
PRODUCT COMPARISON

Cisco Catalyst 9600 Comparison

Prepared as a convenient PDF reference for network planning, platform evaluation, and procurement discussions.

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Catalyst 9600

Product Comparison

Modular Core Platforms

C9600 Sup 2 and C9600 Sup 1 – physical

	 Catalyst® 9600X (Silicon One™ Q200)	 Catalyst 9600 (UADP 3)
	SUP-2	SUP-1
CPU (BDW-NS, BDW)	2.7 GHz 8C Intel® (BDW-NS)	2.4 GHz 8C Intel (BDW)
DRAM (type)	32 GB (DDR4)	16 GB (DDR4)
ASIC (number)	Q200 (1x)	UADP3 (3x)
Capacity (chassis)	12.8 Tbps (full duplex)	4.8 Tbps (full duplex)
Capacity (per slot)	3.2 Tbps (full duplex)	1.2 Tbps (full duplex)
10G max	256 (40x4 + 24x4^*)	192 (48x4)
25G max	256 (40x4 + 24x4^*)	192 (48x4)
50G max	256 (40x4 + 24x4^*)	—
40G max	96 (SUP-2 can support 128)	96 (24x4)
100G max	96 (SUP-2 can support 128)	48 (12x4)
400G max	8 (4x2)	—

* Roadmap (not committed). ^ Breakout cable ports.

C9600 Sup 2 and C9600 Sup 1– features and scales

	 Catalyst® 9600X (Silicon One™ Q200)		 Catalyst 9600 (UADP 3)	
	Default	Maximum (Custom)	Default	Maximum (custom)
MAC addresses	128,000	256,000	80,000	128,000
IP host routes	128,000	256,000	80,000	128,000
Multicast L2 groups	16,000	64,000*	16,000	48,000
Multicast L3 routes	32,000	64,000*	32,000	48,000
IP LPM routes	2 million	2 million	212,000	256,000
MPLS labels	256,000	512,000	32,000	64,000
SGT/OG labels	32,000	64,000	32,000	64,000
NAT* sessions	16,000*	128,000*	3000	16,000
Security ACL entries	8000	10,000*	12,000	27,000
QoS ACL entries	8000	10,000*	8000	21,000
PBR* ACL entries	8000*	10,000*	3000	16,000

* Roadmap for Catalyst 9600X

C9600 Sup1 and C6K Sup2T/6T Scale

Features	C9600– Sup1	C6K-Sup720 3C	C6K-Sup2T	C6K-Sup6T
Switching capacity	9.6T	720G	2T	6T
Forwarding rate (IPv4/IPv6)	3 Bpps 3 Bpps	450Mpps 225Mpps	720Mpps 390Mpps	780Mpps 390Mpps
MAC addresses	82,000*	96,000	128,000	128,000
LPM/host routes (IPv4/IPv6)	212,000* 212,000*	256,000 128,000	256,000 128,000	256,000 128,000
Multicast routes	32,000*	32,000	128,000	128,000
Security ACLs	27,000*	Dedicated 32,000	Shared with QoS 64,000	Shared with QoS 64,000
QOS ACLs	16,000*	Dedicated 32,000	Shared with Security 64,000	Shared with Security 64,000
Flexible NetFlow (per ASIC)	96,000*	128,000	512,000	512,000
VLAN ID	4,000	4,000	4,000	4,000
Spanning Tree instances	1,000	4,000	4,000	4,000

* Depends on SDM template

C9600 Sup2 and C6K Sup2T/6T XL Scale

Model	C9600– Sup2	C6K-Sup720 3C	C6K-Sup2T-XL	C6K-Sup6T-XL
Switching capacity	12.8T	720G	2T	6T
Forwarding rate (IPv4/IPv6)	8 Bpps 8 Bpps	450Mpps 225Mpps	720Mpps 390Mpps	780Mpps 390Mpps
MAC addresses	256,000*	96,000	128,000	128,000
LPM/host routes (IPv4/IPv6)	2,000,000* 1,000,000*	1,000,000 500,000	1,000,000 500,000	1,000,000 500,000
Multicast routes	64,000*	32,000	128,000	128,000
Security ACLs	Shared with QoS & PBR 10,000*	Dedicated 32,000	Shared with QoS 256,000	Shared with QoS 256,000
QOS ACLs	Shared with Security & PBR 10,000*	Dedicated 32,000	Shared with Security 256,000	Shared with Security 256,000
Flexible NetFlow (per ASIC)	2,000,000 (Sampled)	256,000	1,000,000	1,000,000
VLAN ID	4,000	4,000	4,000	4,000
Spanning Tree instances	4,000	4,000	4,000	4,000

* With SDM customization

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Campus Core (Fixed and Modular) Comparison

Features & Scale	C9600 (Sup2)	C9600 (Sup1)	C6840-X	C6880-X	C6807 (Sup6T)
Chassis Size	8 RU	8 RU	2 RU	5 RU	10RU
Chassis Bandwidth	Up to 25.6 Tbps	Up to 25.6 Tbps	320, 640, 960 Gbps	320-1600 Gbps	Up to 4.4 Tbps
Memory	16 GB DDR4	16 GB DDR4	4 GB DDR3	4 GB DDR3	4GB DDR3
Flash	16 GB	16 GB	8 GB	8 GB	8 GB
SSD storage	Yes(Upto 1TB SSD SATA)	Yes(Upto 1TB SSD SATA)	No	No	No
Built-in RFID	Yes	Yes	Yes	Yes	Yes
Throughput (IPv4 / IPv6)	Up to 8 Bpps	Up to 3 Bpps	60/30, 120/60, 180/90 Mpps	60/30 – 300/150 Mpps	60 – 420 Mpps
Max 400G Density	8p	Not Supported	Not Supported	Not Supported	Not Supported
Max 200G Density	8p	Not Supported	Not Supported	Not Supported	Not Supported
Max 100G Density	96p ; 128p (Chassis)	48p ; 128p (Chassis)	Not Supported	Not Supported	Not Supported
Max 50G Density	192p ;192p (Chassis)		Not Supported	Not Supported	Not Supported
Max 40G Density	96p ; 128p (Chassis)	96p ; 128p (Chassis)	2p	Not Supported	44p
Max 25G Density	192p ; 192p (Chassis)	192p ; 192p (Chassis)	Not Supported	Not Supported	Not Supported
Max 10G Density	192p ; 192p (Chassis)	192p ; 192p (Chassis)	16p, 24p, 32p, 40p or 48p (QSFP Breakout)	16p or 32p, 64p, 80p	176p
Non-Blocking 10G Density	192p ; 192p (Chassis)	192p ; 192p (Chassis)	8p, 12p, 16p, 20p or 24p (QSFP Breakout)	8p or 16p, 32p, 40p	88p
IPv4 Route Capacity	2M	212k	256K (LE only)	2M (XL) or 256K (LE)	1M (XL) or 256K(Non-XL)
IPv6 Route Capacity	1M	212k	128K (LE only)	1M (XL) or 128K (LE)	128K
Multicast Route Capacity	32K	32K	64K	64K	128K (XL)
MAC Address Capacity	128K	82K	128K	128K	128K
Flexible Netflow Entries	2M(Sampled)	294K (98K/ASIC)	512K (16p), 1M (24/32p) or 1.5M (40p)	1M (XL) or 128K (LE) / Slot 5M (XL) or 640K (LE) / Unit	Up to 1024K per DFC
Security & QoS ACL Entries	10K	43K	64K	256K (XL) / 64K (LE)	256K (XL)
SPAN Sessions & Type	8 Bi-directional SPAN, RSPAN,ERSPAN	8 Bi-directional SPAN, RSPAN,ERSPAN	2 Bi-directional, 14 TX, RSPAN, ERSPAN & VACL	2 Bi-directional, 14 TX, RSPAN, ERSPAN & VACL	2 Bi-directional, 14 TX, RSPAN, ERSPAN & VACL

* Roadmap

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Campus Core (Fixed and Modular) Comparison

Features & Scale	C9600	C6840-X	C6880-X	C6807 (Sup6T-XL)
SD-Access Capable	Yes	Yes	Yes	Yes
SD-Access Wireless	No*	No	No	No
MPLS	Yes	Yes	Yes	Yes
NAT/PAT	Yes	Yes	Yes	Yes
AVC using NBAR2	No*	No	No	No
IOS XE	Yes	No	No	No
256-bit MACsec	Yes	128 bit only	128 bit only	128 bit only
StackWise Virtual	Yes	Only VSS mode	Only VSS mode	Only VSS mode
Containers/App Hosting	Yes	No	No	No
GIR	Yes	No	No	No
Patching	Yes	No	No	No
Programmability - Python Scripting	Yes	No	No	No
Programmability - NETCONF/REST/GRPC interfaces (GA) with base Native YANG models	Yes	No	No	No
AVB	No*	No	No	No
ETA	No*	No	No	No

* Roadmap





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