TOMORROW starts here.
Introduction to Catalyst 6800 and Instant Access
Cisco Connect, Riyadh
April 2014

Amer Atout,
Product Manager,
Enterprise Networking Group
Agenda

- 6800 for Campus Backbone
- 6800 Hardware Update
- 6800 Software Update
- Key Takeaways
Switching Requirements Differ Between Campus and Data Center

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<th>Campus</th>
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<td>Flexible NetFlow, Network Analysis Module</td>
<td>VDC, FEX, DCNM</td>
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<td>Power over Ethernet</td>
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<td>UPOE, EnergyWise</td>
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</table>

FOUNDATION: HA, TrustSec, IP SLA, QoS, MPLS, VPLS
Unified Access Value Proposition and Reference Design
Differentiating Characteristics of One Network

- Secure Group Access to Simplify the Network and Enable Virtualized Data Center Services
- Application-Aware Networking to Enable Collaboration, Video, and Other Apps
- Maximized Network Availability with Virtual Switching and Stateful Switch Over
- Reduce Operating Expenses and Improve Network Application and Service Delivery
- OS Consistency: IOS 15.x
- Cisco Validated Designs for Campus Deployment

Cisco Catalyst 6800/6500 for Campus Core/Dist
Cisco Catalyst 4500E and 3850 for Campus Wired Access
Cisco Unified Wireless Network

- Cisco Prime Infrastructure
- WISM2/WLC
- WLC
- TrustSec
- Application Visibility and Control
- Resiliency
- Smart Operations

Cisco Catalyst 6800/6500 for Campus Core/Dist
Cisco Catalyst 4500E and 3850 for Campus Wired Access
Cisco Unified Wireless Network

Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
C6K Technology to Build Comprehensive Enterprise Networks
6800 Platforms Delivers the Same Flexibility to Do It All
Introducing Cisco Catalyst 6800 Family

**6807-XL**
- 7 slots 10RU
- Up to 880G/slot capable
- Tremendous investment protection
- Optimized for 10/40/100G
- Built for scalability and performance

**6800-X**
- Up to 80x10G ports in 4.5RU
- Built-in sup with extensible slots
- Catalyst 6500 DNA
- Optimized for 10G density, price, and rich services

**6800 IA**
- Single touch point for entire campus network
- POE/POE+ & stacking
- Cat6K features at the access with feature consistency

Reinventing Your Campus Backbone Experience
The New Catalyst 6807-XL
Taking Catalyst 6K to 880G/Slot

- 7 Slots 10 RU
- NG Supervisor Ready
- N+1 power Supply Redundancy—Add as You Grow
- Backwards Compatible Connectors
- Catalyst 6500 DNA
- Investment Protection—Compatible with Sup2T, 69xx, 68xx, 67xx and Service Modules
- 880 G/Slot Capable

Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
**Power Supply Highlights:**

- Up to 92% Power Efficiency at 50-100% of load
- Max output is 3000W at 220V (or 1300W at 110V)
- Dual “Front to Back” Variable-Speed Cooling Fans
- Supports both Combined & Redundant (N+1) mode
## Supervisor 2T – 10G Portfolio
Providing Deployment Options

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<tr>
<th>Model</th>
<th>Ports</th>
<th>Throughput</th>
<th>Optics</th>
<th>Features</th>
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</table>

### Additional Hardware Features
- Large Buffers, SGT, MACSec, LISP
- 10G flexibility, SGT, MACSec, LISP, Dual Priority Queues, Two Level Shaping, Instant Access

### Ideal for:
- **Campus Aggregation and Core**
- **Campus Aggregation**
Cisco Catalyst 6500-E

Optimized for 1G/10G

Sup2T, 69xx, 68xx, 67xx

Service Modules

Future 10G/40G/100G

Cisco Catalyst 6807-XL

Optimized for 10G/40G/100G

6500-E → 6807-XL Portfolio
Investment Protection
Catalyst 6807-XL Bundling Options

- Chassis
- Fan Tray
- 2 x Power Supply
- Sup2T
- IP Services

List Price: $38,000

36% savings over A-La-Carte
The New Catalyst 6880-X
Premier Features

- Most Scalable L3 Routing tables (up to 2M IPv4) in Cisco Switching Portfolio
- Highest 10G Density Switch with MPLS Support in Cisco Fixed Switching Portfolio
- All 3000+ Cisco Catalyst 6500 Features Working DAY 1
  - Mature, Proven Deployed @ Scale
- Highest 10G Density Fixed Switch with Instant Access Support
- Only Platform in Industry to Support from 10 Mbps to 40* Gbps Ethernet on Every Port

Premier Feature Set with Radically Improved 10G Economics in Fixed Form Factor
The New Catalyst 6880-X
CK6 Based “Extensible” Fixed Platform

- Four 100G-Ready Port Slots
- Front Serviceable Power Supplies
- Fan Tray
- NEBS Level 3-Compliant Platform

- Low Power
- Low Noise Fans

- Platinum EFF Redundant
- AC and DC PS

- Up to Eighty 1G/10G Ports
- or Twenty 40G Ports*

- MACsec, VSS, Instant Access, MPLS, VPLS,
- LISP, SGT, 1588(*) Capable on Every Port

- Sixteen 10/100/1000/10G
- or Up to Four 40G ports

- Fixed Module Sixteen
- 10/100/1000/10G Ports
- X86 2 GHz CPU 4 GB DRAM

- Now Shipping
## Catalyst 6880-X Hardware Components

### Base System

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<tr>
<th>HW Scale</th>
<th>Standard (LE)</th>
<th>Large Tables</th>
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<tbody>
<tr>
<td>IPv4/v6 Routing Capability</td>
<td>256K/128K</td>
<td>2M/1M</td>
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<tr>
<td>Multicast Routes (IPv6)</td>
<td>64K</td>
<td>256K</td>
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<tr>
<td>Number of Adjacencies</td>
<td>256K</td>
<td>1M</td>
</tr>
<tr>
<td>MAC</td>
<td>128K</td>
<td>128K</td>
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<td>L3 Interfaces</td>
<td>128K</td>
<td>128K</td>
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<tr>
<td>Security and QoS ACL</td>
<td>64K</td>
<td>256K</td>
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<tr>
<td>Flexible NetFlow (per 16 ports)</td>
<td>512K</td>
<td>1M</td>
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<tr>
<td>Microflow Policers</td>
<td>512</td>
<td>512</td>
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<tr>
<td>Aggregate Policers</td>
<td>8K</td>
<td>8K</td>
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### Multi-rate SFP+ Port Card

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<th>Standard (LE)</th>
<th>Large Tables</th>
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<td>FIB Table IPv4/v6</td>
<td>256K/128K</td>
<td>2M/1M</td>
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<td>Flexible NetFlow</td>
<td>512K</td>
<td>1M</td>
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<tr>
<td>Security ACL Table</td>
<td>64K</td>
<td>256K</td>
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</table>

### Port Type

<table>
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<tr>
<th>Port Type</th>
<th>Ports</th>
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<tbody>
<tr>
<td>10/100/1000 Mb/s Copper</td>
<td>16 (via GLC-T SFP)</td>
</tr>
<tr>
<td>1 Gb/s Fiber</td>
<td>16</td>
</tr>
<tr>
<td>10 Gb/s Fiber</td>
<td>16</td>
</tr>
<tr>
<td>40 Gb/s Fiber (w/ Adapter)</td>
<td>4</td>
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</tbody>
</table>

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Enhanced Scalability with X86 CPU, 2 GHz Dual Core

Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
6880-X
Supporting Physical Infrastructure

Four High-Efficiency Green Fans

Platinum Efficiency AC and DC Power Supply (3KW)

Selectable In-Reach Depth
21.4” to 11.7”

Two-Post Rack Custom Mount Kit
The New Catalyst 6800 Instant Access Catalyst Instant Access Client 6800ia

Now Shipping

48 x 10/100/1000 RJ45 Ports

2 x 10G SFP+ Uplink Ports

System and Status LEDs

Data and PoE/PoE+ Options

48 x 10/100/1000 RJ45 Ports

Simple Install and Connect
No More Repetitive Operations
Cisco Catalyst Instant Access

**STANDALONE**

Access Switch  Access Switch

**VSS**

Access Switch  Access Switch

**INSTANT ACCESS**

Instant Access Client  Instant Access Client

LACP or PAGP

VSL

LACP or PAGP

SDP SRP SCP

Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
Cisco Catalyst Instant Access

Benefits

- Client capable of Stacking, POE+
- Single Point of Management, Configuration and Troubleshooting
- Simplified Network design for VLANs and port channels
- Agile Infrastructure to add new features uniformly across Access Layer
- A Single Image to deploy and manage across Distribution Block

REDUCED TCO

1000 Port Campus Distribution Block

ISE   Cisco Prime

Managed Devices = 20+
Instant Access Satellite Capabilities
Differences From Nexus FEX

STACKING

POE+

Connect Compact Switch

Fabric Link

Spanning-tree bpduguard Disable
Hardware Components
Instant Access

**Parent**

- Catalyst 6800/6500 Series
- Virtual Switching System (VSS)
- Supervisor 2T
- WS-X6904-40G

**Client**

- 6800IA Satellite Device
- 48x1G, 2x10G, 740W POE+ (List: $9,000)
- 48x1G, 2x10G, Data Only (List: $7,000)
## 10 Things to know about Instant Access

<table>
<thead>
<tr>
<th>Description</th>
<th>15.1(2)SY Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scalability</td>
<td>Support up to 1,008 ports (21x 6800ia switches)</td>
</tr>
<tr>
<td>VSS Support</td>
<td>VSS Mode Required, (work with a single chassis VSS)</td>
</tr>
<tr>
<td>POE Support</td>
<td>15W on 48 ports, 30W on 24 ports</td>
</tr>
<tr>
<td>Stacking Support</td>
<td>Stacks of 3 IA supported</td>
</tr>
<tr>
<td>Maximum FEX-ID</td>
<td>12</td>
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<tr>
<td>Optics Supported</td>
<td>Twin-AX/SR/LRM/LR/ER</td>
</tr>
<tr>
<td>6880-X IA Parent Support</td>
<td>Available starting 15.1(2)SY2</td>
</tr>
<tr>
<td>IA Client with Redundant Power Supply</td>
<td>External RPS Supported</td>
</tr>
<tr>
<td>In Chassis SSO</td>
<td>Not Available</td>
</tr>
<tr>
<td>VSS Quad Sup SSO</td>
<td>Available starting 15.1(2)SY2</td>
</tr>
</tbody>
</table>
Deployment Examples

Instant Access

- 7 Nodes of 144 ports each = 1008 Fabric Links Used = 7
- 10 Nodes of 96 ports each + 1 Node of 48 port = 1008 Fabric Links Used = 11
# C6K Enterprise Backbone Technology Pillars
Cisco IOS Software Release 15.1(2)SY

## Cisco Catalyst 6800 for Campus Backbone

### Smart Operations
- Smart Install Director
- Instant Access, 6800ia
- IA 1008 access ports, stacking of 3

### Security and Virtualization
- TrustSec Per Policy CoA
- L3SGT For TrustSec
- SGACL Monitor Mode (Dry Run)
- SGT Name export in NetFlow
- TrustSec Diagnostic Tool Kits - Packet Trace
- TrustSec SGA SYSLOG Messages

### Application Visibility and Control
- WCCPv2 - IPv6 Support
- Egress Microflow Destination-Only Policing
- QoS Policer Rate Increase to 256G
- NAM3
- Global QoS Policy
- Interfaces MIB: SNMP context based access

### Resiliency
- VSS Quad Sup SSO (VS4O)
- BGP PIC

### Routing and Switching
- LISP Locator/ID Separation Protocol
- High Quality Video
- Multicast Service Reflection
- VPLS PIM and IGMP Snooping (LAN Interfaces)
- MPLS TE - Bundled Interface Support (EtherChannel and MLP)

---

**OS Consistency:** IOS 15.0 for End-to-End Campus Feature Deployment

*Future Release*
Smart Operations
Smart Install Director

Smart Install Database

Image File: Image-1
Config File: Conf-1

Image File: Image-2
Config File: Conf-2

Smart Install Director

TFTP/DHCP Server

LAN

Client Group 1

Client Group 2

Smart Install Clients

Plug-and-Play Domain

Smart Install Benefits

Centralized Management

Zero-Touch Installation

Minimize Downtime

Supported with Cisco Prime

Smart Install Clients

15.1(1)SY  Support
Sup2T  YES
Sup720  NO

Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
Catalyst for End-to-End Campus Security
TrustSec: The Right Resources for the Right User at the Right Time

Customer Challenges

Providing Right Level of Access to Multiple User Groups and Devices

Meeting Security Compliance
Requirements Such as PCI 2.0, Sox, HIPAA

Easily Maintain Security Policies While Ensuring Business Continuity

VLAN to SGT Mapping New!
Marks Any Traffic Belonging to a Particular VLAN with the Configured SGT Value

Subnet to SGT Mapping New!
Marks Any Traffic with Source Address Within a Subnet with the Configured SGT Value

Layer Identity Port Mapping (IPM) New!
Marks Any Traffic Passing Through a Particular L3 Interface with the Configured SGT Value

Enhanced TrustSec Deployments
Backwards Compatibility with Existing Segmented Networks for Easy Migration
Campus Architecture
Network Virtualization

Example Challenges
- Segment users for security
- Compliance with regulation
- Legacy applications?
- Reduce Capital and Operation expense
- Will I be able to limit the amount of traffic?

Network Virtualization Solutions
- GRE, VRF-Lite, EVN
- MPLS VPNs, L3VPNomGRE, MVPN, LSM, 6VPE
- EoMPLS
- VPLS, H-VPLS
- L2omGRE, VPLSoGRE, A-VPLSoGRE, LISP

Network Virtualization
- VRF Lite, EVN, L3VPN, MPLSoGRE
- L3VPNomGRE, Inter-AS, CSC, 6PE, 6VPE, MVPN, LSM, LISP, EoMPLS, VPLS, A-VPLS, Layer 2 MPLS VPNs overGRE, L2omGRE, QoS, TE, VRF-Aware Services

VLANs, VRF-Lite
Application Visibility and Control (AVC)
BYOD Requires Enhanced Monitoring With Untrusted Devices

The Solution
Flexible NetFlow

Highly Scalable Full Visibility Solution with Flexible NetFlow in Hardware
Multicast Traffic Visibility and Simpler Deployment with Egress NetFlow
Full NetFlow as Well as Sampled NetFlow in Hardware to Scale Beyond 13 Million Flows

Security Flow Monitor
All the fields in IPv4 and IPv6 header
Variety of Individual TCP flags
Can export section of a packet

Multicast Visibility with Egress NetFlow
Single point of configuration Full visibility

Copy-Based Sampling
Sampled packet send to RP
RP can do deep packet inspection

Optimal CPU Utilization Using NDE

Direct NetFlow Export from line card

NetFlow Collector


IP-Aware MPLS NetFlow Lookup based on only inner IP header of tagged packet

NetFlow Export Improvements
Direct Data Export from line card

WS-X6908-10G

Application Visibility and Control (AVC)
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Multicast Traffic Visibility and Simpler Deployment with Egress NetFlow
Full NetFlow as Well as Sampled NetFlow in Hardware to Scale Beyond 13 Million Flows
Flexible NetFlow (FnF)
How can it really help me?

FnF Benefits

• **Lower CapEx**
  Better insight for capacity planning, network upgrades and compliance

• **Lower OpEx**
  Better service and user experience, Increased IT staff productivity

FnF Capabilities

• Deep app visibility with L2 - L7 fields
• Flexible flow Monitors & Records
• Scalable flow Collection & Export
• Customizable policy action with EEM
• Simple to deploy with NAM3 & Prime
VSS Quad Sup SSO Provides Optimal Business Continuity for BYOD/Collaboration

**Simplified Network Design**
- Spanning Tree and first-hop redundancy protocols eliminated
- Single touchpoint manageability

**Double Bandwidth Utilization**
- With active-active multichassis EtherChannel (LACP/ PagP)
- 1+1 Supervisor redundancy for dual-attached devices

**Deterministic and Automated Recovery**
- Maximize network throughput with VSS quad Sup SSO
- 1:1 (active/standby) supervisor redundancy for single and dual attached devices

**Traditional VSS**
- Access Switch or ToR or Blades
- Monitoring Server
- LACP or PagP

**VSS Quad SUP SSO**
- 10GE
- LACP
- SSO Sync
- Support
  - Sup2T: YES
  - Sup720: NO

**Double Bandwidth Utilization Diagram**
- Available Bandwidth
  - 50ms - 200ms
  - 100%
  - 50%
- Time

**Deterministic and Automated Recovery Diagram**
- Available Bandwidth
  - 50ms - 200ms
  - 100%
  - 50%
- Time
BGP Prefix Independent Convergence (PIC)
Providing Predictable Subsecond Convergence < 1 Second

BGP Relies on >1 Second Hellos and Then Updates Each Prefix

BFD Provides Subsecond BGPlink State Updates

BGP Prefix Independent Convergence (PIC)
Providing Predictable Subsecond Convergence < 1 Second

Convergence Without BGP PIC and BFD 30–90 Seconds
Convergence with BGP PIC and BFD 50–150 Milliseconds

Campus Backbones May Not Scale and/or Converge Well with Just OSPF or EIGRP
Many Large Enterprises Use BGP (and MPLS) for Simple Core Routing and Traffic Engineering
PIC Allows a Predefined "Backup" BGP Path

Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
High-Quality Video

**Customer Challenges**

Keep up with explosive growth in video endpoints

- **Video Quality**: 1080p
- **Bandwidth**: 15 Mbps
- **Jitter/Latency/Drop**: High Sensitivity

Business videoconferencing will grow **six-fold** over the forecast period. Business videoconferencing traffic is growing significantly faster than overall business IP traffic, at a CAGR of **48 percent** from 2011–2016.

Cisco VNI Global Forecast

**Business IP Traffic**


- 2011: 2,000 Petabytes per Month
- 2012: 4,000 Petabytes per Month
- 2013: 6,000 Petabytes per Month
- 2014: 8,000 Petabytes per Month
- 2015: 10,000 Petabytes per Month
- 2016: 12,000 Petabytes per Month

- Mobile Data: 66%
- Managed IP: 18%
- IP: 18%

---

**Deep Buffers** | **Two Priority Queues** | **40 Gigabit Interfaces**

Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
High-Quality Video

Customer Challenges

Identify and Prioritize
Critical Video Traffic

Debug and Isolate
Video Quality Issues

Performance Monitoring and Mediatrace

Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
## Campus Leadership in IPv6

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<th>Visibility &amp; Control</th>
<th>Special Technologies</th>
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<td>• IPv6 GRE, DMVPNv6</td>
<td>• IPv6 ECMP</td>
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<td>• BGPv6</td>
<td>• IPv6 IPsec</td>
<td>• L3 LISP</td>
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<td>• IPv6 PBR</td>
<td>• IPv6 Firewall Security</td>
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<td>• IPv6 SSO / NSF, NSR</td>
<td>• IPv6 IDS</td>
<td>• Traffic Policing</td>
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<td>• Dual-Stack IPv4 / IPv6</td>
<td>• IPv6 ASA-SM</td>
<td>• IPv6 HqoS, PQ</td>
</tr>
<tr>
<td>• Dual-Stack IPv4 / IPv6</td>
<td></td>
<td>• Vlan HqoS, PQ</td>
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<tr>
<td>• IPv6 PIM, Embedded RP</td>
<td></td>
<td>• QinQ Trunking</td>
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<tr>
<td>• IPv6 support for VSS</td>
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<th>Core</th>
<th>Edge</th>
<th>Distribution</th>
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<tr>
<td>• EIGRPv6, OSPFv3, IS-IS</td>
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<td>• IPv6 SSO / NSF, NSR</td>
<td>• IPv6 RACL, VACL</td>
<td>• IPv6 RACL, VACL</td>
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<tr>
<td>• Dual-Stack IPv4 / IPv6</td>
<td>• ACL Hitless Commit / Dry Run</td>
<td>• L2 / L3 Flexible Netflow</td>
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<td>• IPv6 PIM, BSR</td>
<td>• IPv6 CoPP</td>
<td>• IPv6 ECMP</td>
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<td>• DHCPv6, Relay Agent</td>
<td>• IPv6 uRPF</td>
<td>• L2 / L3 LISP</td>
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<td>• HSRPV6, VRRPV6, GLBPv6</td>
<td>• IPv6 Flexible Netflow</td>
<td>• BFDv6</td>
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<td>• IPv6 support for VSS</td>
<td>• IPv6 First Hop Security</td>
<td>• Traffic Policing</td>
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<td>• IPv6 PACL, RA Guard</td>
<td>• IPv6 HqoS, PQ</td>
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<td>• Port-Security, Storm-Control</td>
<td>• Vlan HqoS, PQ</td>
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<td>• L2 Flexible Netflow</td>
<td>• QinQ Translation</td>
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<th>Access</th>
<th>Data Center</th>
<th>Branch</th>
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<td>• RPSVT, MST</td>
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<td>• VTP, VTPv3</td>
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<td>• MLD, PIM Snooping</td>
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<td>• IPv6 First Hop Security</td>
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<td>• QinQ Trunking</td>
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</table>
L3 LISP
Extend VRF Services Over Existing Core

- Extend VRF relevance across sites
- No Changes required in Network Core
## Catalyst 6800 Series

### MPLS/VPLS
- 10-Year MPLS Maturity
- L2 VPN
- L3 VPN
- L2/L3 VPN over mGRE
- MPLS TE
- VPLS/A-VPLS/H-VPLS
- Label Switch Multicast
- mVPN over mGRE
- MPLS to Access with Sat
- MACsec over EoMPLS
- VRF-Aware Multicast
- VRF-Aware NetFlow
- MPLS-Aware NetFlow

### Next-Gen Campus Solutions
- Instant Access
- L2 Campus LISP*
- L3 Campus LISP
- SDN*
- Smart Install Director

### VSS/Virtualization/HA
- 5+ Year VSS Success
- VSS Standalone Parity
- MACsec on VSL
- 1G VSL
- BFD
- EVN

### IPv4 Unicast
- OSPFv2-v3
- OSPFv3 VRF-Lite
- VRF-Aware Unicast
- IP Tunnel HA
- BFD SVI-GRE
- BGP PIC

### IPv4 Multicast
- IGMPv3 and MLDv2 Snooping in HW
- PIM-SM “Dual-RPF” in HW
- PIM-DM, PIM-Bidir
- PIM-Bidir, PIM Snooping
- PIM Register in HW
- mVPN, MSR, mcast BFD

### IPv6 Features
- IPv6-IPv4 HW Parity
- IPv6 in IPv4 Tunnels, VRF-Aware IPv6 Tunnels
- OSPFv3 VRF PE-CE
- BGPv6, IS-ISv6
- MLD, MLD Snooping
- 6VPE and 6PE
- IPv6 Mcast HA
- PIM Sparse Mode (PIM-SM)
- IPv6 SLA, TCL, LLDP

### IPV4 Multicast
- IPv4 Routing Capability
  - 64K-2M
- Multicast Routes (IPv4)
  - 64K-256K
- Number of Adjacencies
  - 256K-1M
- MAC
  - 128K
- ECMP (v4 and v6)
  - 16
- Security and QoS ACL
  - 64K-256K
- Flexible Netflow
  - 128K-5M
- MPLS Label Push/Pop in 1pass
  - 5/3
- Aggregate Policers
  - 8K
- VPN
  - 16K

### QoS and Security
- MACsec/SGT
- DHCP Snooping
- SGACL and L3 SGT
- Dynamic ARP Inspection
- Ingress/Egress ACL
- Span with ACL
- Time-Based ACL
- Identity
- ACL Statistics
- ACL-Based QoS Classification
- Port Security
- Marking (DSCP/COS)
- IPv6 FH Security
- Microflow Policing
- ACL Atomic Commit/Dry Run
- Advanced CoPP
- IPv6 uRPF
- IPv6 VACL
- Flexible Netflow
- Egress NetFlow
- Sampled NetFlow
- NDE
- Video Monitoring
- Mediatrace
- IPv6 SLA, TCL, LLDP
- Metadata QoS
- Multicast Service Reflection (MSR)
- WCCPv3
- PBR IPv4/IPv6
- NAT
- GRE
- ERSPAN
- NDE
- Video Monitoring
- Mediatrace
- IPv6 SLA, TCL, LLDP
- Metadata QoS
- Multicast Service Reflection (MSR)
- WCCPv3
- PBR IPv4/IPv6
- NAT
- GRE
- ERSPAN
- NDE
- Video Monitoring
- Mediatrace

### Rich Media
- Flexible NetFlow
- Egress NetFlow
- Sampled NetFlow
- NDE
- Video Monitoring
- Mediatrace
- Metadata QoS
- Multicast Service Reflection (MSR)

### Management/Services
- WCCPv3
- PBR IPv4/IPv6
- NAT
- GRE
- ERSPAN
- NDE
- Video Monitoring
- Mediatrace
- Metadata QoS
- Multicast Service Reflection (MSR)
- WCCPv3
- PBR IPv4/IPv6
- NAT
- GRE
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Cisco Connect, Riyadh, Saudi Arabia, April 29-30, 2014
Reinventing the Backbone Experience
Catalyst 6800 is here!

Nonstop Innovation
Strong hardware and software roadmap with a lot more still to come

Day One Maturity
Inheriting 15 years of technology depth and breadth

Investment Protection
Connecting the past, present and future of the Cat6K