



Executive Summary

- Cisco Announces Advances to the Cisco Content Networking Framework
- Provides “Acceleration” of Classification, Services and Policy
- Enables **Large-Scale** Deployment of Internet Business Applications
- Helps the Enterprise Move Fully to an Internet-Based Business Model
- Multiple New Products within the CCN Framework

www.cisco.com

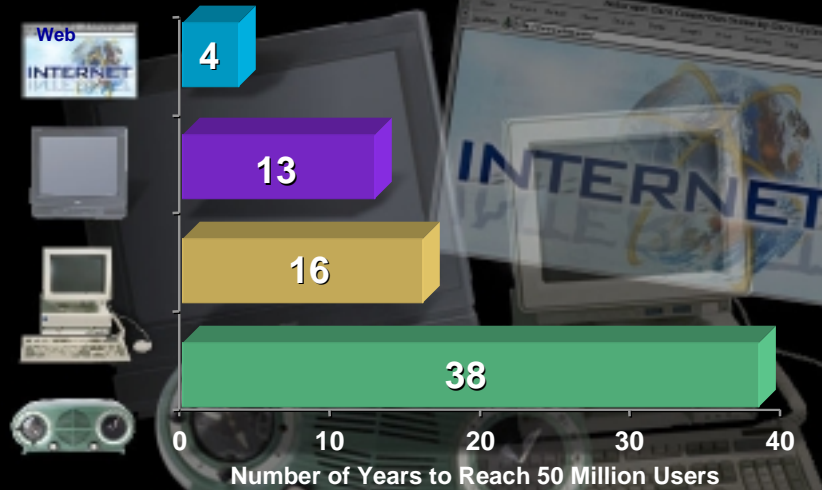
Agenda

- **Transition to Internet-Based Business Model**
- CCN Framework
- Transition Requirements
 - Software-Based Acceleration
 - Hardware-Based Acceleration
 - Network-Based Acceleration

www.cisco.com

Internet Adopted Faster than Any Previous Technology

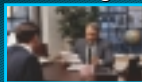
Years to 50 Million Users



Transition to Internet Business

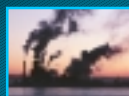
Traditional Business

Brokerage



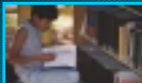
Intermediation
(Broker) Fees

Purchasing
(Manufacturing)



Sourcing by
Fax and Phone

Bookstores



Bricks and Mortar

Transition

Content
Networking

Internet Business

E*TRADE

\$120 Billion in Assets



Purchasing
Cost
Reduced
by over
\$700 Million
over 3 Years

amazon.com

2.5 Million Virtual
Customers

www.cisco.com

Internet Ecosystem for the Enterprise

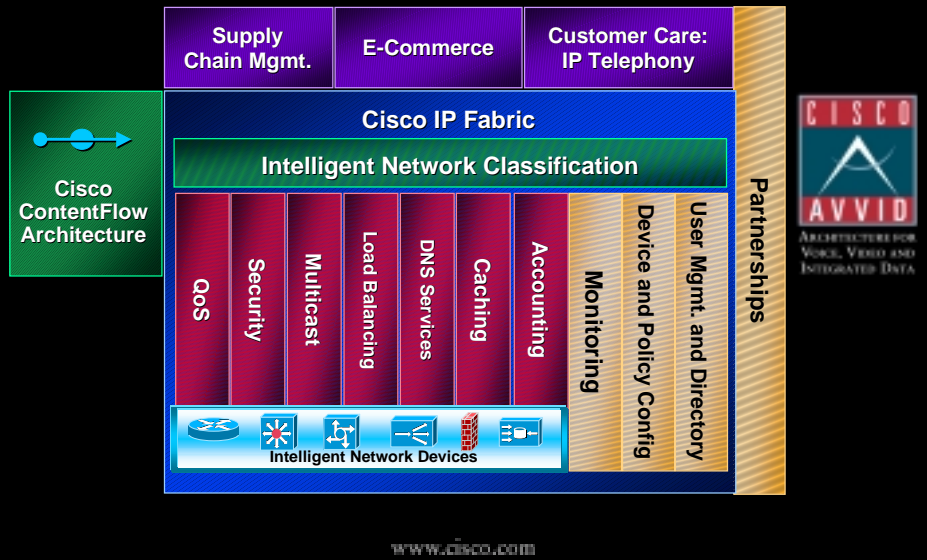


Agenda

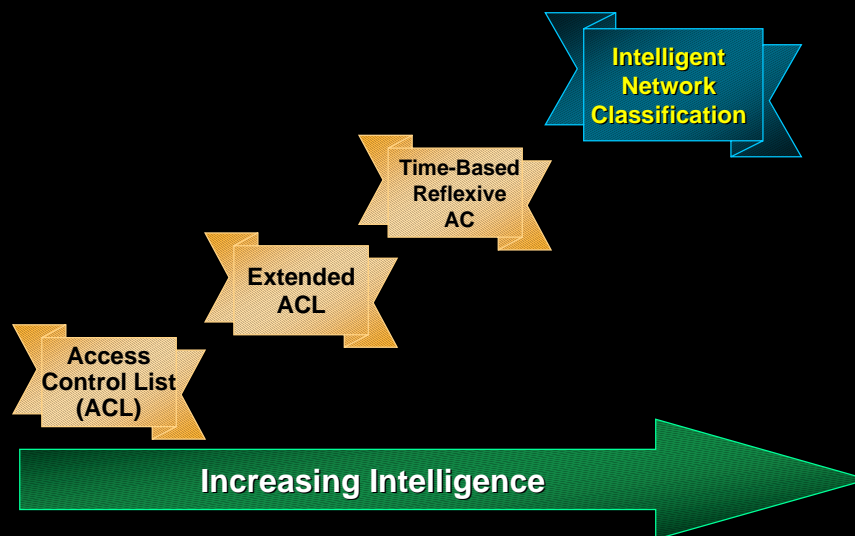
- Transition to Internet-Based Business Model
- **CCN Framework**
- Transition Requirements
 - Software-Based Acceleration
 - Hardware-Based Acceleration
 - Network-Based Acceleration

www.cisco.com

The Cisco Content Networking Framework

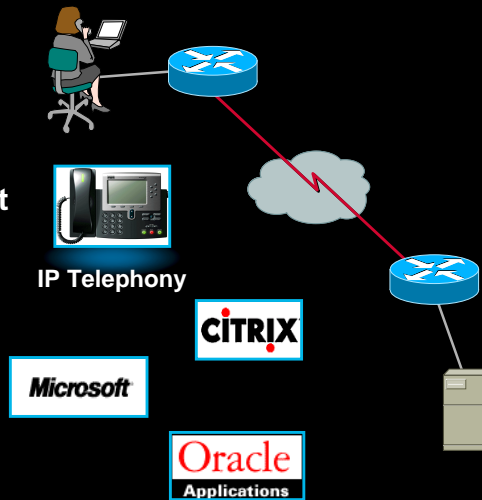


Evolution of Network Classification



Network-Based Application Recognition

- Challenge: How to classify web-based applications
- NBAR provides intelligent classification by:
 - Application type
 - URL and MIME
 - Dynamically assigned ports
- Initially for QoS



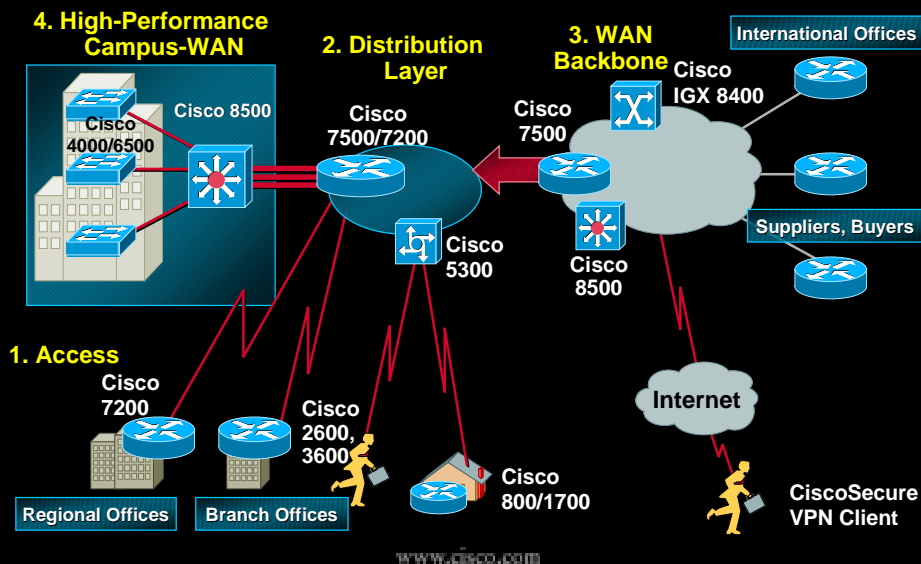
www.cisco.com

Cisco IOS—Intelligent Network Services for Internet Business Applications

Old World	New Services	Top Benefit
Integrated Access Data/Voice/Video	'IP Multiservice'	Reduced Infrastructure Cost: Multiple Overlays Replaced with One Multiservice Network
Priority	'IP QoS'	Priority for Access to a Multiservice Network
Protection	'IP Security'	Obtain IP Multiservice Benefits without Risk
Public Network Partitioning	'IP VPNs and MPLS'	Simple and Secure Sharing of Public IP Services
Scalable Real Time Distribution	'IP Multicasting'	Efficiently Transmit Messages From One to Many

www.cisco.com

Intelligent Network Devices

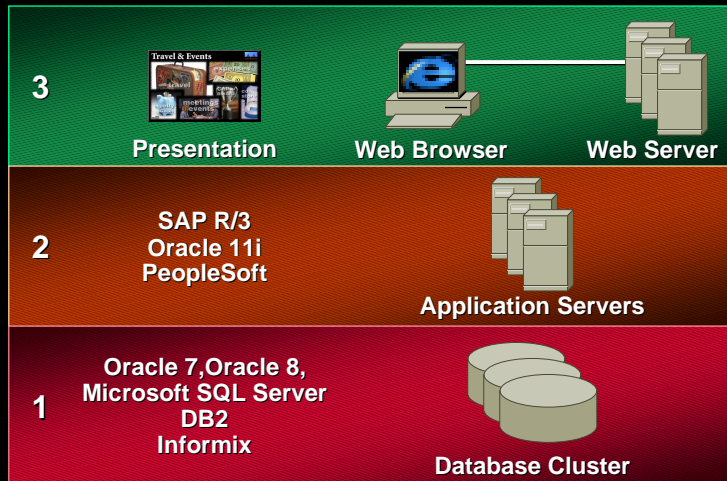


Agenda

- Transition to Internet-Based Business Model
- CCN Framework
- **Transition Requirements**
 - Software-Based Acceleration
 - Hardware-Based Acceleration
 - Network-Based Acceleration

www.cisco.com

N Tier “Application Delivery Model”



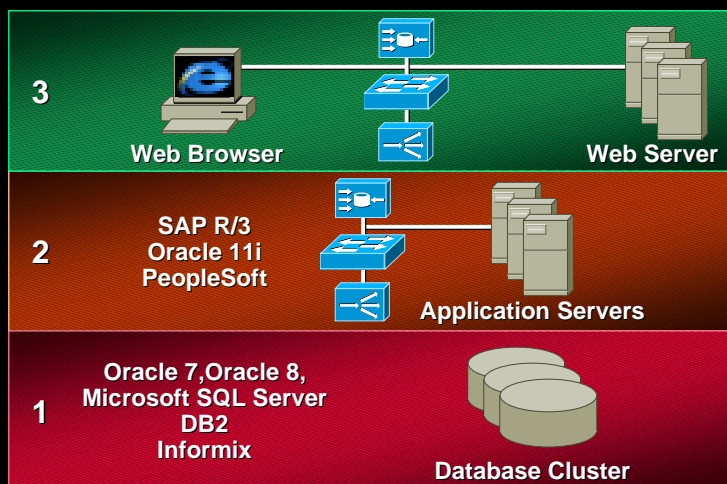
www.cisco.com

App Delivery Model Supported by Transparent CCN “Network Delivery Model”

Caching
and
Server Load
Balancing

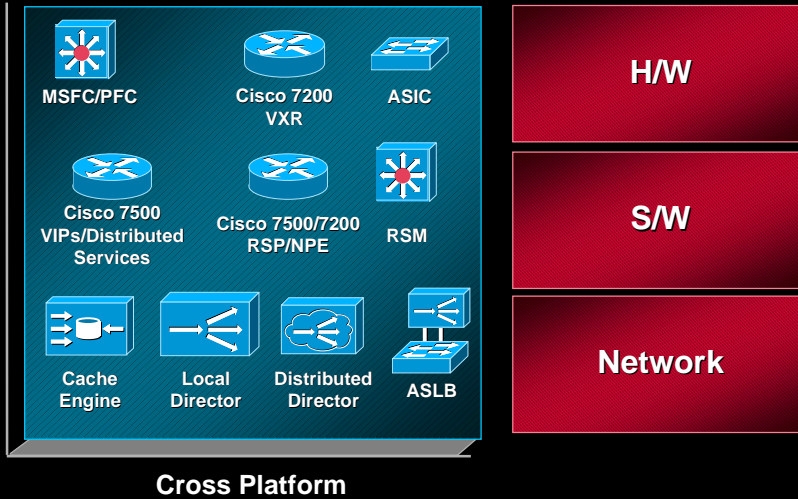
Intrusion
Detection
and
Server Load
Balancing

Switch and
Integrated or
External Firewall



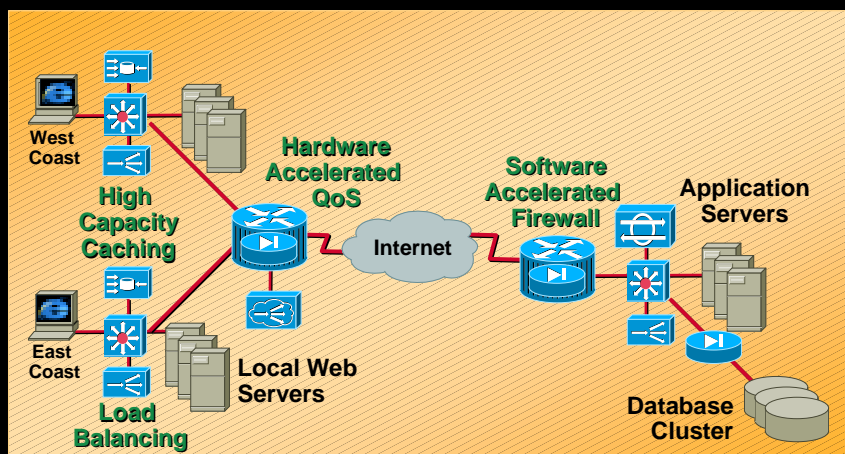
www.cisco.com

Service Acceleration Methodologies

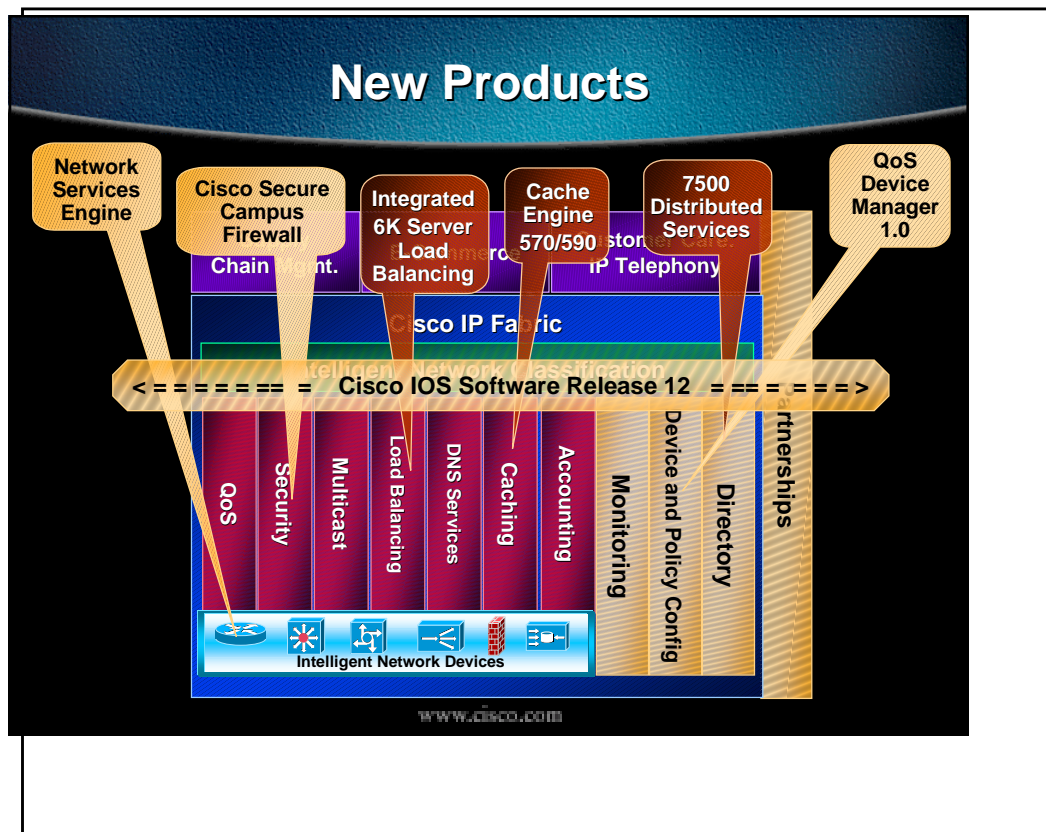


www.cisco.com

Example—Accelerated ERP Network Delivery Model



www.cisco.com



- ## Agenda
- Transition to Internet-Based Business Model
 - CCN Framework
 - Transition Requirements
 - Software-Based Acceleration
 - Hardware-Based Acceleration
 - Network-Based Acceleration
- www.cisco.com

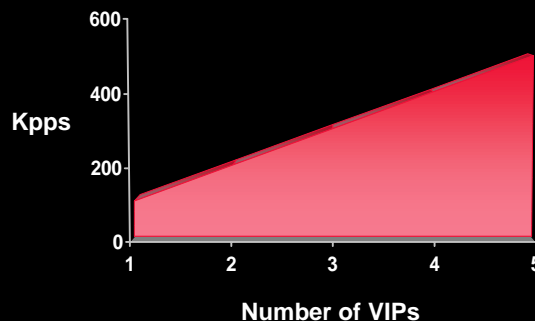
“Got 12”— The Move to Cisco IOS 12

- **Expanded services for Internet business applications**
- **Delivers accelerated services**
- **Available on wide range of high performance platforms**

www.cisco.com

Cisco 7500—Versatile Interface Processor Distributed Services

- **VIP offloads tasks from central Route Switch Processor (RSP)**
- **Performance scales with number of VIP's**



www.cisco.com

Cisco 7500 Software Distributed Services

New

Cisco 7500 Distributed Services

QoS

- Traffic shaping
- Policing (CAR)
- WRED
- NBAR
- IP precedence for ATM

Multiservice

RSP8, VIP4

- LFI
- Low latency queuing
- CB-WFQ
- RTP header compression

Other Services

- E&T ACL's
- Output accounting
- NetFlow export
- WCCP v1
- Multicast distributed switching

www.cisco.com

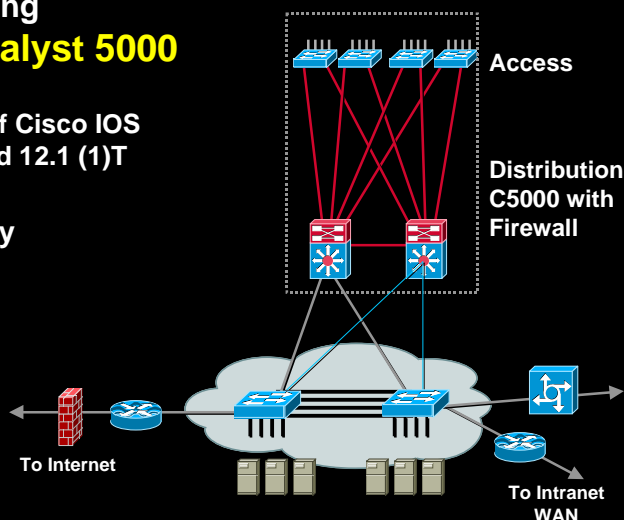
Integrated Campus Firewall

New

Introducing Firewall on Catalyst 5000

Available as Part of Cisco IOS Release 12.1M and 12.1 (1)T

- Intranet security
- Stateful packet filtering
- Java attacks blocks
- Intrusion detection
- Authentication proxy

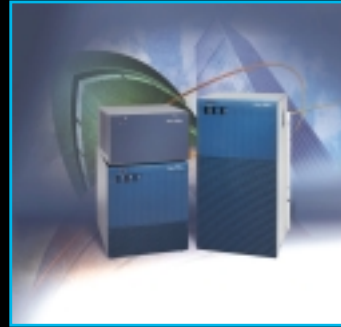


www.cisco.com

Firewall/Intrusion Detection on the Cisco 7500

New

- Supported in Cisco IOS releases 12.1M, 12.1(1)T
- Available in IP and enterprise software images
- Optionally available with IPSec for VPN implementations



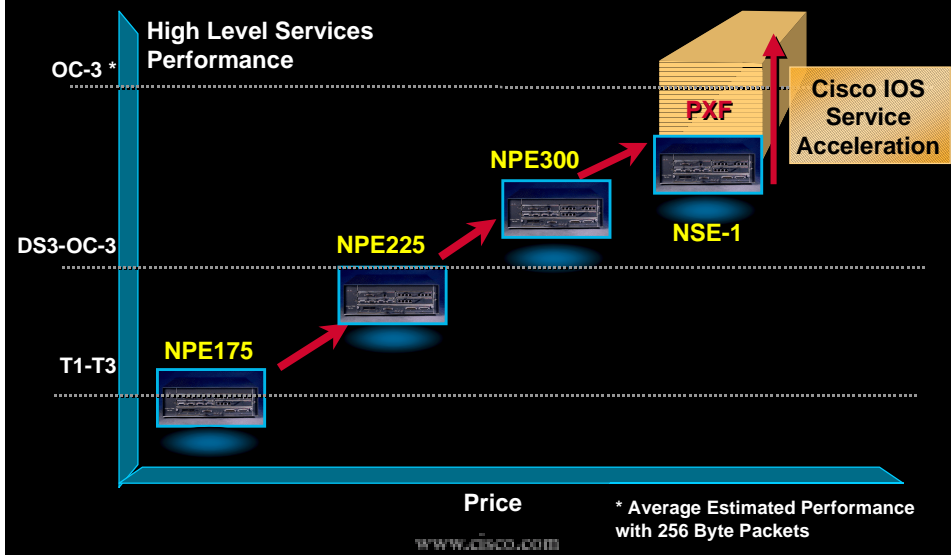
www.cisco.com

Agenda

- Transition to Internet-Based Business Model
- CCN Framework
- Transition Requirements
 - Software-Based Acceleration
 - Hardware-Based Acceleration**
 - Network-Based Acceleration

www.cisco.com

Cisco 7200 Scalable Price/Performance



Cisco 7200VXR—Network Services Engine NSE-1

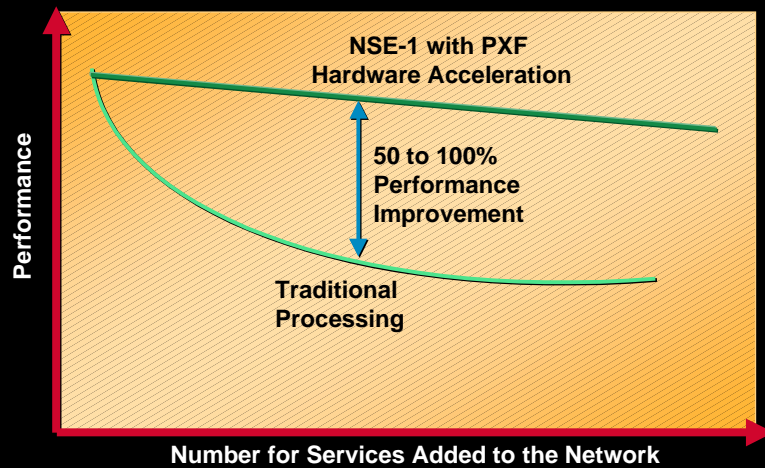
New

- DS3/OC-3 wire rate services
- Hardware accelerated PXF
- Accelerated network services
- Phase 1—QoS, NAT, NetFlow, Turbo ACLs
- 64 byte burst mode enabled
- Cisco 7200 VXR versions only



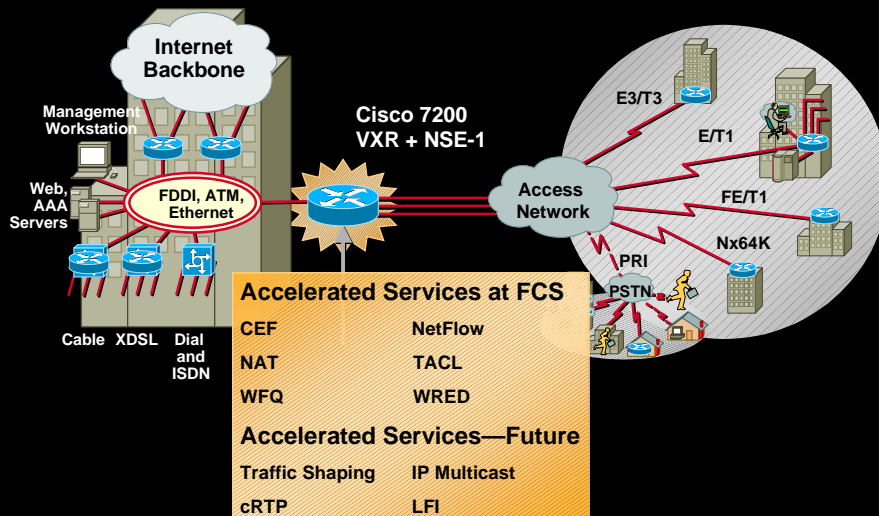
www.cisco.com

Accelerated Services Performance



www.cisco.com

NSE-1 for Services Acceleration



www.cisco.com

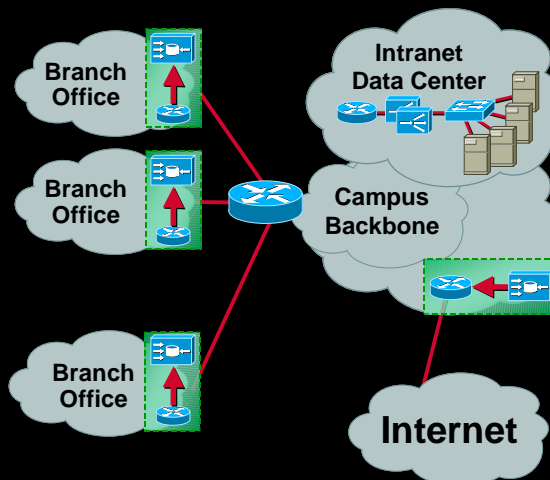
Agenda

- Transition to Internet-Based Business Model
- CCN Framework
- Transition Requirements
 - Software-Based Acceleration
 - Hardware-Based Acceleration
 - Network-Based Acceleration**

www.cisco.com

Caching

- Accelerates content delivery
- Accelerates deployment of web-based applications
- 25-60% WAN bandwidth savings



www.cisco.com

Cisco Cache Engine 500 Series

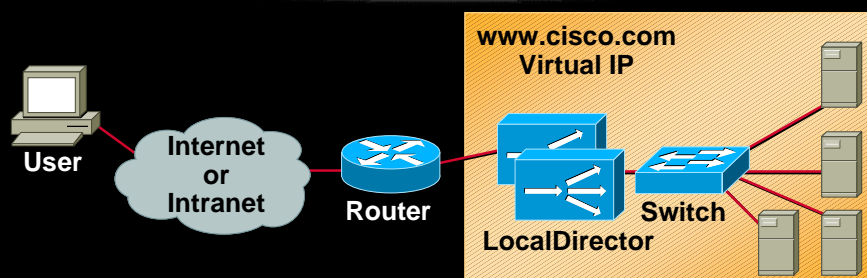
New

Customer	Solution	Performance	Rack Units	Storage (GB)
Service Providers, Large Enterprises (7x00, 6x00/MSFC, 5800)	CE 590 (a)	DS-3	1	36-144
Small PoPs, Med Ent. Regional Office (3600 to 4x00, 5300)	CE 570 (b)	Up to 22 Mbps	1	36-144
	CE 550	Up to 11 Mbps	1	18
Small Branch Office (1600 to 2600)	CE 505	T1/E1	1	9-18

- All models have two 10BaseT/100BaseTX interfaces
- (A) available in June 2000; requires Cisco storage array
- (B) available in March 2000; Cisco storage array is recommended for optimal performance

www.cisco.com

Server Load Balancing with Cisco LocalDirector



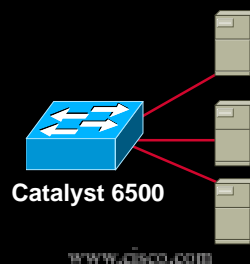
- Dynamically balances traffic across multiple physical servers
- Works for all TCP services (FTP, HTTP, news)
- Requires no server software
- Transparent to end users

www.cisco.com

Integrated Cisco IOS SLB

New

- Network integrated load balancing
- Advanced Cisco IOS functionality such as traffic shaping and security
- Products supported include Catalyst 6000 and Cisco 7200
- SLB software runs on MSFC for Catalyst 6500



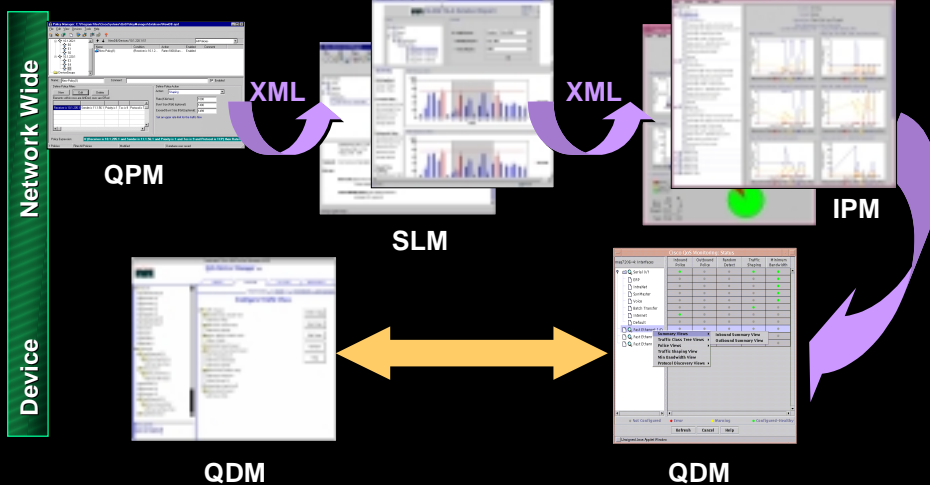
www.cisco.com

Complete Service Management

CONFIGURE

VERIFICATION

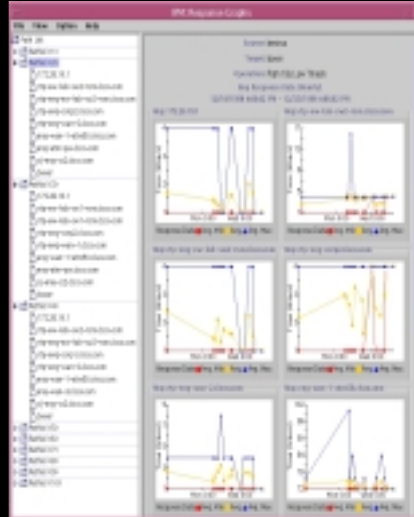
TROUBLESHOOT



www.cisco.com

Internetwork Performance Monitor 2.1 Hop-by-Hop Problem Analysis

- Troubleshoot network performance problems
Hop-by-hop monitoring identifies heavily congested devices
- Analyze classified IP traffic and inter class behavior
Real time response test and monitoring for any IP precedence value
- Real time notification of performance hot spots
SNMP traps for latency thresholds across network



www.cisco.com

Embedded QoS Management QDM

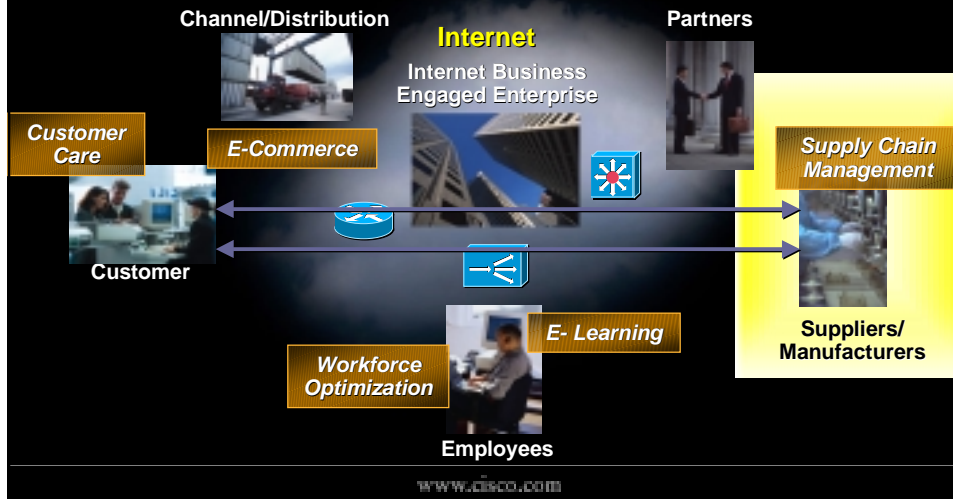
Q1 '00

- Primary features:
Device oriented QoS management tool combining:
QoS configuration and real time monitoring
Initially available on Cisco 7XXX routers running 12.06
Future releases supported on Cisco 2600 and Cisco 3600
Web browser connection to Cisco IOS embedded Web server
Support for critical Cisco IOS QoS features, including:
NBAR, CAR, PQ, CBWF, WRED



www.cisco.com

Summary—Cisco's Complete Internet Business Solution



Conclusion

- For more information

<http://www.in.cisco.com/cmc/cc/sol/mkt/ent/ccn/index.htm>

www.cisco.com

