

Cisco Nexus Training

Cisco Nexus 9000, 7000, 5000, 2000

Line Cards in Cisco Nexus 7000

- There are **two** types of Line Cards or aka I/O modules for data plane forwarding – **M** series and **F** series.
- **M** Series Cards were originally introduced for Layer 2+ Layer 3 functions while F Series were initially **L2** only.
- M Series Cards are feature-rich, L2/L3/L4 capable, have big buffers and large forwarding tables.
- **F** Series cards provide high performance, high throughput , low latency as compared to M series Cards.
- Latest Cards have reduced the gap of features between M and F series Line cards. e.g. F3 card is equally capable of providing all features of **M1,M2,F1,F2E**.

M Series Cards in Cisco Nexus 7000

M Series have further 3 types – M1,M2,M3

- M1 comes with below models with Port Density of **1G & 10G**

N7K-M148GS-11 , N7K-M148GS-11L , N7K-M148GT-11

N7K-M148GT-11L, N7K-M108X2-12L ,N7K-M132XP-12

N7K-M132XP-12L

- M1 Cards have been marked as **End of Life** by Cisco

M1 Series Cards Comparison Chart

	N7K-M148GS-11	N7K-M148GS-11L	N7K-M148GT-11	N7K-M148GT-11L	N7K-M108X2-12L	N7K-M132XP-12	N7K-M132XP-12L
Ports	48x1G	48x1G	48x10/100/1000	48x10/100/1000	8x10G	32x 10G (4:1), 8x 40G (1:1)	32x 10G (4:1), 8x 40G (1:1)
FabricBandwidth in Gbps	46Gbps	46Gbps	46Gbps	46Gbps	80Gbps	80Gbps	80Gbps
SUP1 Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SUP2/2E Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7004 Chassis Support	No	Yes	Yes	Yes	Yes	No	Yes
7009/10/18 Chassis Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FAB1/2 Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VPC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OTV	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LISP	No	No	No	No	No	Yes , 6.2(2)	Yes , 6.2(2)
FEX	No	No	No	No	No	Yes	Yes
MPLS	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VXLAN	No	No	No	No	No	No	No
FCOE	No	No	No	No	No	No	No
FABRICPATH	No	No	No	No	No	No	No

M2 Series Cards Comparison Chart

	N7K-M224XP-23L	N7K-M206FQ-23L	N7K-M202CF-22L
Ports	24x10 GE	6x40GE	2x40/100 GE
FabricBandwidth in Gbps	240	240	200
SUP1 Support	Yes	Yes	Yes
SUP2/2E Support	Yes	Yes	Yes
7004 Chassis Support	Yes	Yes	Yes
7009/10/18 Chassis Support	Yes	Yes	Yes
FAB1/FAB2 Support	Yes	Yes	Yes
VPC	Yes	Yes	Yes
OTV	Yes	Yes	Yes
LISP	No	No	No
FEX	Yes	Hardware Ready	Hardware Ready
MPLS	Yes	Yes	Yes
VXLAN	No	No	No
FCOE	No	No	No
FABRICPATH	No	No	No

M3 Series Cards Comparison Chart

	N7K-M348XP-25I	N7K-M324FQ-25L	N77-M348XP-23L	N77-M324FQ-25L	N77-M312CQ-26L
Ports	48 x 1/10 GE	24 x 40 GE	48 x 1/10GE	24 x 40GE	12 x 100G
Fabric Bandwidth in Gbps	480	550	480	960	1200
SUP1 Support	No	No	No	No	No
SUP2/2E Support	Yes	Yes	Yes	Yes	Yes
7004 Chassis Support	Yes	Yes	Not Applicable	Not Applicable	Not Applicable
7009/10/18 Chassis Support	Yes	Yes	Not Applicable	Not Applicable	Not Applicable
FAB1/2 Support	Only FAB2	Only FAB2	Only FAB2	Only FAB2	Only FAB2
VPC	Yes	Yes	Yes	Yes	Yes
OTV	Yes	Yes	Yes	Yes	Yes
LISP	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready
FEX	Yes	Yes	Yes	Yes	Hardware Ready
MPLS	Yes	Yes	Yes	Yes	Yes
VXLAN	Yes	Yes	Yes	Yes	Yes
FCOE	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready
FABRICPATH	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready

XL and non-XL Cards



Line cards with XL option enables the module to work at full capability i.e. large Mac address table, IPv4 routes, IPv6 routes, Netflow entries, ACL entries



SCALABLE_SERVICES_PKG license is required per chassis to enable XL card to work at it's full potential else It will keep on working like non-XL card.



XL card will have the keyword “L” at the end of line card name.

F1 Series Card

Cisco introduced these cards for customers who did not want rich-feature but only high performance, low latency.

F1 was pure Layer 2 Card. For Layer3 capability, VDC must have M Series cards.

Later on, Layer 3 routing was available in F2,F2E,F3,F4 so there was no dependency on M card for proxy routing.

N7K-F132XP-15	
Ports	32x1/10G
Fabric Bandwidth in Gbps	230Gbps
SUP1 Support	Yes
SUP2/2E Support	Yes
7004 Chassis Support	No
7009/10/18 Chassis Support	Yes
FAB1/2 Support	Yes
VPC	Yes
OTV	No
LISP	No
FEX	No
MPLS	No
VXLAN	No
FCOE	Yes
FABRICPATH	Yes , 5.2(1)

F2/F2E Series Cards Comparison Chart

	N7K-F248XP-25	N7K-F248XP-25E	N7K-F248XT-25E	N77-F248XP-23E
Ports	48x(1/10G)	48x(1/10G)	48x1/10GBase-T	48x(1/10G)
Fabric Bandwidth in Gbps	480	480	480	480
SUP1 Support	Yes	Yes	Yes	Not Applicable
SUP2/2E Support	Yes	Yes	Yes	Yes
7004 Chassis Support	Yes	Yes	Yes	Not Applicable
7009/10/18 Chassis Support	Yes	Yes	Yes	Not Applicable
FAB1/2 Support	Yes	Yes	Yes	Only FAB2
VPC	Yes	Yes	Yes	Yes
OTV	Yes	Yes	Yes	Yes
LISP	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready
FEX	Yes	Yes	No	Yes
MPLS	No	No	No	No
VXLAN	No	No	No	No
FCOE	Yes with Sup2/2E Only	Yes with Sup2/2E Only	No	Yes
FABRICPATH	Yes 6.0(1)	Yes 6.1(2)	Yes 6.1(2)	Yes 6.2(2)

F3 Series Cards Comparison Chart

	N7K-F348XP-25	N7K-F312FQ-25	N7K-F306CK-25	N77-F348XP-23	N77-F324FQ-25	N77-F312CK-26
Ports	48 x 1/10 GE	12 x 40 GE	6 x 100 GE	48 x 1/10 GE	24 x 40 GE	12 x 100 GE
Fabric Bandwidth in Gbps	480	480	600	480	960	1200
SUP1 Support	No	No	No	Not Applicable	Not Applicable	Not Applicable
SUP2/2E Support	Yes	Yes	Yes	Yes	Yes	Yes
7004 Chassis Support	Yes	Yes	Yes	Not Applicable	Not Applicable	Not Applicable
7009/10/18 Chassis Support	Yes	Yes	Yes	Not Applicable	Not Applicable	Not Applicable
FAB1/2 Support	Yes	Yes	Only FAB2	Only FAB2	Only FAB2	Only FAB2
VPC	Yes	Yes	Yes	Yes	Yes	Yes
OTV	Yes	Yes	Yes	Yes	Yes	Yes
LISP	Yes, 7.2(0)D1(1)	Yes, 7.2(0)D1(1)	Yes, 7.2(0)D1(1)	Yes, 7.2(0)D1(1)	Yes, 7.2(0)D1(1)	Yes, 7.2(0)D1(1)
FEX	Yes	Yes	No	Yes	Yes	No
MPLS	Yes	Yes	Yes	Yes	Yes	Yes
VXLAN	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready	Hardware Ready	Yes
FCOE	Yes	Yes	Yes	Yes	Yes	Yes
FABRICPATH	Yes	Yes	Yes	Yes	Yes	Yes

Selecting the Right Device

- You need to make sure that you pick the right device as per your requirements. You need to know about the below component to
- 1. Chassis Hardware
- 2. Line Card
- 3. Supervisor Module
- 4. Fabric Module
- 5. NX-OS
- 6. Feature & License