-OS programmability guide](#)
- [Release notes](#)
- [White papers](#)

Additional resources

Cisco MDS 9000 Series Multilayer Switches/Cisco Data Center Network Manager (DCNM) videos:

- <https://www.youtube.com/user/ciscomds9000/videos> or
- <https://www.youtube.com/user/Cisco/videos>

Pre-sales videos:

- [Cisco MDS 9700 with 32G FC and Integrated Analytics](#)
- [Cisco MDS and UCS - better together](#)

