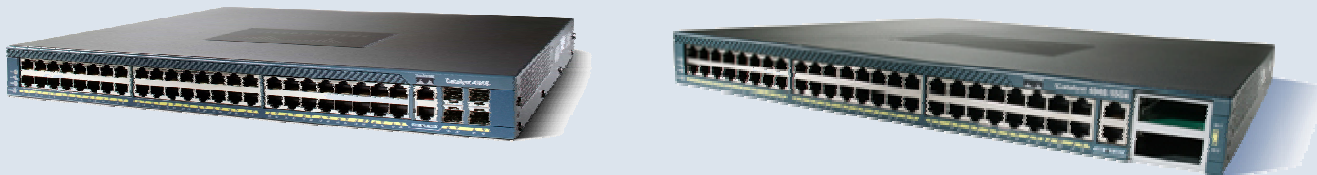




Cisco Catalyst 4900 Series



Rack-Optimized Server Switching

Most Complete Line of Fixed Configuration LAN Products in the Industry

Cisco.com

Price-Performance

Cisco® Catalyst® 4900 Series Switch



- 10/100/1000 BASE-T L2/3/4 wire speed switching
- 4 SFP or 2 10-Gigabit Ethernet (GE) wire speed uplinks
- Dual, hot swappable, internal AC & DC Pwr
- Hot swappable fan tray

Cisco Catalyst 3750 Series Switch



- Stackable GE and 10/100 configurations
- Cisco StackWise™ technology
- Enterprise-class intelligent Layer 3/4 services
- Single mgmt interface with autoconfiguration
- Power over Ethernet (PoE) configurations

Cisco Catalyst 3550 and 3560 Series switches



- 10/100 and GE configurations
- Enterprise-class intelligent Layer 3/4 services
- PoE configurations

Full Layer 3 Routing

Layer 2 Intelligent Services

Cisco Catalyst 2970 Series Switch



- 10/100/1000 wire-speed switching
- Advanced intelligent services

Cisco Catalyst 2950



- 10/100 wire-speed switching
- Fixed uplink and Gigabit Interface Converter (GBIC)-based Gigabit connectivity
- Basic through advanced intelligent services

Cisco Catalyst 2940



- Low-density, standalone, managed 10/100 switching
- Small form factor for deployment outside the wiring closet
- Basic services

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Function, Flexibility, Scalability

Overview

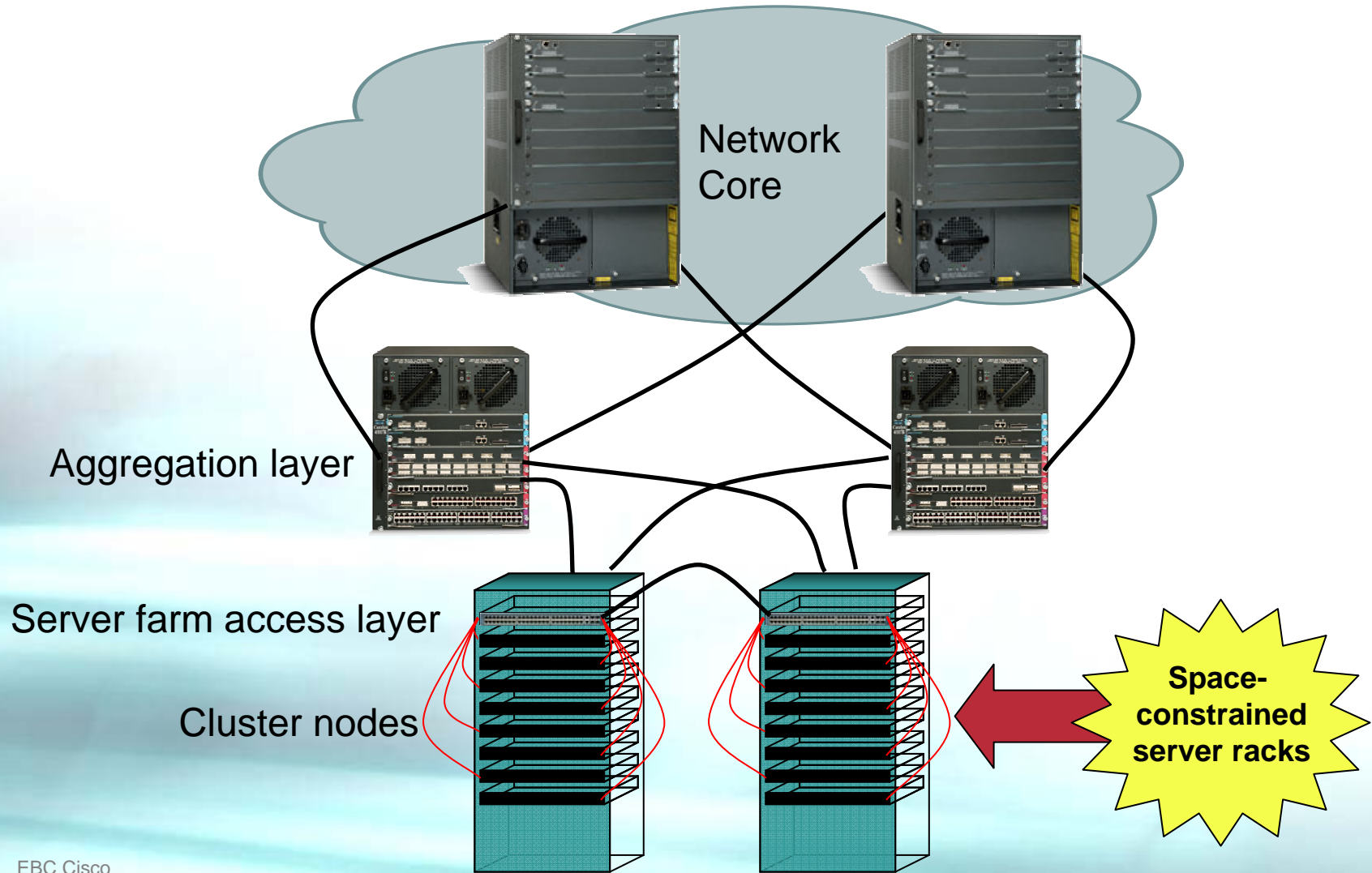
Cisco.com

- **Server Farm Requirements**
- **Cisco® Catalyst® 4900 Series Switch Hardware**
- **Cisco Catalyst 4900 Series Software**
- **Cisco Catalyst 4900 Series Multicast**
- **10-GE Optic Overview**
- **Deployment Options**
- **Summary**



Server Farm Topologies in the Data Center

Cisco.com



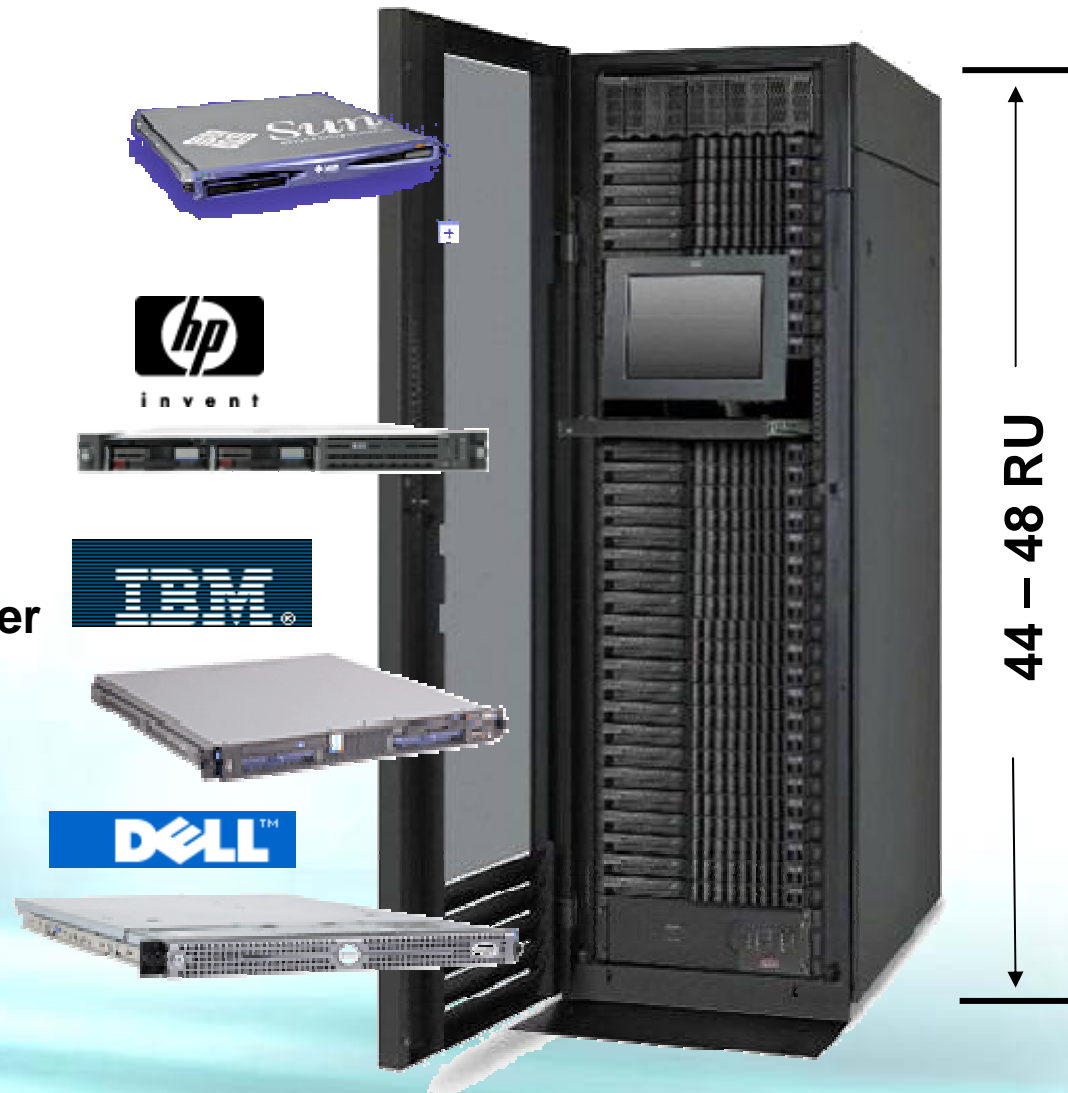
“Rack-Optimized” Server Farm/ Cluster

Cisco.com

- 44 to 48 rack units (RUs) available in a standard rack
- High concentration of “rack-optimized” servers for:
 - High-density network servers
 - High-performance clusters
- Low profile, high-performance 48-port switches needed to perform aggregation function per rack

One switch – single attached

Two switches – dual attached



Cisco Catalyst 4900 Series Switch Overview

Cisco.com

- Two models: 2 10-GigE uplinks or 4 SFP
- Nonblocking 48 ports of 10/100/1000
- 1 RU form factor
- Cisco IOS® Software/Cisco® Express Forwarding-based Layer 2/3/4 switching
- Dual, hot-swappable, internal power supplies (AC or DC options)
- Hot-swappable fan tray
- Jumbo frames on all ports
- Broadcast and multicast suppression in hardware for all ports (L2/3)
- Nonstacking
- Based on Cisco Catalyst® 4500 Series Hardware and Software Architecture



Cisco Catalyst 4948



Cisco Catalyst 4948-10GE

Cisco Catalyst 4900 Series Switch — *Hardware Options*

Cisco.com

Performance

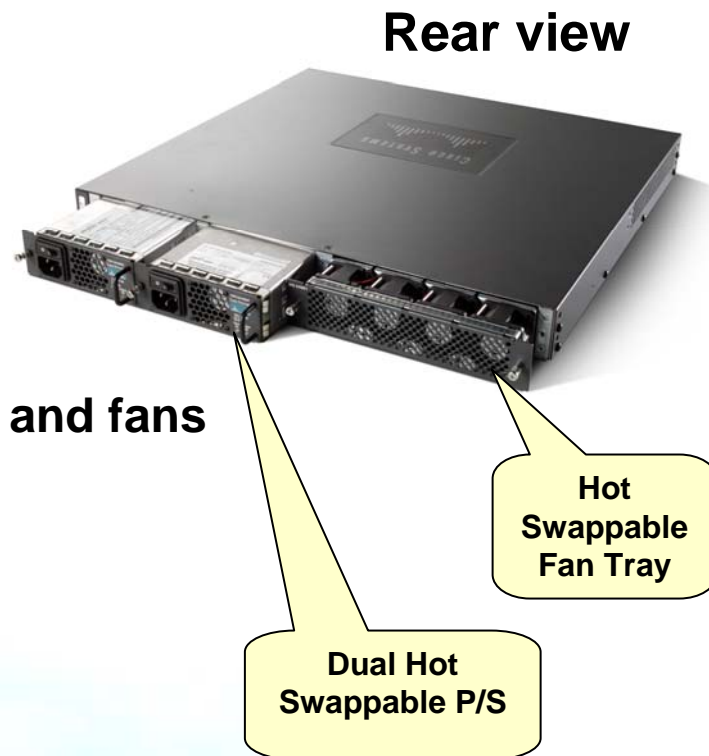
- Designed for low latency
- Wire speed on all ports
- Cisco® Express-based forwarding

High Availability

- Redundant, hot-swappable power supplies and fans
- Variable speed removable fan tray
- In-service field replacements

Power supply choices

- Single or dual internal power supplies
AC or DC
AC to DC failover—unique for fixed switches



Cisco Catalyst 4900 Series Switch — *Hardware Options, continued*

Cisco.com

Small Form Factor

- One RU, 17.5'w x 17.5'd

Serviceability

- Console port and mgmt port for disaster recovery
- Even if **all** sources of images are corrupted, you can get the image via the management port (rommon) in **seconds**.
- CPU monitoring & built in CPU QoS allows for easier troubleshooting

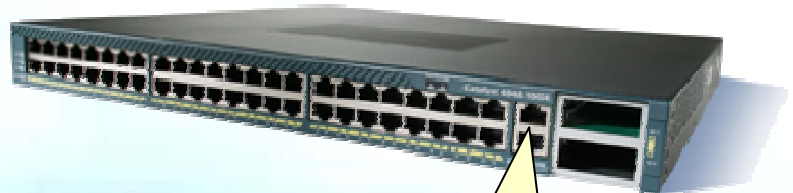
EBC Cisco
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Cisco® Catalyst® 4948 Router



Console and
10/100
management
port

Cisco Catalyst 4948-10GE



Console and
10/100/1000
management
port

Cisco Catalyst 4900 Series Hardware Comparison

Cisco.com



Feature	Cisco® Catalyst® 4948	Catalyst 4948-10GE
Layer 2,3,4 throughput	72 Mpps	102 Mpps
Switch capacity	96 Gbps	136 Gbps
Last four 10/100/100 ports alternative wired: Cu/SFP	Yes	No
Total wire-speed ports	48 Gigabit	48 Gigabit + 2x10GE
Management port	10/100	10/100/1000
CPU	266 MHz	666 MHz
Optic support	Gigabit Ethernet (SFP)	10 Gigabit Ethernet (X2)
Usable MAC addresses	32K unicast, 16K mcast	55K unicast, 16K mcast



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Cisco Catalyst 4900 Series — *Software Options*

Cisco.com

- **Single Cisco IOS® Software image across all Cisco® Catalyst® 4500 and 4900 Series switches**
- **Multilayer software options:**
 - Standard: RIP v1/2, static routes, AppleTalk, IPX
 - Enhanced: OSPF, EIGRP, BGP, IS-IS
- **Crypto images provide:**
 - SSH v1
 - SSH v2
- **Security (DHCP Snooping, Dynamic ARP inspection, IP source guard) multicast, PBR, are included in standard and enhanced images)**
- **Hardware-based multicast**



Cisco Catalyst 4900 Series

Multicast Features

Cisco.com

- **Hardware-based multicast**

PIM-SM, PIM-DM, MSDP, MBGP, IGMP (v3), SSM, DVMRP, SSM (Source-specific multicast), MBGP; MSDP; PGM

- **Full-bridging feature set**

IGMP snooping v1,2,3, CGMP server (STP, SPAN, PAgP, Private VLANs, ...)

- **QoS**

Full QoS support for multicast, 4 queues per port

- **Bandwidth management**

Multicast bandwidth reservation (sharing)



10-GE X2 Optical Portfolio

For Multi-Mode and Single Mode Fiber

Cisco.com

X2 Module Type	Description	Availability
X2-10GB-LR	10 km on SMF (G.652)	Shipping
X2-10GB-CX4	Up to 15 meters on IBX4 cable	Q1 CY05
X2-10GB-LX4	300m on MMF	Q2 CY05
X2-10GB-SR	26m on MMF (300 m on 50 micron 2000 MHz*km MMF)	Future
X2-10GB-ER	40 Km on SMF	Future



XenPAK

New

X2



Optical Compatibility Between 10-GE X2 and XenPak

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Cisco Catalyst 4900 Series Switch Deployment Options

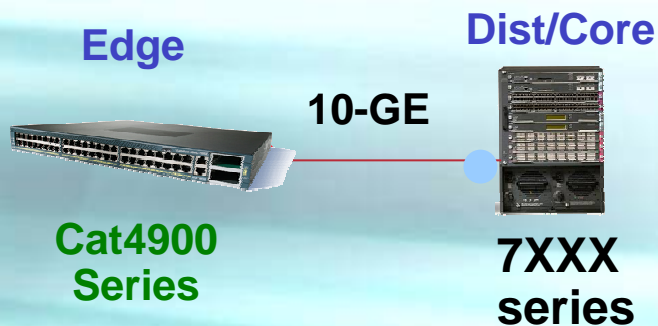
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Server Switching



DLSAM Aggregation

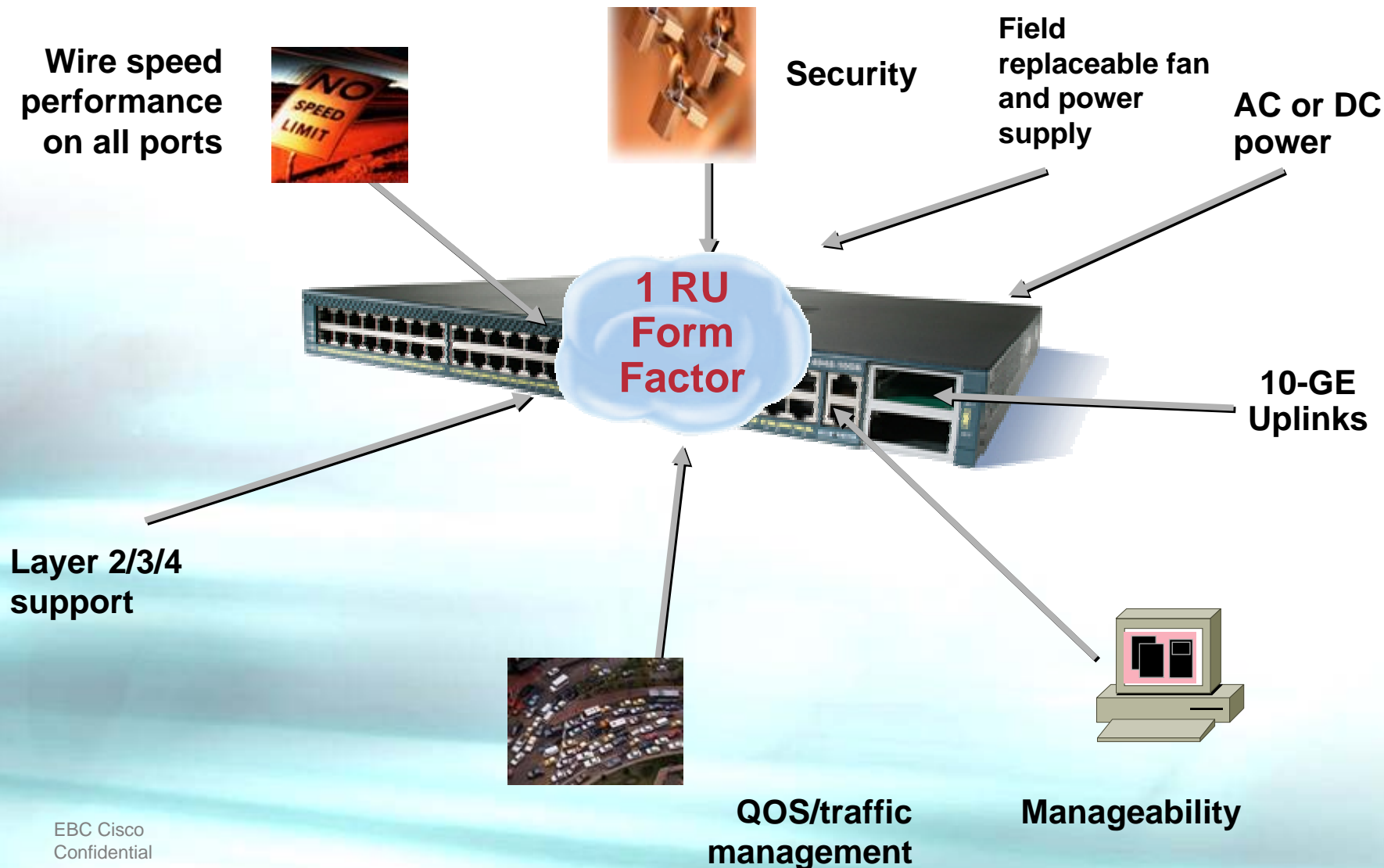


LAN Access



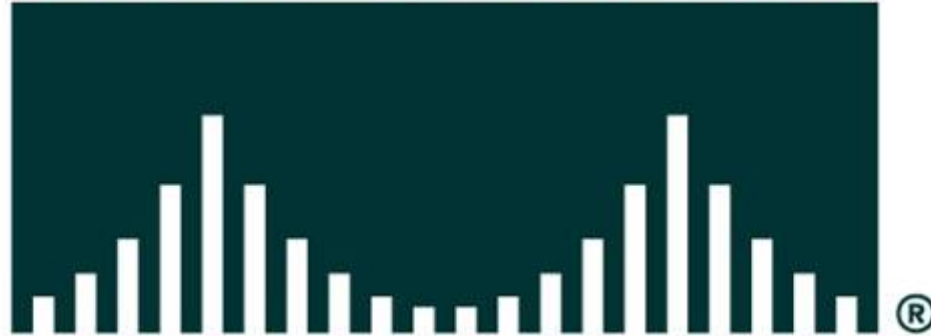
Cisco Catalyst 4900 Series — Rack-Optimized Server Switching

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CISCO SYSTEMS



EMPOWERING THE
INTERNET GENERATION