Core Routing and Switching

Cisco on Cisco – Executive Module
Version 7.0, Q1, FY’07
Core Routing and Switching
# Executive Summary

## Cisco All Packet Summary

Common Enterprise Wide Infrastructure, 300 Sites: 2923 Switches and 2136 Routers, 2510 ECT Routers

<table>
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<tr>
<th>Core Switch: Cisco Catalyst 6500 Series Switch</th>
<th>Core: Cisco 6500 Series Router</th>
<th>WAN access: Cisco 7200/7600 Series Router</th>
<th>Service provider MPLS IP-VPN network in EMEA</th>
<th>5 Enterprise Production Data Centers</th>
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Data Centers (Today and Future)
Campus

- Gigabit Ethernet and 10 Gig E in campus core; 10/100 Gigabit Ethernet to desktop
- Cisco Catalyst 6500 Series Router as an edge-to-core platform using both switching and routing capability
- Campus network design uses duplexed equipment and circuits to avoid single point of failure
CAPNet: Cisco All Packet Network

CAPNet 2005
Legend
- Gigabit Ethernet
- OC12
- OC3
- DS3

Cisco Facility
AT&T Co-Location Facility
C&W Co-Location Facility
Equinix Co-Location Facility
Transport
- Any to any
- Provides security, QoS, multicast, and resiliency

Services
- Enables voice, video, and peering applications
- Access to new services—IP—PSTN, Internet
# Routing and Switching at Cisco

## Past
- Spoke-and-hub WAN architecture
- The beginnings of IP convergence
- All PBX infrastructure
- Early WLAN deployment
- Limited storage network

## Present
- Peer-to-peer network architecture
- Converged voice, video, and data network
- Intelligent network services
- Storage Area Networks (SANs) span thousands of miles with FCIP
- Network Admission Control (NAC)
- IIN & SONA

## Future
- Full vision of IIN & SONA
- GSRs in the Internet Gateway
- POE upgrade from Cisco prestandard to IEEE 802.3af.
- Application Aware QoS v2
- Upgrade of 1000+ Edge & L3 Switches, Data Center Network and Branch Office
Core Routing & Switching – Sound Bite

Summary

**Productivity**
- Latency minimized through ‘shortest path’ any-to-any topology, enhancing end user experience.

**Operational Excellence**
- MPLS VPN = 1 connection to network providing flexible office adds and moves

**Cost Savings**
- MPLS VPN = 4X bandwidth at no extra cost
- International VoIP calling
- Overall cost reduction of 23% through modernized IP network.
- Highly adaptive routing and switching with high-value software platform optimize long-term network business value and cost effectively manage growth.
More INTERNAL Routing & Switching Resources

- Case Studies
  [URL](http://www.cisco.com/it/technology/at_work/rout-cs.shtml)

- Question Forum (Answers from the Experts)

- Operational Practices & Design Guides
  Operational Practices - [URL](http://www.cisco.com/it/technology/at_work/rout-wp.shtml)
  Design Guides - [URL](http://www.cisco.com/it/technology/at_work/dg_routing_switching.shtml)

- Product & Solutions Deployment Status
  [URL](http://www-tools.cisco.com/it-gss/cw_pa/home.do?currentAction=getTechnologyDetails&strTechID=1)

- ORDER Resources for you and your customer
  [URL](http://www.cisco.com/it/oncisco/collateral/index.shtml)
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