

# **Cisco IOS Software Release 12.3 Introduction**

**ITD Product Management**

**May 2003**

# Cisco IOS Software Major Release 12.3

Cisco.com

## *Easy access to Voice, Security and QoS*

- **Powerful full-service branch router support**
- **Enhanced cost-effective Voice availability features in branch offices**
- **Simplified deployment of Voice, Security, and Quality of Service (QoS) functionality**
- **Simplified package selection with Cisco IOS Packaging**

# Agenda

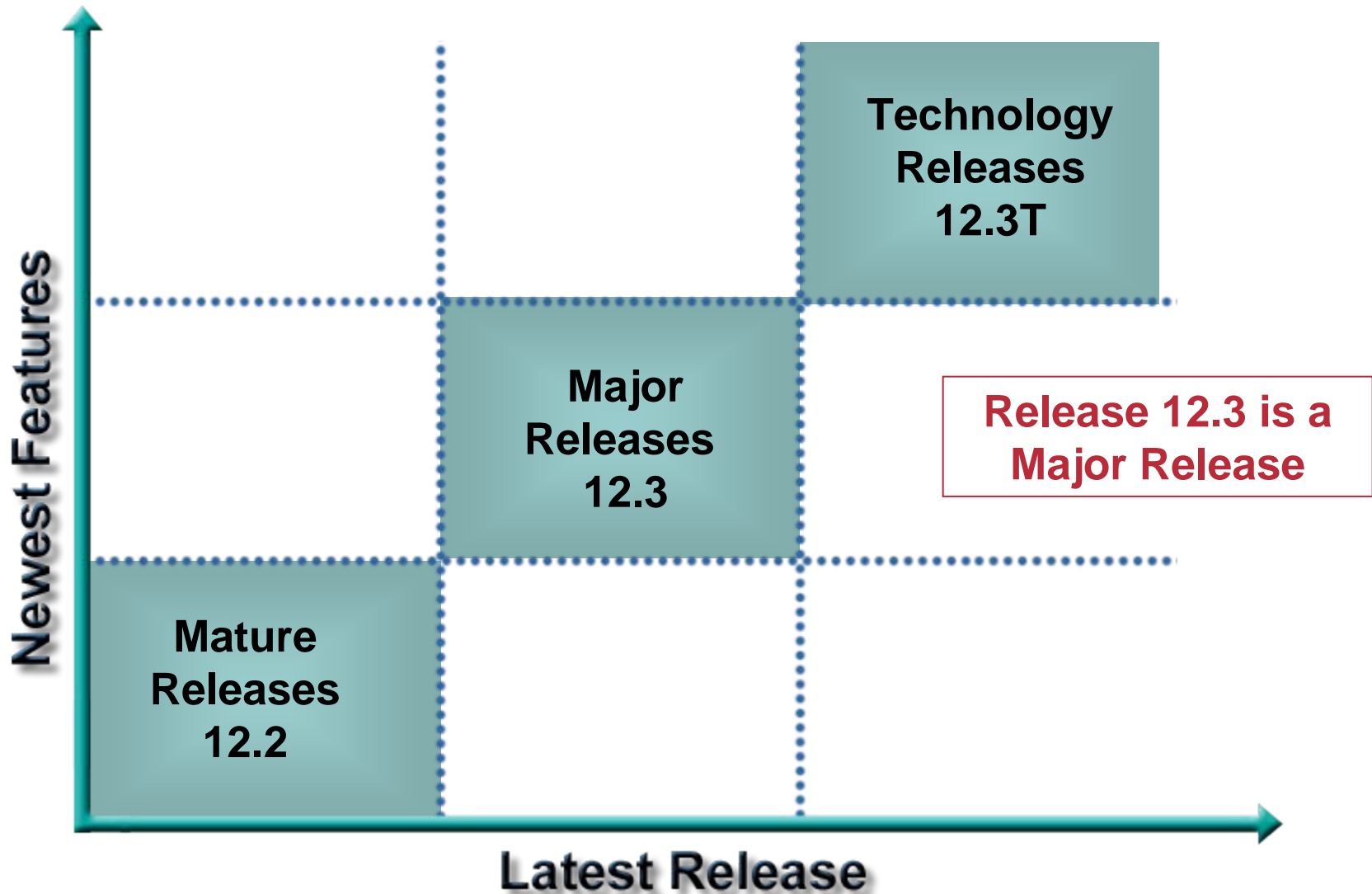
- **Release 12.3 Positioning**
- **Release 12.3 Highlights**
- **New Features & Hardware Support**
- **Upgrade Paths**
- **Summary**

# Cisco IOS Software Major Release 12.3

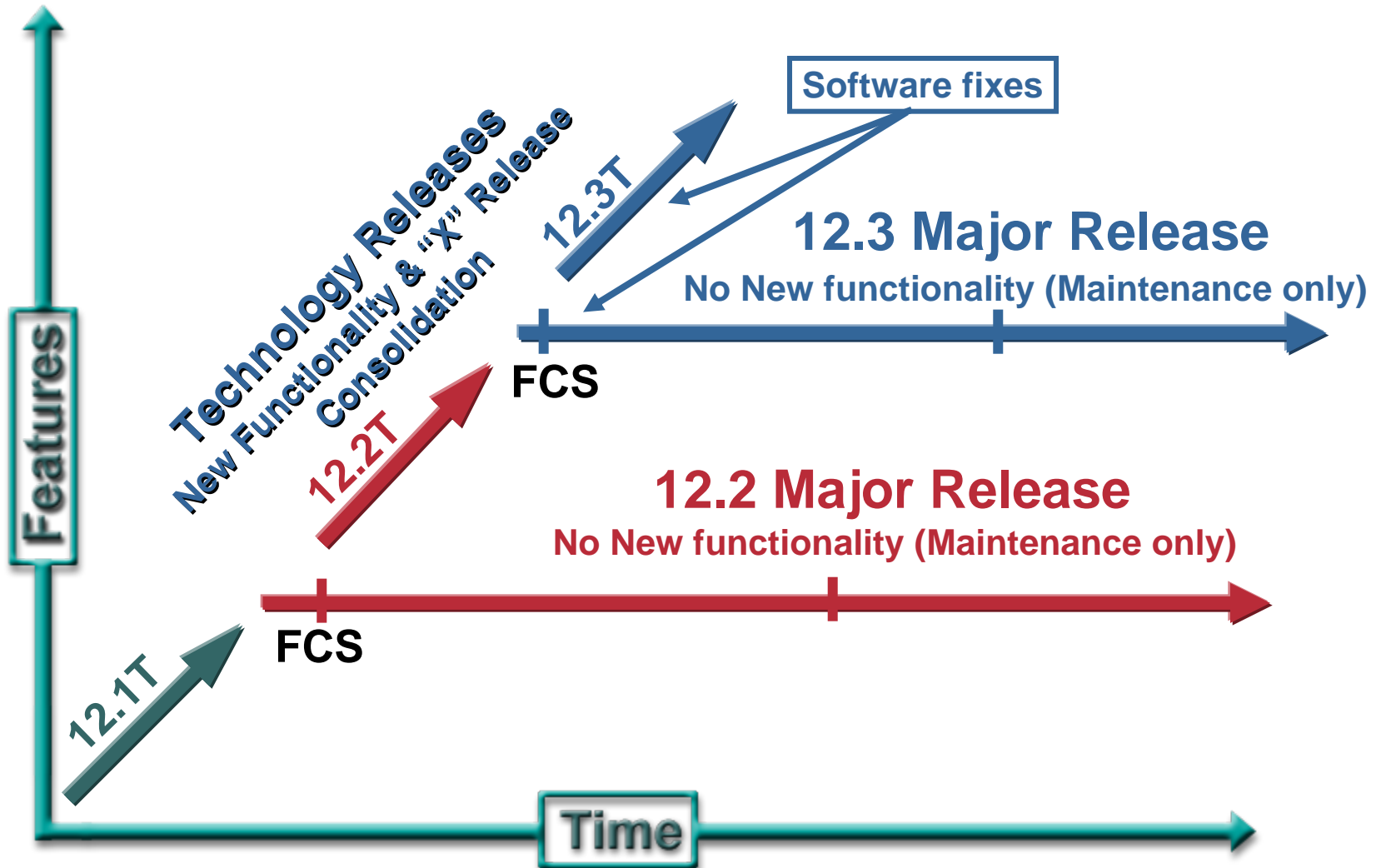
Cisco.com

- **Major Release 12.3 is designed for Enterprise, Access, and Cisco channel partners**
- **Delivers innovative, optimized features that enable easy access to IP voice, Security and QoS technologies**
- **Provides the leading-edge functionality and platform support introduced in Early Deployment Release 12.2T**
- **Offers a comprehensive portfolio of innovative technologies and advanced intelligent industry-leading network services**

# Leading Edge Functionality and Stability



# Evolution to Major Release 12.3



# Releases Consolidated in Release 12.3

## Early Deployment Release

**Release 12.2(15)T**

**“X” and “Y” Releases  
Included in 12.2(15)T\* Now in  
Major Release 12.3**

### Partial Listing of 12.2(x)X, and 12.2(x)Y Series

<b>12.2(2)XA</b>	<b>12.2(2)XB</b>	<b>12.2(2)XG</b>
<b>12.2(2)XH</b>	<b>12.2(2)XI</b>	<b>12.2(2)XJ</b>
<b>12.2(2)XK</b>	<b>12.2(2)XL</b>	<b>12.2(2)XM</b>
<b>12.2(2)XN</b>	<b>12.2(2)XQ</b>	<b>12.2(2)XR</b>
<b>12.2(2)XS</b>	<b>12.2(2)XT</b>	<b>12.2(2)XU</b>
<b>12.2(4)YF</b>	<b>12.2(4)YG</b>	<b>12.2(4)YH</b>
<b>12.2(8)YI</b>	<b>12.2(8)YJ</b>	<b>12.2(8)YK</b>

**FCS  
May 2003**

**12.3(1)**

**Note:**  
No continued engineering support is planned for the “X” and “Y” releases. Customers are encouraged to migrate to Release 12.3 for continued support.

\*12.2(15)T is planned for End of Sale October 2003, and End of Engineering October 2004

# Cisco IOS Software Releases – May 2003

Cisco.com

Cisco IOS Software Release	Target Market	Platforms
Release 12.0	Enterprise, Access	Cisco 800, 1400, 1700, 2500, 2600, 3600, 5000, and 7000 Series Routers; Cisco 12000 Series Internet Routers
Release 12.0S	Service Provider Core	Cisco 7200 and 7500 Series Routers Cisco 10000 and 12000 Series Internet Routers
Release 12.1	Enterprise, Access	Cisco 800, 1400, 1600, 1700, 2600, 3600, 7000, and AS5000 Series Routers
Release 12.1E	Enterprise Access / Aggregation	Cisco 6500, 7100, 7200, 7500, 8500, and ONS15454 Series Routers
Release 12.2	Enterprise, Access	Cisco 800, 1400, 1600, 1700, 2500, 2600, 3600, 7000, and AS5000 Series Routers Cisco ONS15104 Router
Release 12.2T	Enterprise, Access, Service Provider Aggregation	Cisco 800, 1400, 1600, 1700, 2500, 2600, 3600, 3700, 7000, and AS5000 Series Routers
Release 12.2S	Service Provider Core, Aggregation, Enterprise	Cisco 4000, 6500, 7000, and ONS155x0 Series Routers Cisco 10000 and 12000 Series Internet Routers
Release 12.3	Enterprise, Access	Cisco 800, 1700, 2600, 3600, 3700 and 7000 Series Routers

# Agenda

- Release 12.3 Positioning
- **Release 12.3 Highlights**
- New Features & Hardware Support
- Upgrade Paths
- Summary

# Agenda

- **Release 12.3 Positioning**
- **Release 12.3 Highlights**

→ **Cisco 3700 Series Router**

**Powerful full service branch router**

**Survivable Remote Site Telephony (SRST)**

**Cisco AutoSecure & AutoQoS**

**Cisco IOS Packaging**

# Cisco 3700 Series Multiservice Access Routers

Cisco.com

- **High services density in a compact form factor**
- **Modular, single-platform IP Telephony solution**
- **Integration of flexible routing and low-density switching**
- **Investment Protection – shared modularity with Cisco 1600, 1700, 2600 and 3600 Series Routers**



# Cisco "Full Service" Access Router Portfolio

Cisco.com

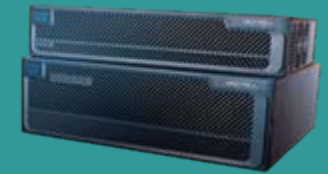
Concurrent Services and Performance

## Cisco IOS Intelligent Services:

- ✓ Security
- ✓ Voice
- ✓ QoS
- ✓ Availability



### 3700 Series



High Density Services Platform

- Modularity with performance optimized for "all-in-one" solution (HSDM, NM, AIM, WIC/VIC)
- Density for integrated content networking+ low density switching + future service modules
- Scalability for Branch aggregation
- Enhanced availability

### 2600 Series



Multi-Services Platform

- Extended modular connectivity (NM, AIM, WIC/VIC)
- Integrated content networking or low density switching option
- Legacy and dial aggregation

### 1700 Series



Low Density Services Platform

- Modular connectivity (WIC/VIC)
- Entry level voice services

### SOHO & 800



Secure Access

- Fixed platform
- Four port switch

Teleworker/SOHO

SMB

Small Branch

Enterprise Branch Office

# Agenda

- **Release 12.3 Positioning**

- **Release 12.3 Highlights**

  - Cisco 3700 Series Router**

  - Survivable Remote Site Telephony (SRST)**

    - Enhanced cost-effective voice availability features in branch offices**

  - Cisco AutoSecure & AutoQoS**

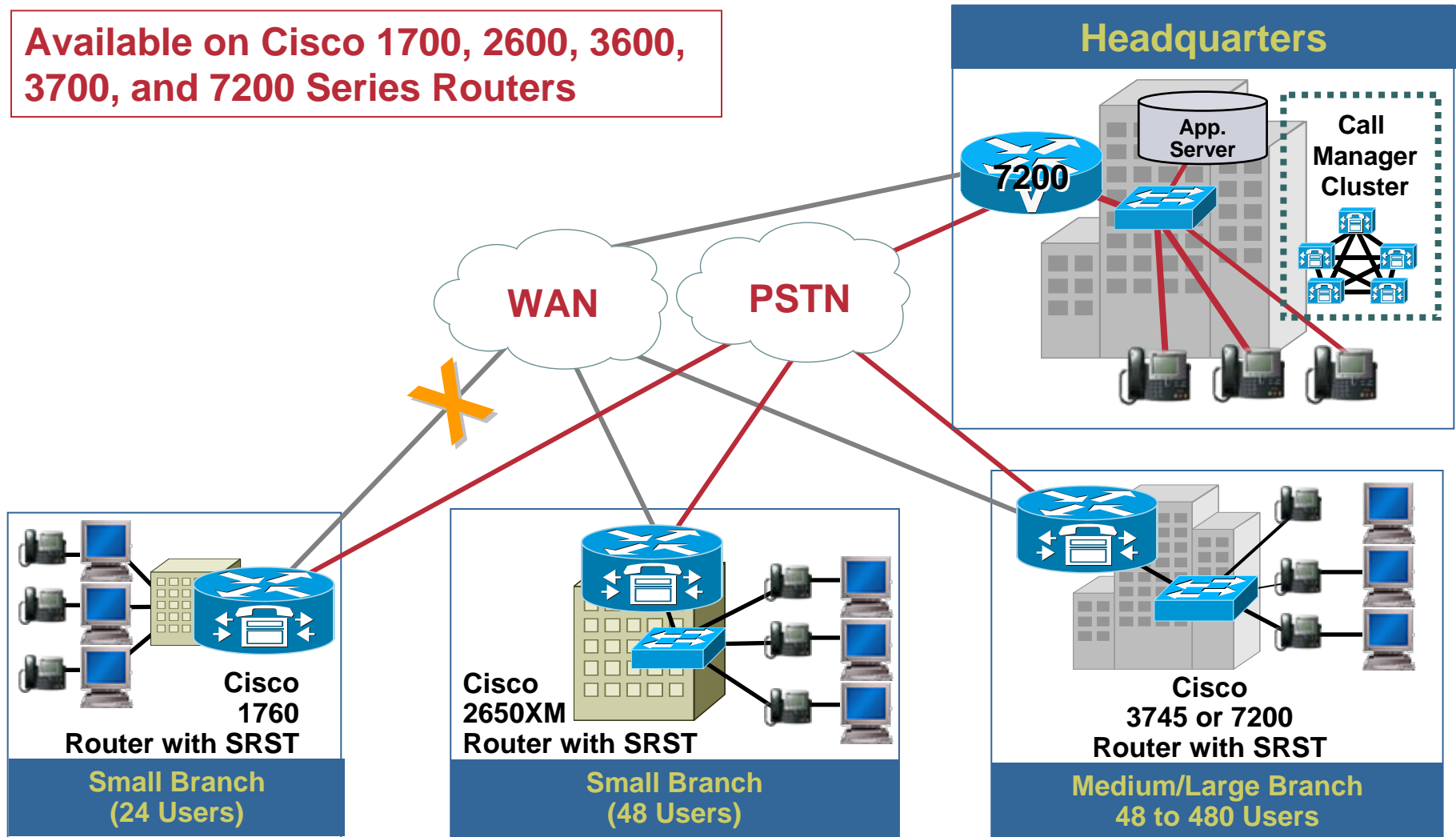
  - Cisco IOS Packaging**

# Survivable Remote Site Telephony

- **SRST provides feature rich backup telephony service at the branch in the event of a WAN failure**
- **Cisco IOS Software automatic failover and rehome**
- **CCM/SRST provides employees constant access to all IP applications, regardless of location**
- **Highly cost effective solution (no IT staff needed at the branch)**
- **Globalization: new language support for Italian, Spanish, German and French**

# Survivable Remote Site Telephony

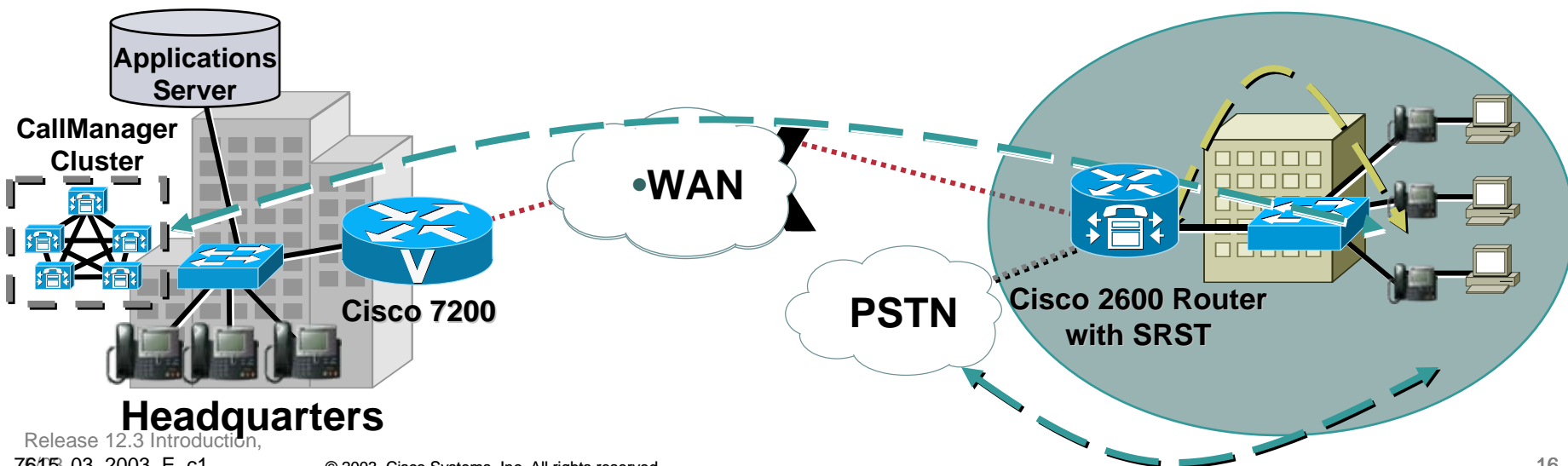
Available on Cisco 1700, 2600, 3600, 3700, and 7200 Series Routers



# Survivable Remote Site Telephony — How It Works

Cisco.com

- IP Phones exchange Keep alive messages and Call Processing messages with Centrally located CallManager (CCM)
- WAN Link fails—IP phones lose contact with CCM
- IP Phones register with local router as router of last resort
- Router queries phones for configuration and auto-configures itself
- Router provides call processing for duration of failure via PSTN
- Upon restoration of WAN, IP Phones revert back to CCM



# Agenda

- **Release 12.3 Positioning**

- **Release 12.3 Highlights**

**Cisco 3700 Series Router**

**Survivable Remote Site Telephony (SRST)**

→ **Cisco AutoSecure & AutoQoS**

**Simplified deployment of Security and QoS  
functionality**

**Cisco IOS Packaging**

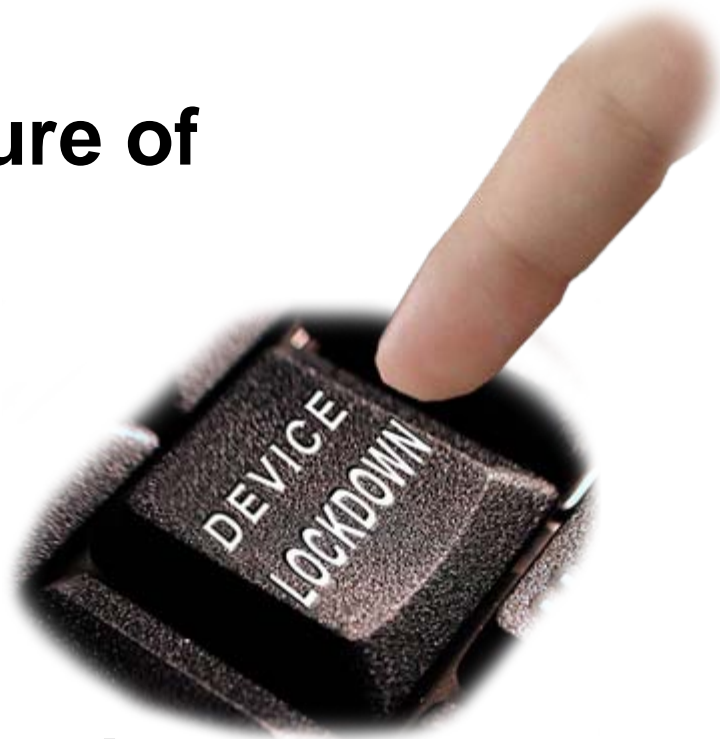
# Cisco AutoSecure

## “One Touch” Device Lockdown

- **Transform security posture of Cisco IOS routers**

**Quick way to implement router security best practices to safeguard the network**

- **Disable non-essential services**
- **Enforce secure access**
- **Secure forwarding plane**



# Disable Non-Essential Services

- **Eliminate Denial-of-Service (DoS) attacks based on fake requests to these services**

**Ex: Directed Broadcast SMURF attacks**

**ICMP-based DoS attacks**

**TCP & UDP diagnostic port attacks**

- **Disable mechanisms that could be used to exploit security holes**

**Ex: ICMP redirects**

- **Prevent attackers from knowing packets have been dropped**

**Ex: no ip unreachable for NULL0**

# Enforce Secure Access

- **Enforce enhanced security in accessing device**

**Enforcement of login, password, and local Authentication, Authorization, and Accounting (AAA)**

**Management prioritized in the event of a DoS attack**

**Only SSH and SCP enabled for crypto images**

**SNMP disabled while it is unused**

- **Enhanced security logs**

**Console log: identifies incidents and responds**

**Sequence numbers and time stamps: useful for audits**

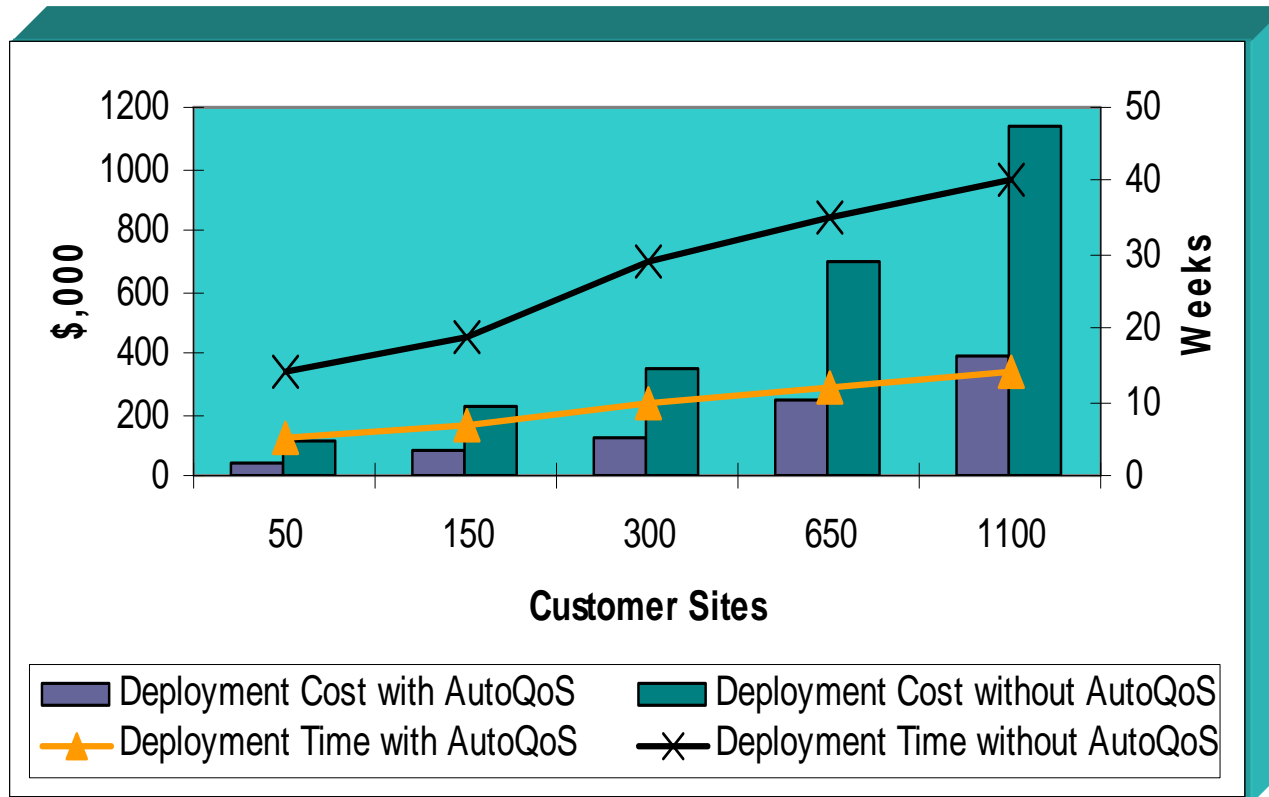
# Secure Forwarding Plane

- **SYN attacks: enable Cisco Express Forwarding (CEF) or Distributed CEF**
- **Anti-Spoofing: configure named access lists to prevent anti-spoofing source addresses**
- **Man-in-the-middle attacks: configure TCP intercept for connection timeout**
- **Enforce stateful firewall configuration on outside interfaces for firewall images**
- **Enable Netflow on software forwarding platforms**

# Cisco AutoQoS

- **Simpler, Cheaper, & Faster QoS Deployments**
  - Reduces operator errors
  - Up to 3 times cheaper & faster
- **Cisco AutoQoS initial focus: *QoS for Voice over IP***
  - IP Telephony is here!
  - IP Telephony requires QoS
  - QoS deployment can be challenging
  - Cisco AutoQoS makes VoIP deployments simpler, cheaper, and faster
- **Cisco AutoQoS retains 100% customer control over configuration**

# Lower Cost in Deployment Time by Two-Thirds



**Faster QoS deployments allow customers to realize VoIP opportunities more quickly!**

# Agenda

- **Release 12.3 Positioning**

- **Release 12.3 Highlights**

**Cisco 3700 Series Router**

**Survivable Remote Site Telephony (SRST)**

**Cisco AutoSecure & AutoQoS**

→ **Cisco IOS Packaging**

**Simplified package selection process**

# Cisco IOS Packaging – Introduction/ Customer Benefits

Cisco.com

## Simplifies the image selection process

- **Simplification**

Improves the software selection process

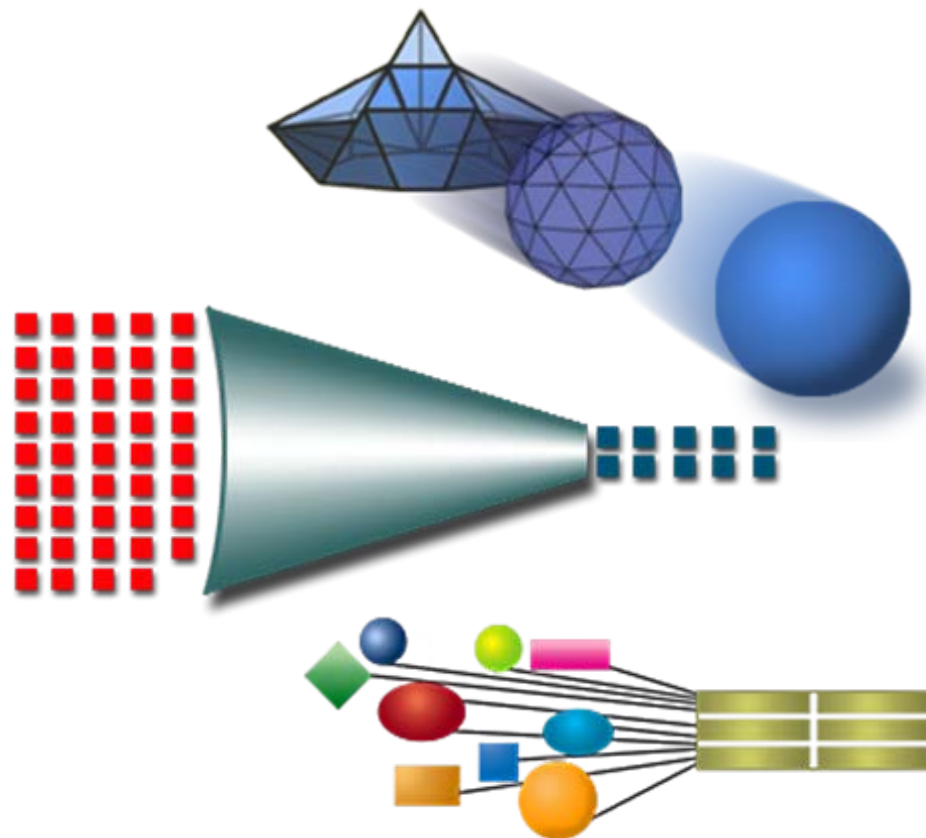
- **Consolidation**

Reduces the number of feature sets from 44 to 8

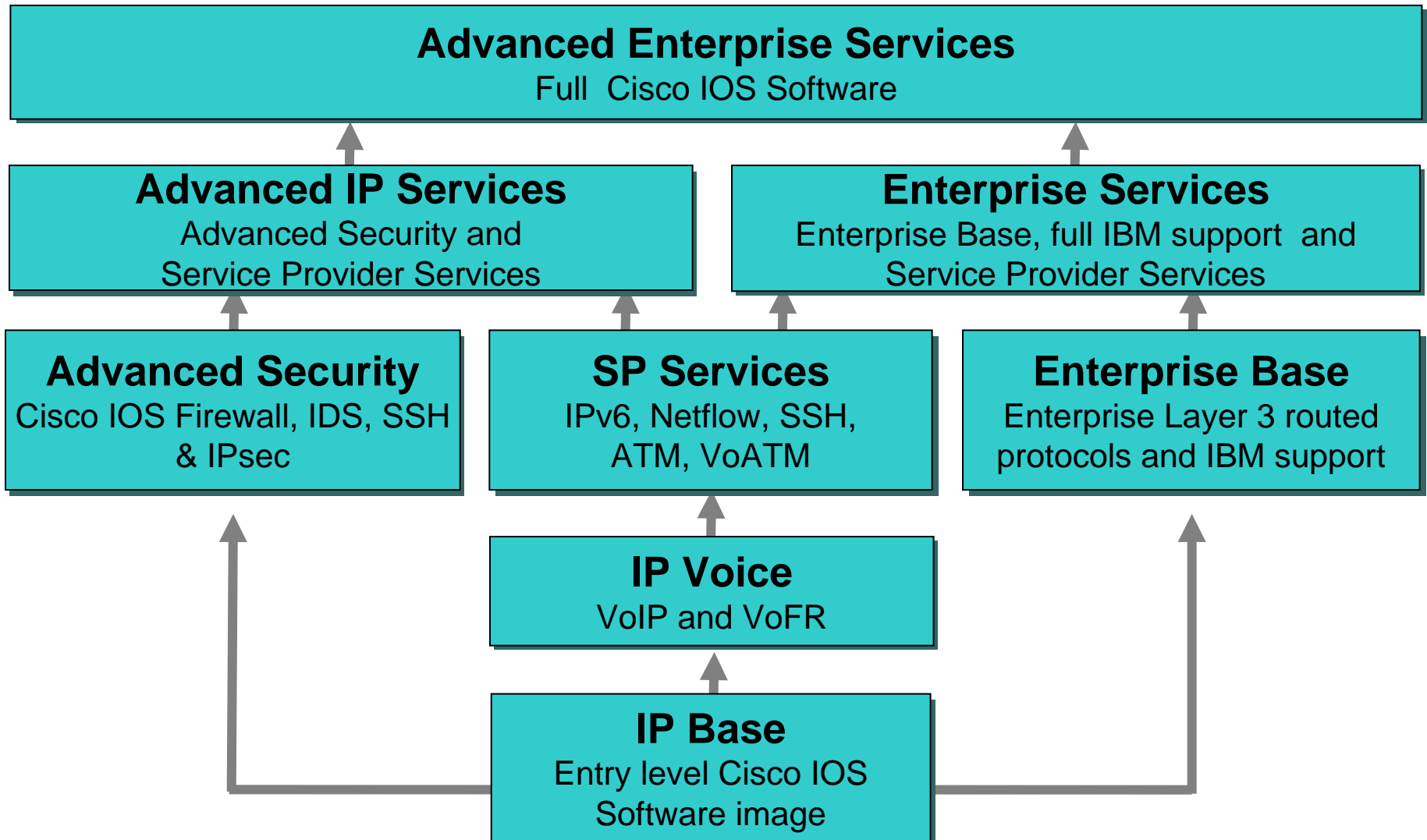
- **Consistency**

Establishes consistent image names across platforms and tools

Consistent functionality across platforms



# Cisco IOS Packaging Model



# Cisco IOS Packaging – Consistent Naming

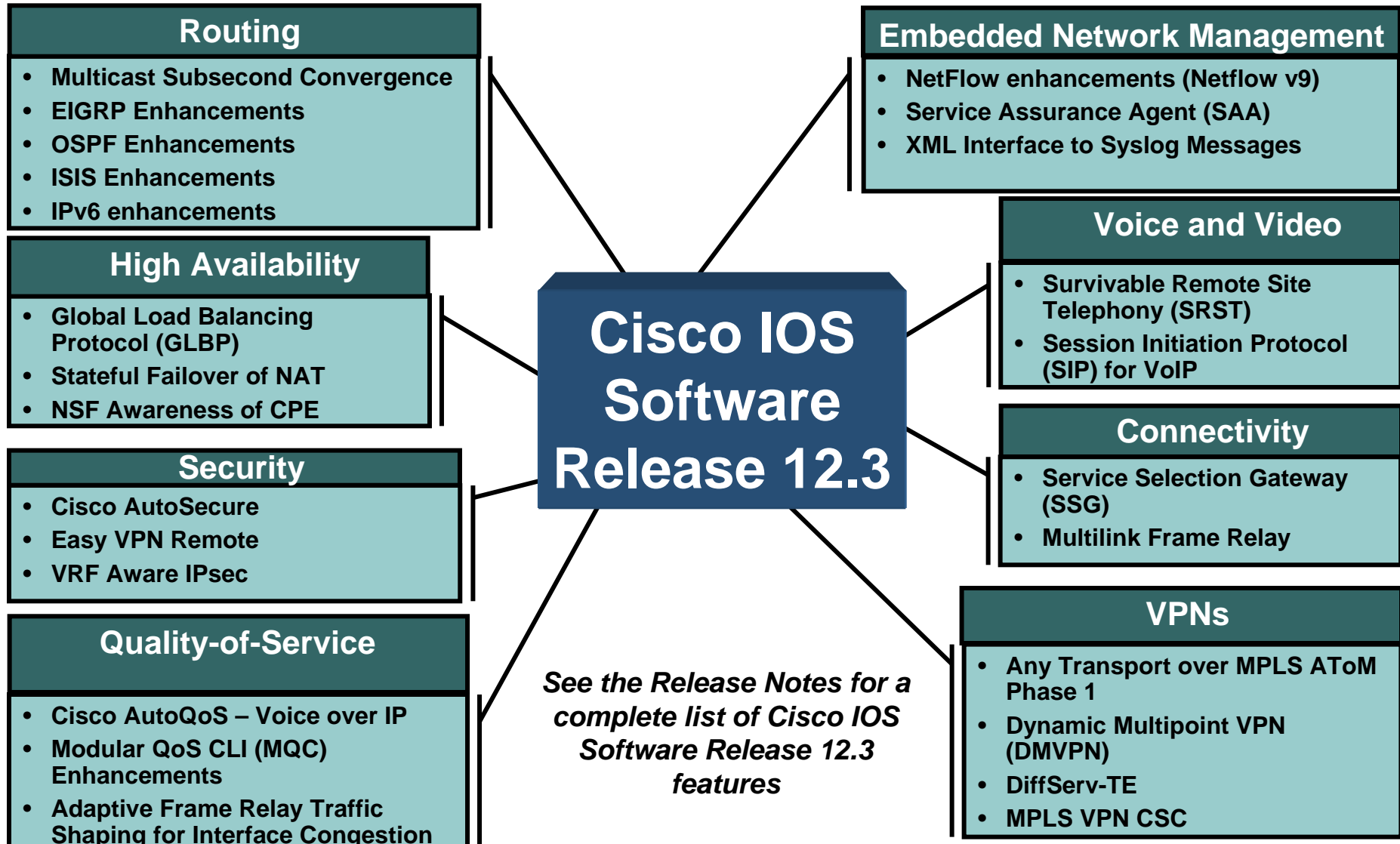
Cisco.com

- **Base**  
Entry level package  
IP Base, Enterprise Base
- **Services**  
Addition of voice, VoIP, VoFR, and ATM  
SP Services or Enterprise Services
- **Advanced**  
Addition of VPN, Cisco IOS Firewall, 3DES encryption, Cisco IOS IPsec and Intrusion Detection Systems  
Advanced Security and Advanced IP Services
- **Enterprise**  
Addition of Layer 3 Routing protocols (IBM, IPX, DECnet)  
Enterprise Base, Enterprise Services

# Agenda

- Release 12.3 Positioning
- Release 12.3 Highlights
- **New Features & Hardware Support**
- Upgrade Paths
- Summary

# Release 12.3 Features



# New Platform Support in Release 12.3

Cisco.com

## Cisco 3700 Series Access Router

- Cisco 3725 and 3745 Routers



## Cisco 1700 Series Routers

- Cisco 1760 Router



## Cisco 7200 Series Multifunction Routers

- Cisco 7200 Network Processing Engine NPE-G1



## Cisco 7500 Series Premier Data, Voice, & Video Routers

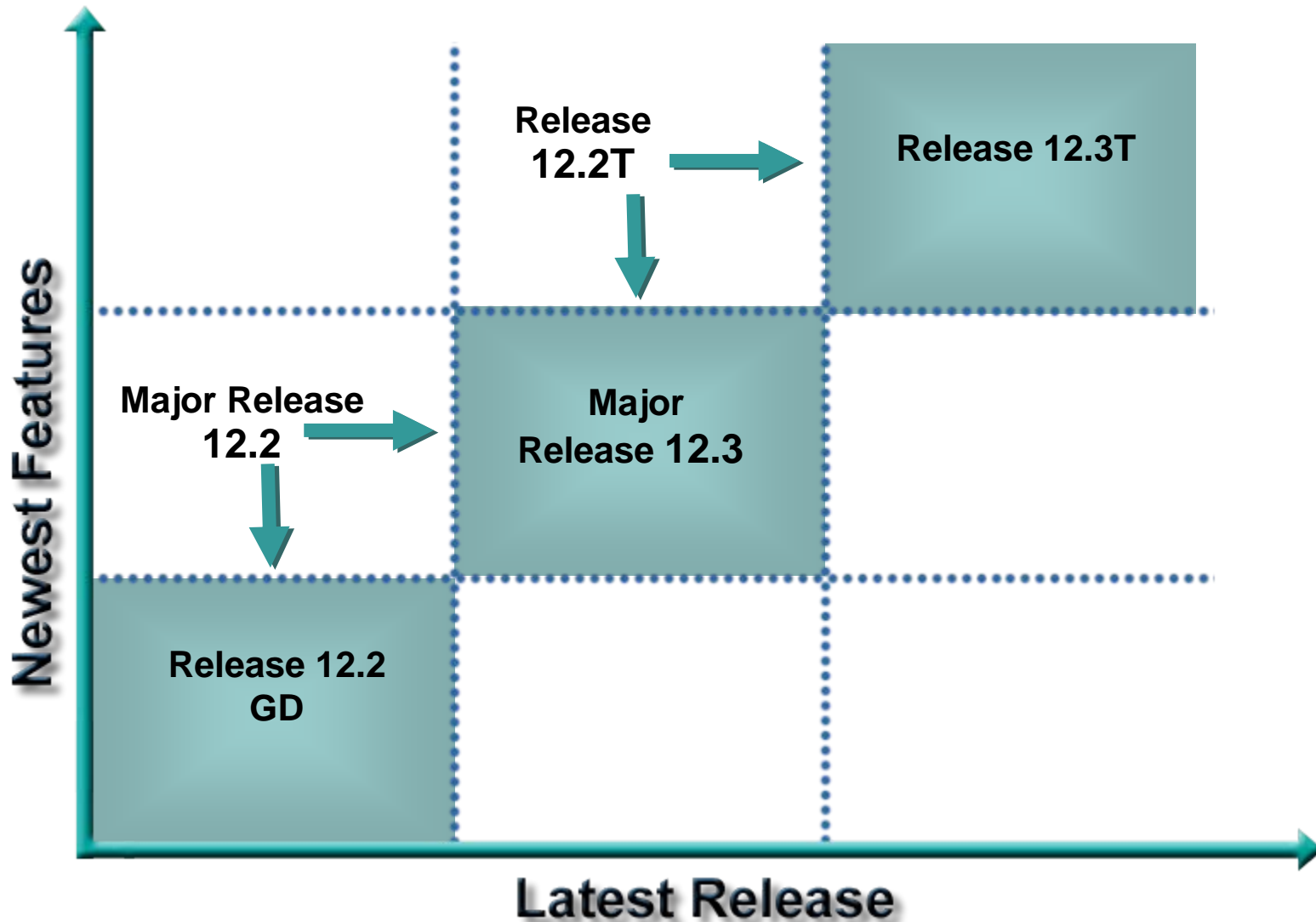
- Cisco 7500 Series Route Switch Processor 16



# Agenda

- **Release 12.3 Positioning**
- **Release 12.3 Highlights**
- **New Features & Hardware Support**
- **Upgrade Paths**
- **Summary**

# Upgrade Paths from Recent Releases



# Agenda

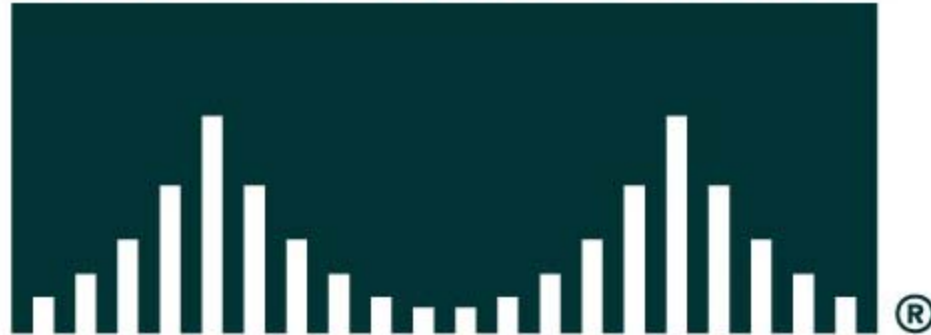
- **Release 12.3 Positioning**
- **Release 12.3 Highlights**
- **New Features & Hardware Support**
- **Upgrade Paths**
- **Summary**

## ***Cisco IOS Software Major Release 12.3***

- **Provides support for the powerful Cisco 3700 Series Access Routers – the flagship full service branch platform**
- **Delivers innovative, optimized features that enable easy access to Voice, Security and QoS, and the leading edge functionality and platform support introduced in Early Deployment 12.2T**
- **Introduces Cisco IOS Packaging, simplifying the image selection process**

- **Cisco IOS Software Release 12.3**  
<http://www.cisco.com/go/release123/>
- **Questions?**  
[ios-release-pm@cisco.com](mailto:ios-release-pm@cisco.com)

# CISCO SYSTEMS



EMPOWERING THE  
INTERNET GENERATION

# Backup

# Cisco IOS Innovation

**Innovation Starts by Helping Customers Push the Boundaries of Networking Technology**

**Cisco Continually Innovates and Integrates features into IOS**

**Customer-Driven Needs**

**Innovate**

**Develop**

**Deploy**

**Standardize**

**Many Cisco Innovations Lead to Industry Standards**

**Open Standards Committees**  
IETF  
IEEE  
ATM Forum

**Cisco Anticipates Customer Needs**

**Cisco Participates in Virtually Every Networking Standards Group**

# Our Technology Differentiators

Cisco.com

## Smarter

Quality of Service  
Availability  
Security  
Manageability  
Convergence

# Innovation

## Faster

Routers and Switches  
Silicon  
Hardware  
Lower TCO

## Lasting

Lasting Architecture  
Generational Approach  
Investment Protection

# CISCO SYSTEMS



EMPOWERING THE  
INTERNET GENERATION