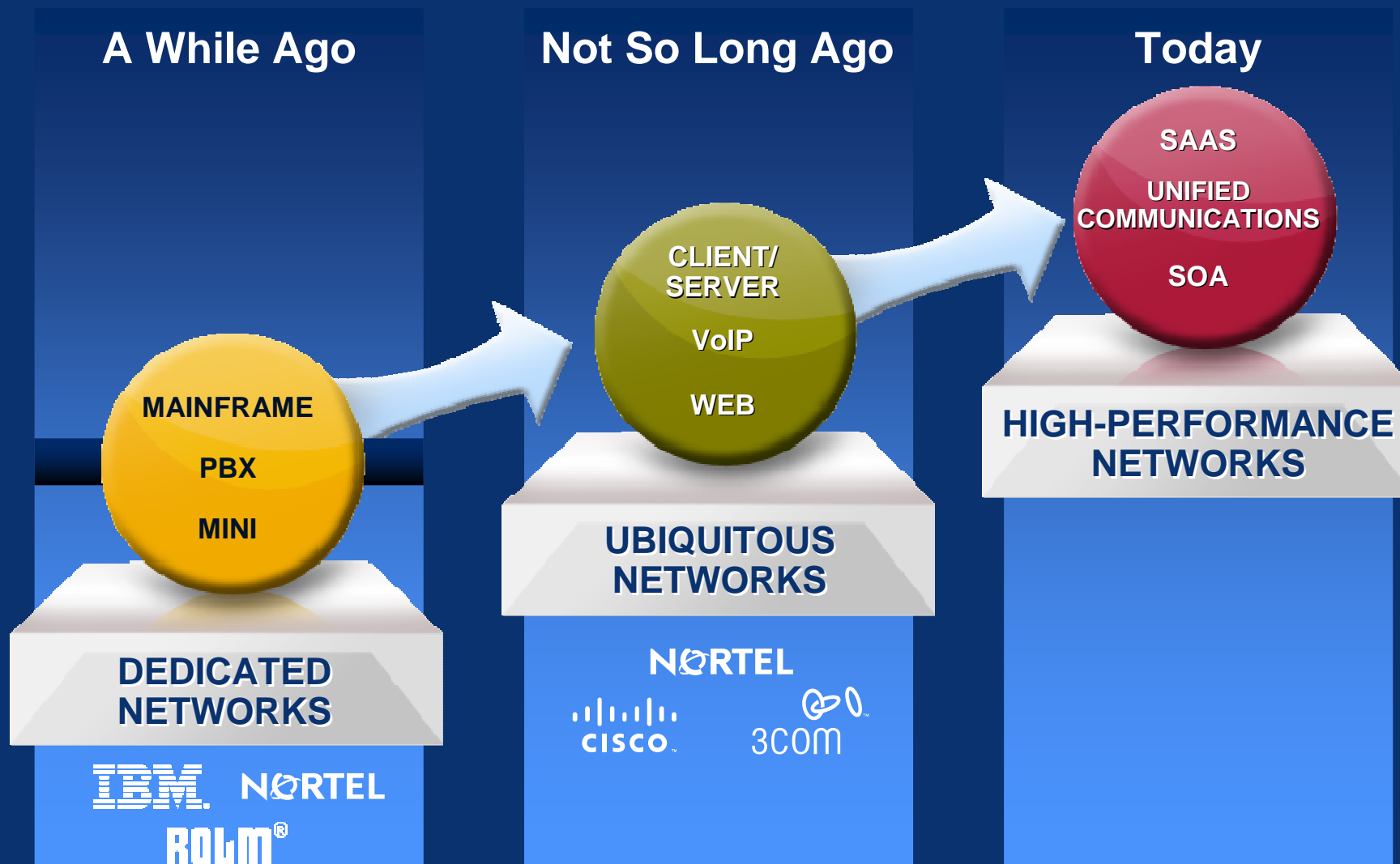




The Switch is ON!

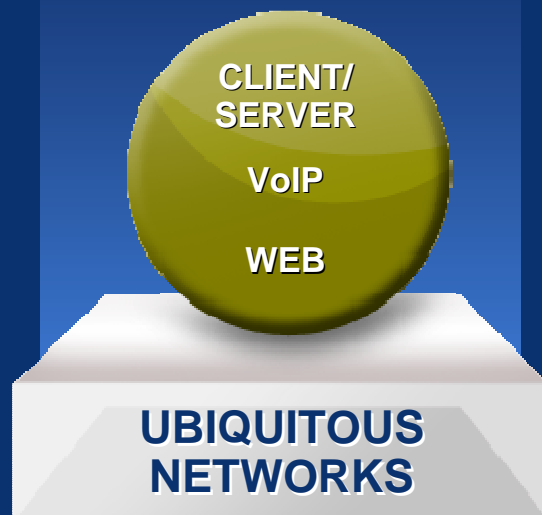
Niklas Henriksson – Systems Engineer
nhenriksson@juniper.net

The Evolution of the Enterprise Network

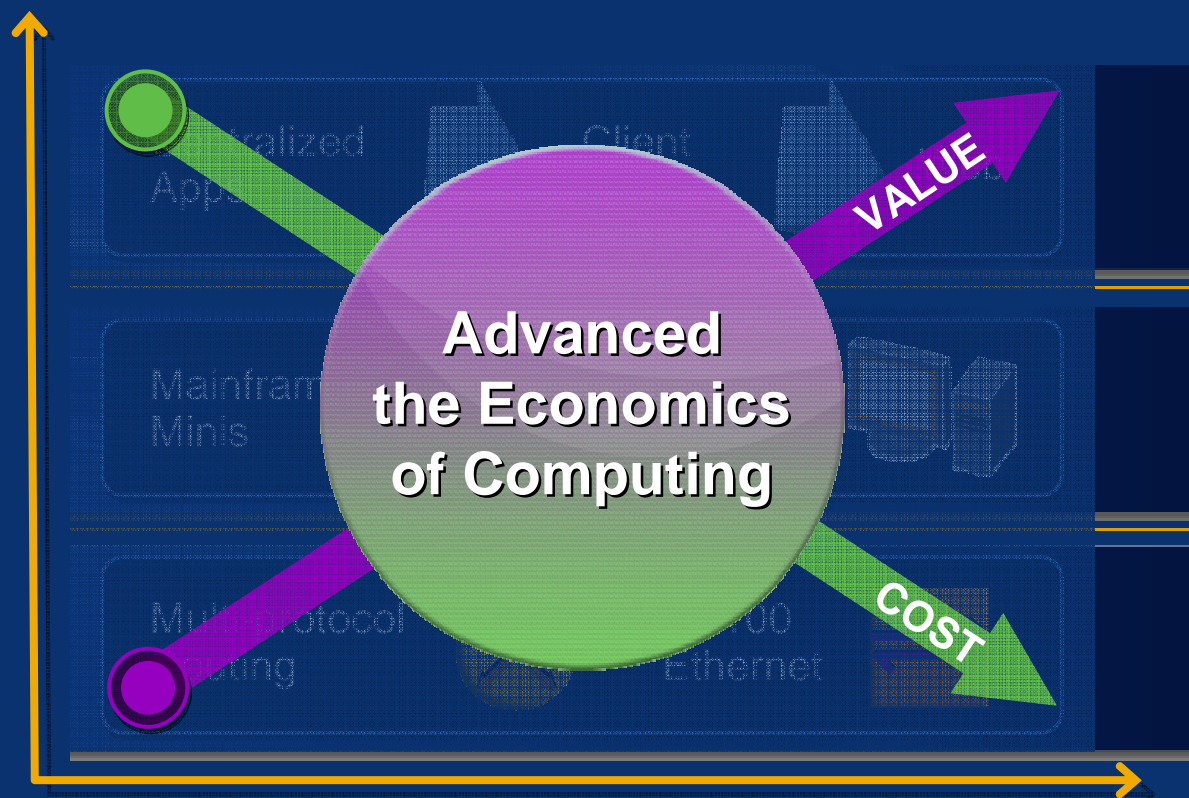


The Evolution of the Enterprise Network

Not So Long Ago



NORTEL
cisco 3COM



The Evolution of the Enterprise Network

Today

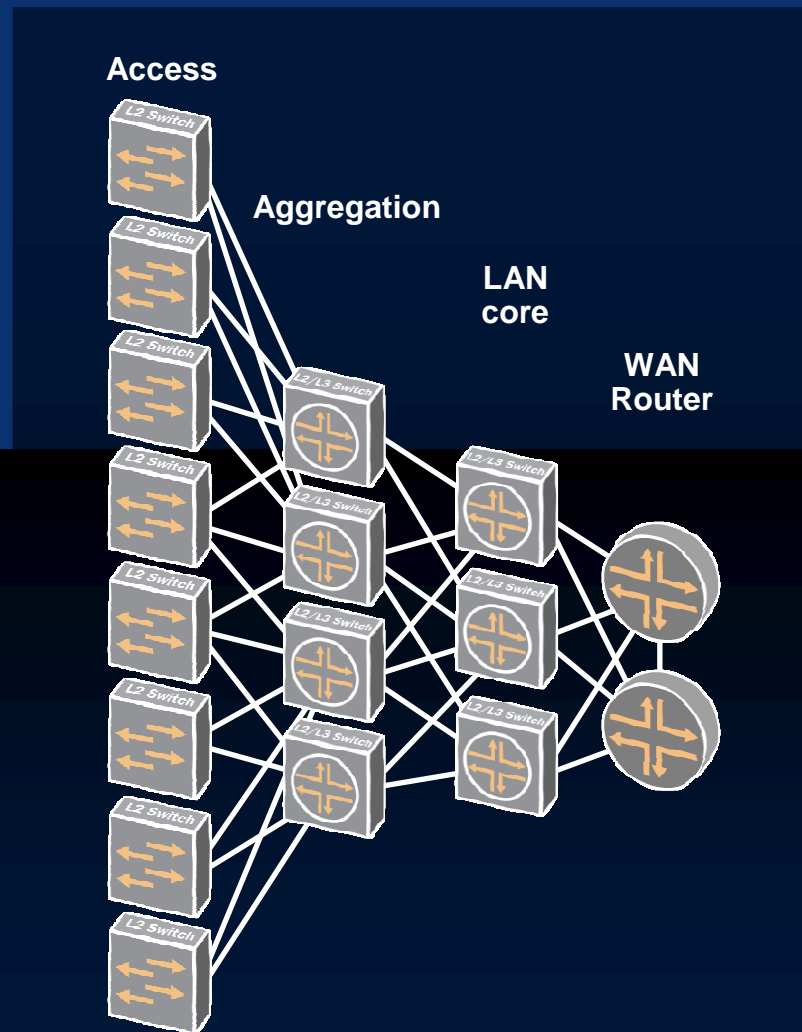
SAAS
UNIFIED COMMUNICATIONS
SOA

HIGH-PERFORMANCE NETWORKS

Opportunity for Juniper

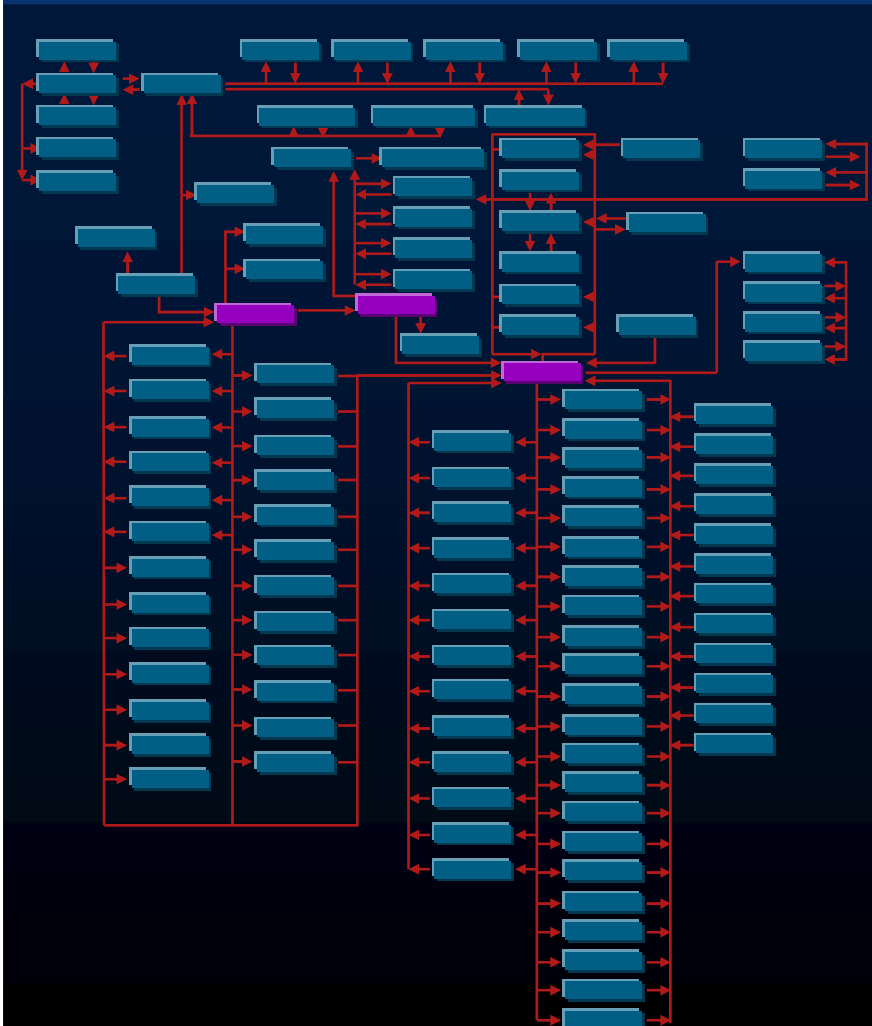


Typical Network – Complicated on the Outside



- Operationally complex
- High energy costs
- Hampers reliability
- Lacks security integration

Typical Network – Worse on the Inside!



- Paralyzing complexity
- Stifles innovation
- Hampering reliability
- Slowing business speed

Building High-Performance Networks with EX-series Switches



JUNOS[™]

Carrier-class reliability

Integrated security

Operational simplicity

Building High-Performance Networks with EX-series Switches



JUNOS[™]

Building High-Performance Networks with EX-series Switches



EX 3200 Series Ethernet Switches

- **Fixed, Standalone Configuration**
- **Flexible uplink modules**
 - 4-port GbE (SFP)
 - 2-port 10GbE (XFP)
- **Modular power and cooling**
 - External Redundant PSU option
 - Full Class 3 PoE (15.4 W)
 - Field replaceable fan tray
 - Field-replaceable AC/DC PSU
- **LCD Display**
- **Layer 3 in base license**
- **1 rack unit**



JUNOS			
# Ports	Port Type	PoE Ports	Max Power Consumption (incl. PoE)
24	10/100/1000B-T	8	190 (320) W
24	10/100/1000B-T	24	190 (600) W
48	10/100/1000B-T	8	190 (320) W
48	10/100/1000B-T	48	190 (930) W

EX 4200 Series Ethernet Switches with Virtual Chassis™ Technology

- **Virtual Chassis™ technology**
 - 128Gbps virtual backplane
 - Manage up to 10 as a single device
 - Master & backup route engines
 - Extend virtual backplane via 10GbE
- **Flexible uplink modules**
 - 4-port GbE (SFP), 2-port 10GbE (XFP)
- **Fully redundant power and cooling**
 - External RPS option
 - Full Class 3 PoE (15.4 W)
 - Fan FRU, multiple blowers
 - Dual, internal hot-swap AC/DCPSU
- **LCD display**
- **Layer 3 in base license**
- **1 rack unit**



# Ports	Port Type	PoE Ports	Max Power Consumption (incl. PoE)
24	10/100/1000B-T	8	190 (320) W
24	10/100/1000B-T	24	190 (600) W
24	100B-FX/1000B-X	NA	190 (190) W
48	10/100/1000B-T	8	190 (320) W
48	10/100/1000B-T	48	190 (930) W

Physical features of the EX4200



- Dual internal PSU
- Hot swappable

- Virtual Chassis ports
- External storage via USB
- Out of band mgmt
- Console port
- Fan tray



Physical features of the EX4200

- Hot swappable fan tray



- Redundant blowers



LCD panel



- Show switch name
- Shows status
- Invokes QuickSetup Wizard
- Locks down the hotswappable uplink option



Virtual-Chassis™ Technology

Traditional Chassis



Virtual Chassis



Redundant Route Engines



Redundant Internal Power



Redundant Cooling



Adding removing ports



Single Device to Manage



Field Replaceable Fans and PSU



Virtual-Chassis™ Technology

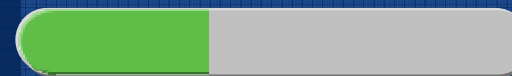
Traditional Chassis



Virtual Chassis



Power Requirements



Cooling Requirements



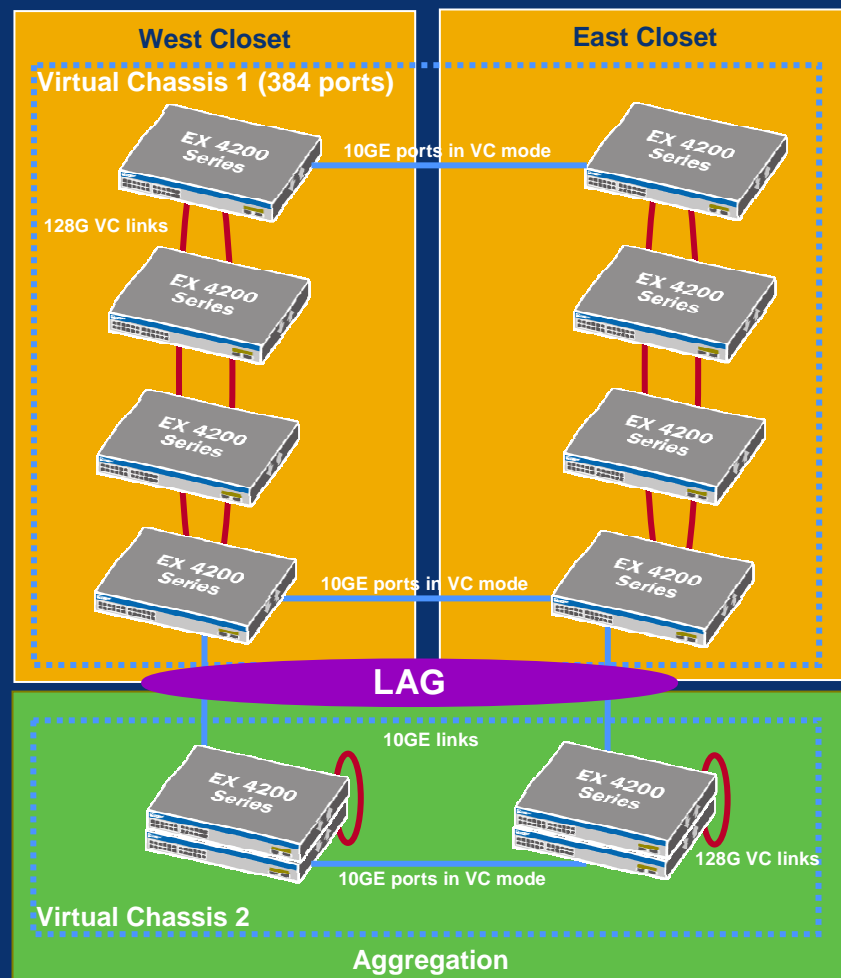
Space Requirements



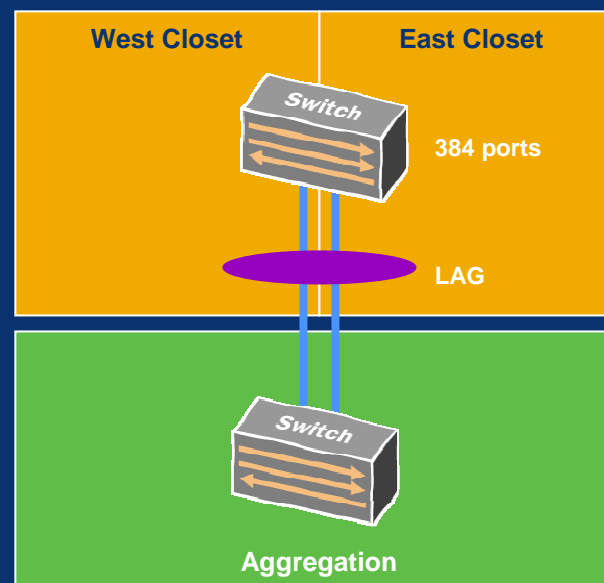
Cost



Virtual-Chassis physical design example

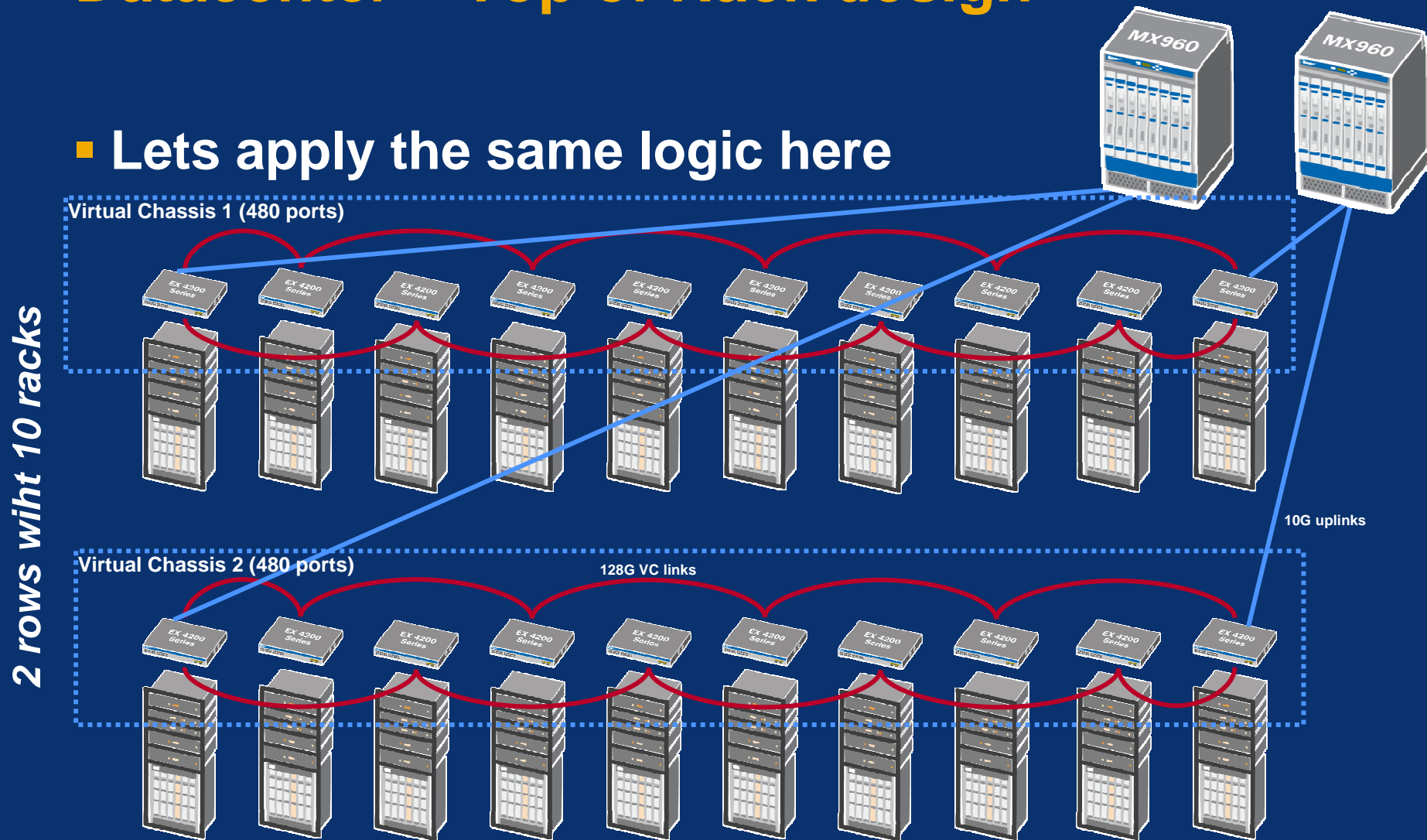


- Look closely at the logical topology
- Only *Link Aggregation*
- Simple, huh?



Datacenter – Top of Rack design

- Lets apply the same logic here



EX 8200 Series* Ethernet Switches

- **High-performance chassis platforms**
 - Eight or sixteen 200 Gbps I/O slots – 100 GbE ready
 - Fully redundant route engines
 - N+1 redundant switch fabrics
- **Fully redundant power and cooling**
 - Redundant, load-sharing PSUs (AC, DC)
 - Hot-swap fan tray with redundant fans
- **Wire-speed ASIC services**
 - Application visibility
 - DDOS protection

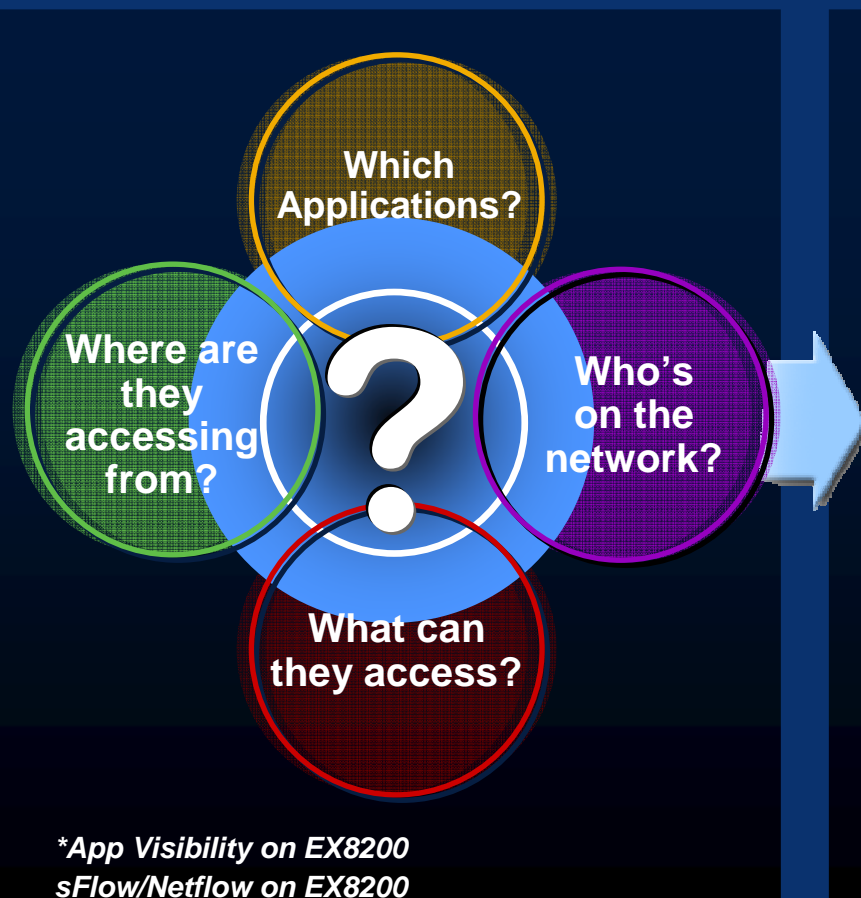


JUNOS			
# Ports	Module Description	Max Ports	Interface
48	10/100/1000B-T	384 or 768	RJ45
48	100-FX/1000B-X	384 or 768	SFP
8	10 GbE	64 or 128	SFP+

*Available in 4Q2008

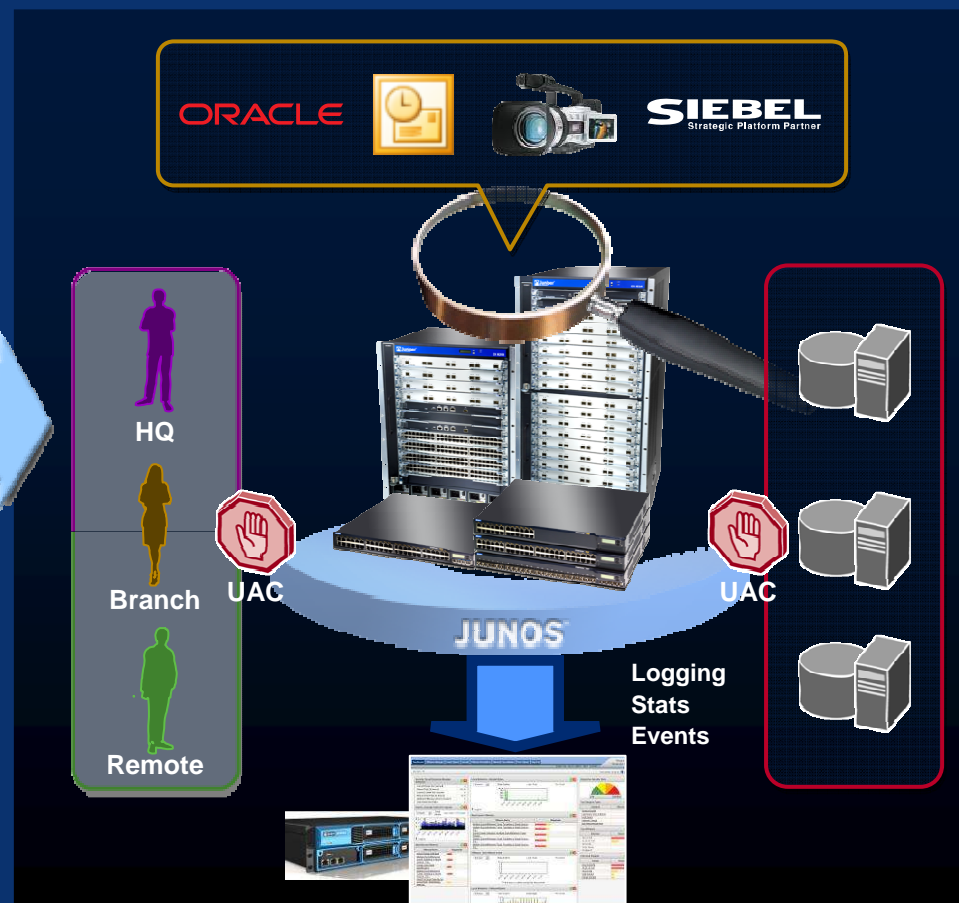
Juniper Networks EX-Series Integrated Security and Application Visibility

Current Network

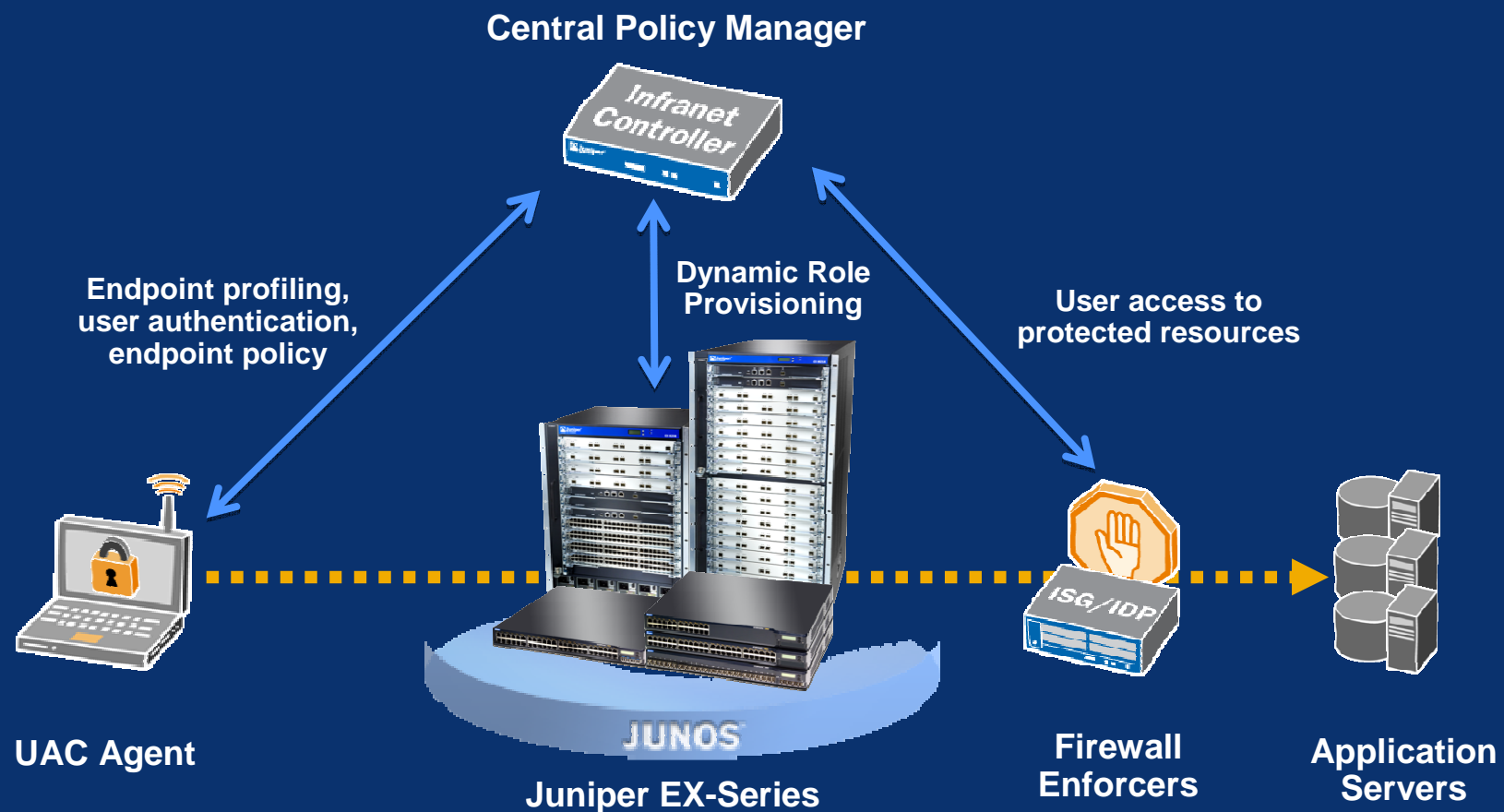


**App Visibility on EX8200
sFlow/Netflow on EX8200
sFlow on all EX-Series*

Integrated Security & Visibility in the Network



Unified Access Control with the EX-Series



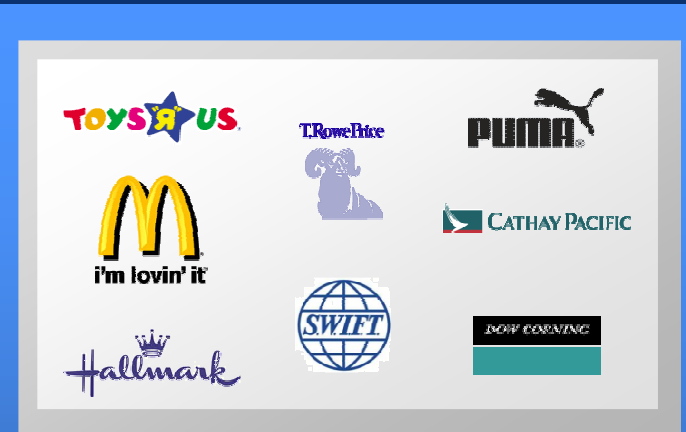
Carrier-Class Track Record

Service Providers



- ✓ Availability
- ✓ Scale
- ✓ Performance

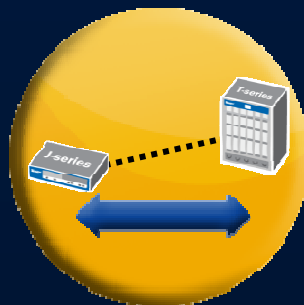
Enterprise



- Proven, modular software
- 100 GbE ready
- Wire-speed, high-density 10GbE
- Dedicated management, control and data planes
- MPLS-ready

JUNOS Software Simplifies

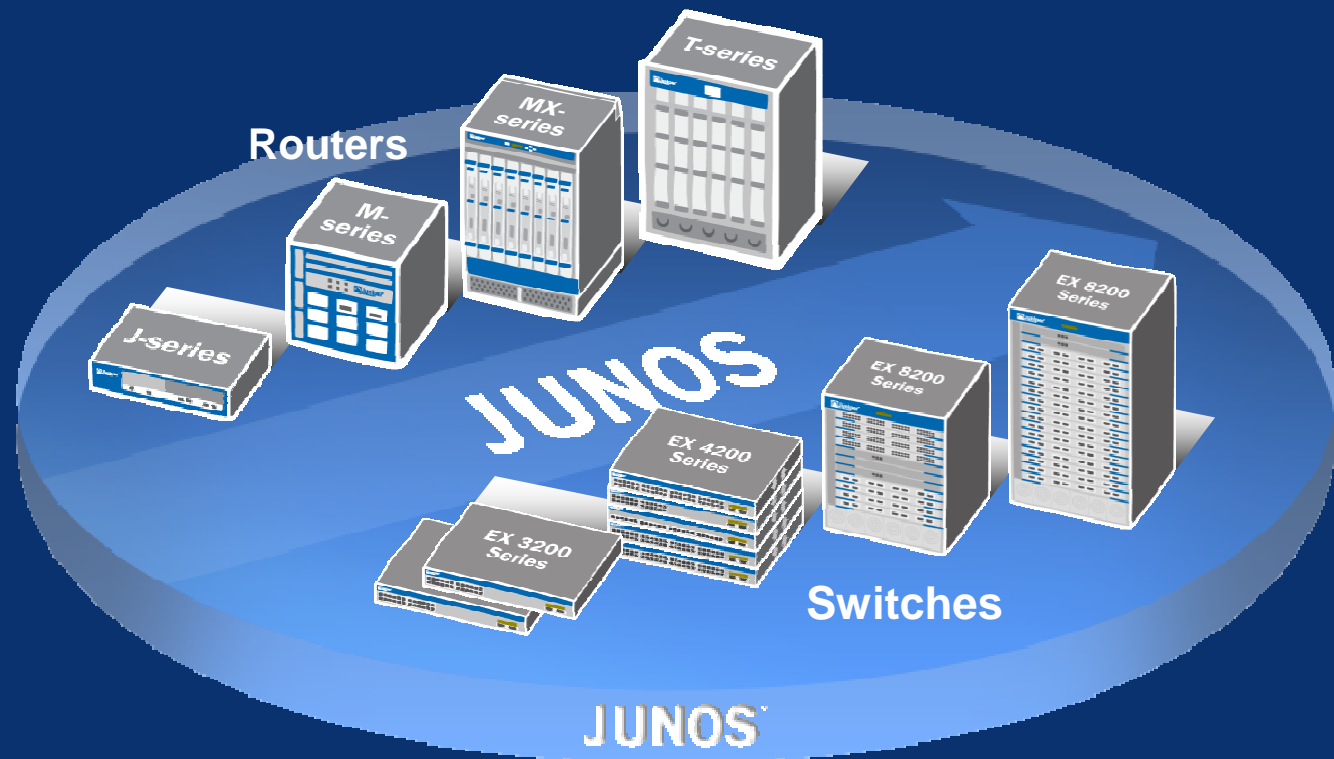
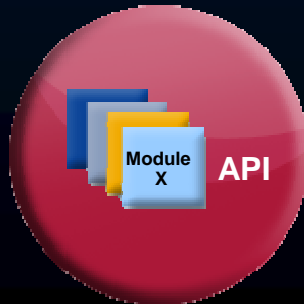
One OS



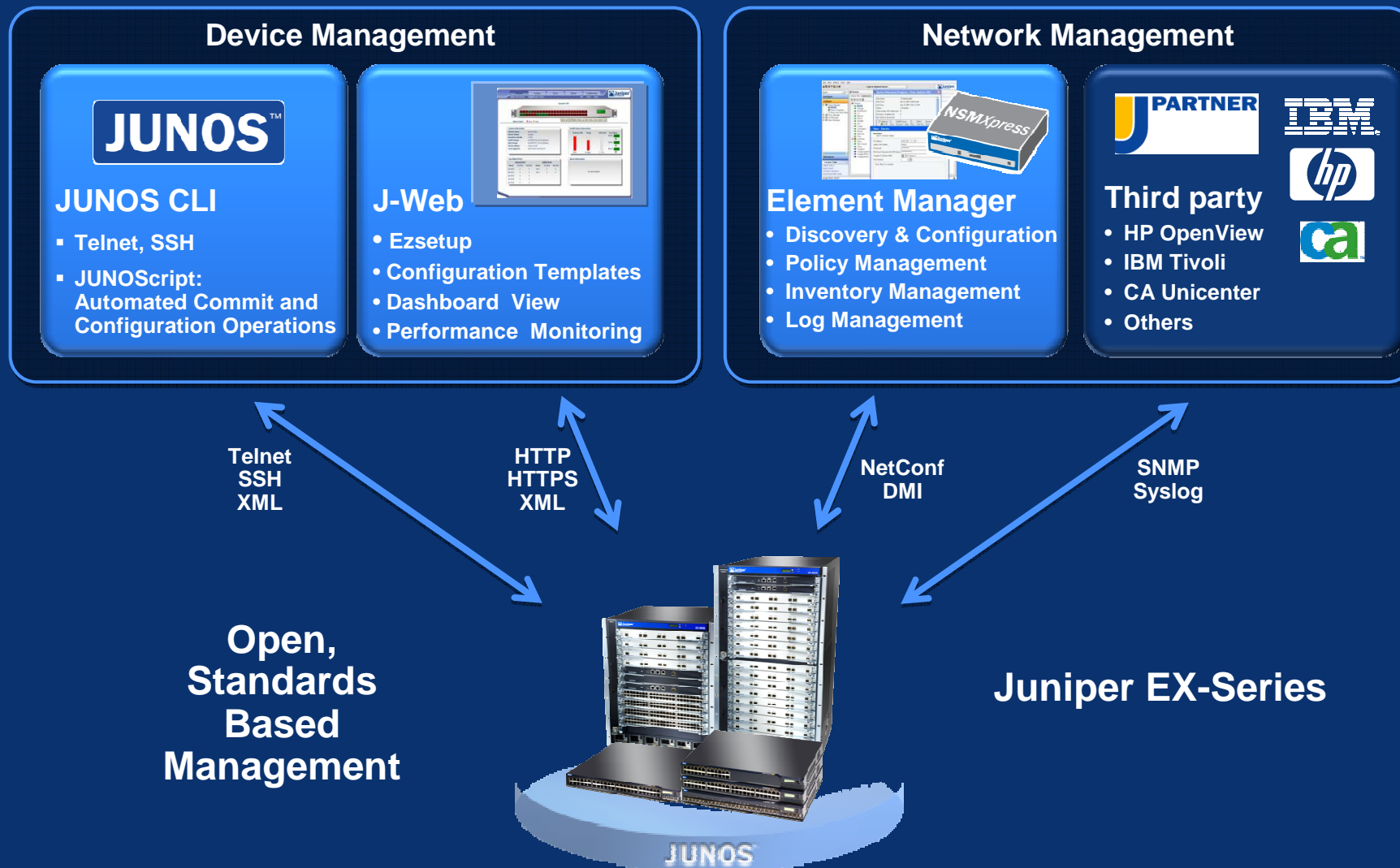
One Release



One Architecture

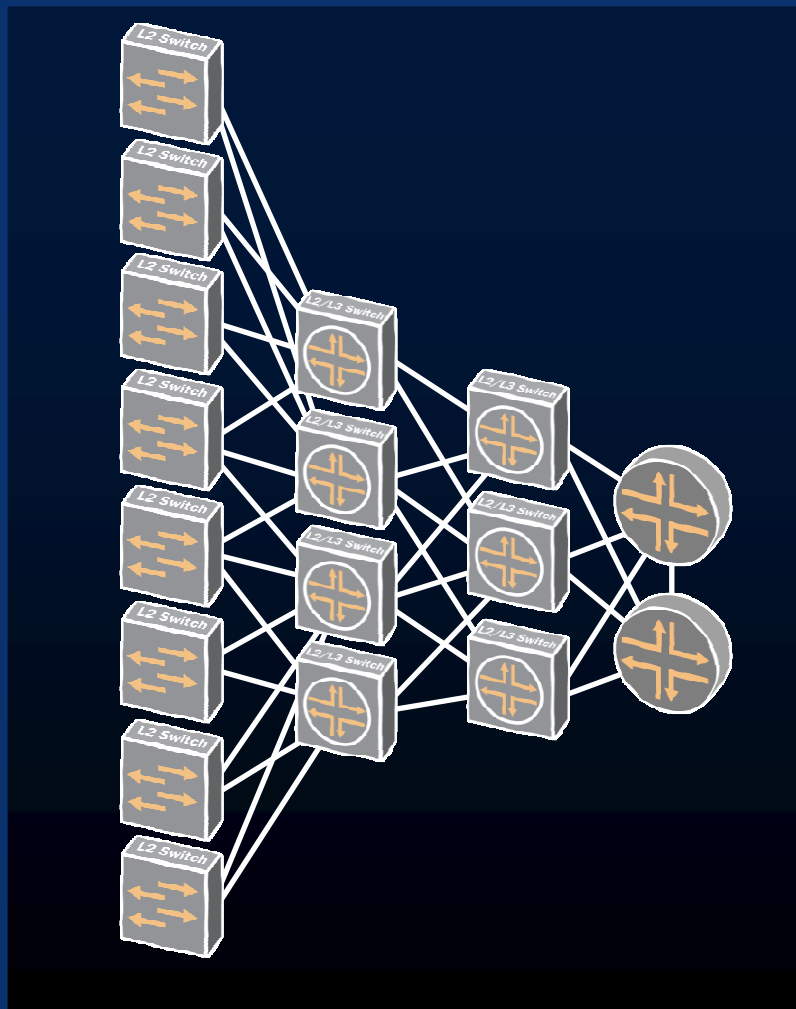


EX-Series Network Management



Juniper High-Performance Networks

Classic Legacy Design

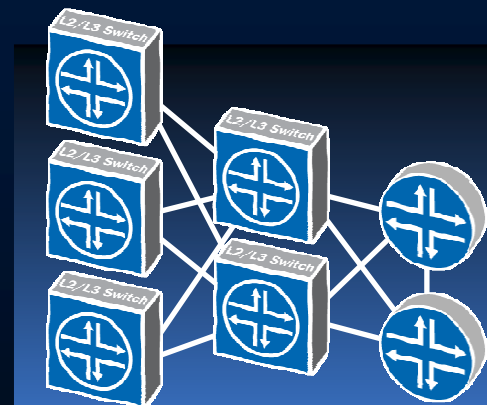


Density

Performance

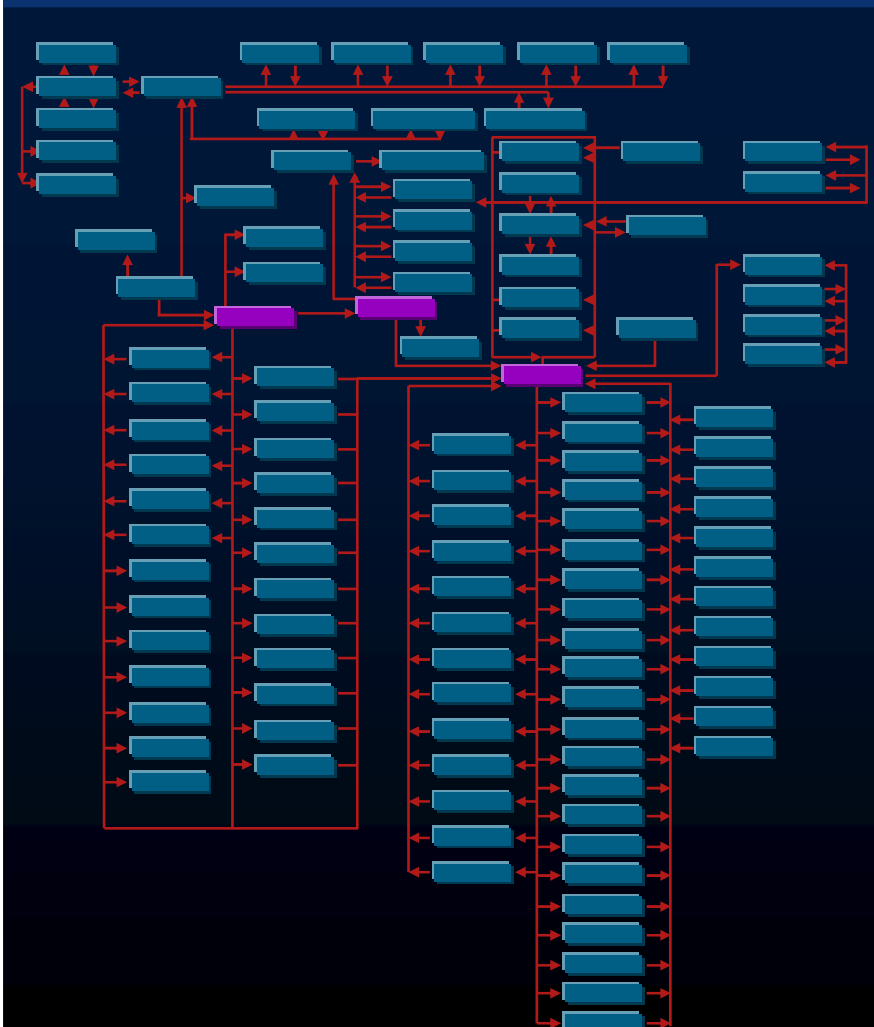
Reliability

Collapsed Network Design



Virtual Chassis™
Technology
reduces managed
devices by up to 80%

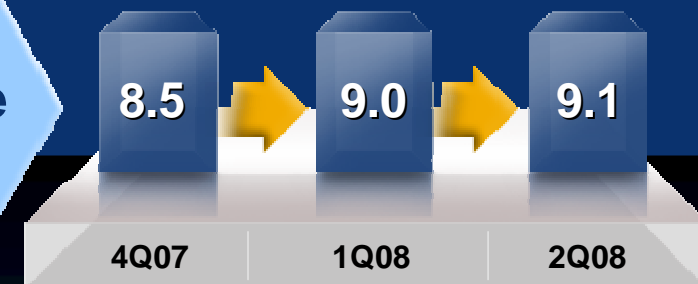
High-Performance on the Inside Too!



Simpler

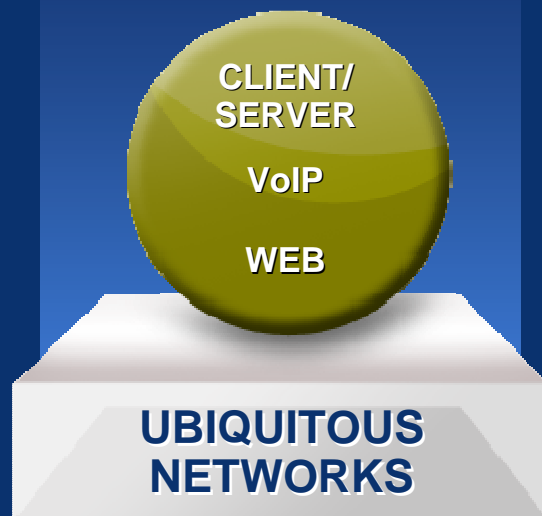
Predictable

Reliable

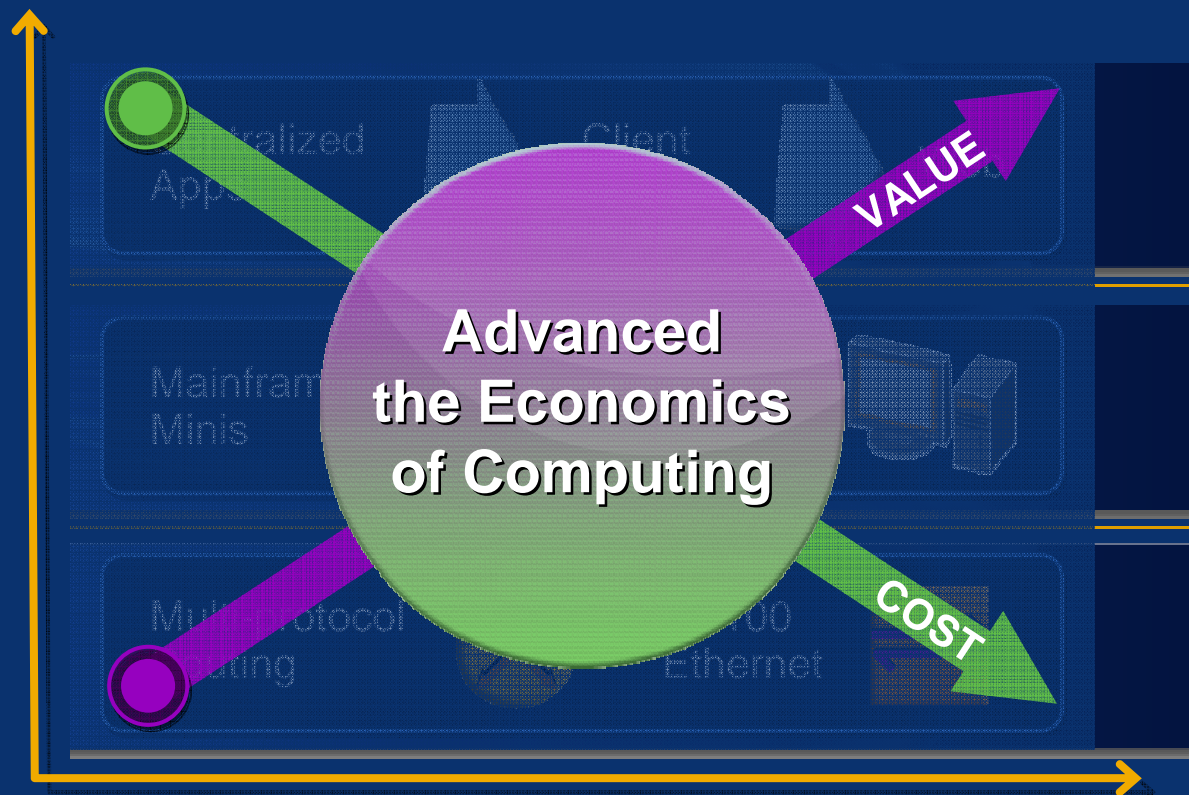


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The Evolution of the Enterprise Network



Juniper *your* Net™