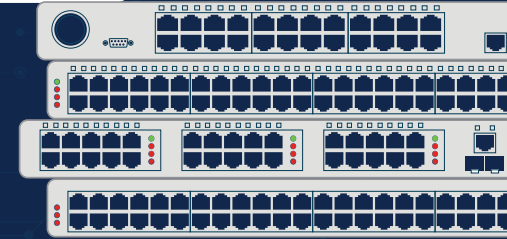# CISCO
The bridge to possible

The Next Frontier for Cloud Networking: Cisco Nexus 400G

Cisco Nexus High-Capacity 400G Data Center Networking

Built for the most demanding environments

Built for customer choice and flexibility

Built to last, for maximum investment protection

Cisco Cloud Scale

Cisco Nexus 9364D-GX2A
- 2 RU switches
- 25.6 Tbps of bandwidth
- Ideal for 400G spine

Cisco Nexus 9332D-GX2B
- 1 RU switch
- 12.8 Tbps of bandwidth
- Ideal for 400G leaf or spine

Cisco Nexus 9500 X9716-GX
- 16-port 400G line card for Nexus 9500 Series Switches
- 12.8 Tbps of bandwidth
- MACsec/CloudSec at 400G speeds

Cisco Nexus® 9316D-GX
- 1RU, 16p 400G QSFP-DD
- 6.4 Tbps bandwidth
- Up to 64p 100G in a compact 1RU form factor

Cisco Nexus 93600CD-GX
- 1RU 28p 100G QSFP-28 with 8p 400G QSFP-DD
- 6.0 Tbps bandwidth
- High performance for neural networks workloads

Key differentiators:
- Industry-leader in route scale
- Full data and system telemetry capabilities
- 400G silicon with SRv6 forwarding at line rate

ACI leaf and spine capability in same switch

Cisco Nexus 3432D-S
- 1RU, 32p 400G with QSFP-DD
- 12.8 Tbps bandwidth
- High-density spine

Cisco Nexus 3408-S
- 4RU semimodular switch
- 12.8Tbps bandwidth
- Expansion modules of 8-slots for 100G or 400G LEMs
- 8 slots for different up- and down-link configurations
  - 400G QSFP-DD
  - 100G QSFP-28

Key differentiators:
- Lowest latency 450ns at 400G
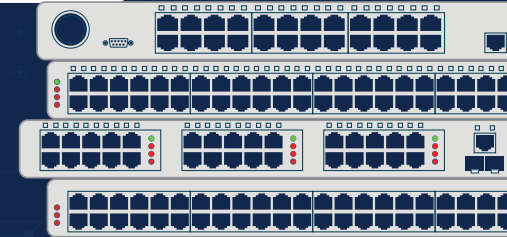- Low power at high switch radix
- Optimized for Leaf and Spine architectures

400 GbE QSFP-DD ports are backwards compatible with 100 GbE QSFP28 modules
Backward compatible with 100GE QSFP-28 and 40GE QSFP+1x 400 GbE/100 GbE/40 GbE
Breakout 4x 100 GbE/25 GbE/10 GbE or 8x 50GbE;2x 200 GbE or 4x 50GbE

Cisco Nexus 400G use cases
400G: Terabit-scale switching

Benefits

Superior performance

Consistent reliability

High scalability

Architectural flexibility

Superior availability

Backward compatibility

Investment protection

Bandwidth continues to explode. Cisco® Visual Networking Index (VNI) research data indicates the dawning of a 400G era for mass-scale networking in service providers and data centers.

Webscale customer use case

- Enable transition from 50G to 100G servers with proportionally scaled-out fabrics
- Higher radix switches for optimized power consumption

Cisco ACI™ enterprise deployments

- High-performance I/O and 400G fabric for AI/ML compute clusters
- Sophisticated dynamic fabric load-balancing, smart buffers, and flow-level visibility
- 400G in different fabric tiers

Service provider deployments

- 100G/400G fabrics for space-constrained environments in service-provider edge locations
- Ready for NFV/5G adoption cycle

400G optics: QSFP-DD	
PID	**Distance, media (connector)**
QDD-400-CUxM*	3m passive copper cable*
QDD-400G-AOCxxM*	30m active optical cable*
QDD-400G-SR4-BD	100m MMF ribbon (MPO-12)
QDD-400G-DR4-S*	500m SMF ribbon (MPO-12)*
QDD-400G-FR4-S*	2km duplex SMF (LC)*
QDD-400G-LR8-S	10km duplex SMF (LC)
QDD-400G-ZR-S	120km duplex SMF (LC)
QDD-2X100-SR4-S	100m MMF ribbon (MPO-24)
QDD-2X100-PSM4-S	500m SMF ribbon (MPO-24)
QDD-2X100-CWDM4-S	2km dual duplex SMF (CS)
QDD-2X100-LR4-S	10km dual duplex SMF (CS)

* Available at FCS

To help your organization to upgrade to 400G, contact Cisco today at www.cisco.com/go/400G.