

Cisco IOS Software Release 15M&T Q&A

Last updated: July, 2010

General

Q. What is Cisco IOS Software Release 15M&T?

A. Developed for wide deployment in the world's most demanding Enterprise, Access, and Service Provider Aggregation networks, Cisco IOS Software Release 15M&T provides a comprehensive portfolio of over 2000 capabilities, including the leading-edge functionality and hardware support previously delivered in Releases 12.4 and 12.4T (see Note below), anchored by an intensive stability and testing program.

Q. What are the benefits of Release 15M&T over Releases 12.4 Mainline and 12.4T?

A. Release 15M&T provides:

- Predictable new feature release (approximately 3 times a year) and maintenance rebuild schedules
- Broadened operational consistency for features
- Proactive support policies
- Enhanced release numbering
- Clearer software deployment and migration guidelines.

Key highlights of Release 15M&T, illustrated in Figure 1 below, include the following:

- Approximately 3 new feature releases per year.
- 15 M (Extended Maintenance) releases delivered on a more frequent basis (approximately every 16 months), enabling customers to qualify, deploy, and remain on a release longer with active support.
- 15 T (Standard Maintenance) releases (in between 15 M releases) ideal for the very latest features and hardware support before the next 15 M release becomes available.
- Rebuilds of 15M&T releases for bug fixes and ongoing software maintenance (no new features delivered in rebuilds).
- Release 15.0(1)M (FCS November, 2009) is the first 15 M release.
- Release 15.1(1)T (FCS March, 2010) is the first 15 T release.

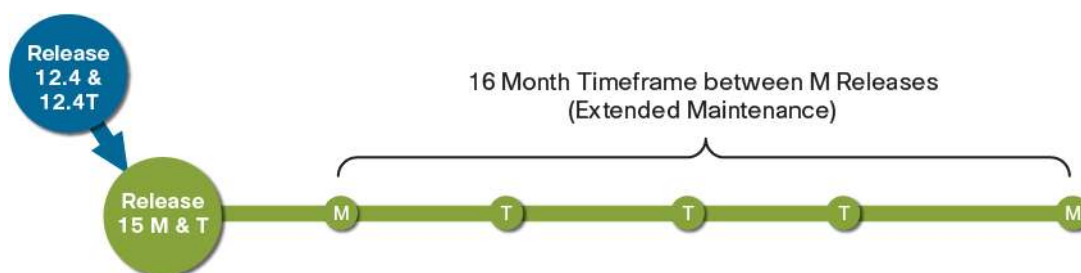
Note: AppleTalk Phase I and II, and Service Selection Gateway (SSG) feature are not supported in Release 15M&T. Refer to the following bulletins for more information:

AppleTalk Support Discontinuation:

http://www.cisco.com/en/US/prod/collateral/iosswrel/ps8802/ps5460/product_bulletin_c25-520459.html

SSG Support Discontinuation:

http://www.cisco.com/en/US/prod/collateral/routers/ps341/end_of_life_notice_c51-501483.html

Figure 1. Release 15M&T Overview**Q. What type of customer will be interested in deploying Cisco IOS Software Release 15M&T?****A.** Cisco recommends this release for customers who need to:

- Drive business productivity with Cisco IOS innovations in security, voice, manageability, IP services, and rich media-enabled capabilities architected and designed to deliver a more consistent user experience and improved operational efficiency.
- Simplify feature selection through easier software management designed to enable faster deployment of enhanced borderless network services.
- Support remote branch offices and teleworkers who depend on secure Internet access and corporate network connectivity.

Q. Where can customers download these releases?**A.** Visit the Software Center on Cisco.com to download any release product

<http://www.cisco.com/cisco/web/download/index.html>. This site also provides valuable Cisco IOS Software information about hardware/software compatibility, and ordering procedures. Please ensure that you are entitled to access and download the release through an active SMARTnet contract or purchased feature license.

Q. Are there any feature set or special memory requirements related to the deployment of Release 15M&T?**A.** Prior to installing 15 and T releases, please consult the Cisco IOS Software packaging bulletins and product support pages for feature sets, memory requirements, and other considerations, which may vary depending upon supported hardware platform and image feature set selections:

- http://www.cisco.com/en/US/products/sw/iosswrel/ps5460/prod_bulletins_list.html
- <http://www.cisco.com/en/US/products/index.html>
- <http://www.cisco.com/cisco/web/support/index.html>

Q. What features and hardware support are delivered in Release 15M&T?**A.** Release 15M&T key innovations span multiple technology areas, including Security, Voice, High Availability, IP Routing and Multicast, Quality of Service (QoS), IP Mobility, Multiprotocol Label Switching (MPLS), VPNs, and Embedded Management.

To determine which features are supported in a specific release visit Cisco Feature Navigator

<http://www.cisco.com/go/fn>.

Q. Which hardware platforms are supported in Release 15M&T?**A.** Release 15 M supports Cisco Integrated Services Routers (ISR) Generation 1 and 2, Cisco 7200 Series, and the Cisco 7301 Router.

Release 15 T supports Cisco Integrated Services Routers Generation 1 and 2. Cisco 7200 and 7301 Series Routers are not supported in 15 T releases. Refer to the following bulletin for more information:

http://www.cisco.com/en/US/prod/collateral/routers/ps341/product_bulletin_c25_597353.html

Several Cisco hardware platforms ended support on Release 12.4(15)T, and also ended support on Release 12.4 Mainline. These platforms are not supported in Release 15M&T. Refer to the following bulletin for more information:

http://www.cisco.com/en/US/prod/collateral/iosswrel/ps8802/ps6968/ps6441/product_bulletin_c25_466578.html.

Types of Cisco IOS Software 15M&T Releases

Q. What is the relationship between Cisco IOS 15 M and 15 T releases?

- A.** Both 15 M and 15 T releases integrate new technologies and features, new hardware support, and provide ongoing software maintenance (via maintenance rebuilds) on a regular, ongoing, basis over the support lifecycle for the release.

Release 15 M (Extended Maintenance)

- Ideal for long-term maintenance, enabling customers to qualify, deploy, and remain on the release for an extended period.
- Provides approximately 40 months of total support.
- Incorporates features delivered in previous releases plus incremental new feature enhancements and hardware support.

Release 15 T (Standard Maintenance)

- Short deployment releases ideal for latest new features and hardware support before the next extended maintenance 15 M release becomes available.
- Provides 19 months of support.
- Incorporates features and hardware support delivered in previous releases.

Q. What is the release numbering schemes for 15 M and 15 T releases?

- A.** The formal numbering scheme for both 15 M and 15 T releases is shown in Figures 2 and 3 below:

Figure 2. Release 15 M numbering. The letter M after the parenthesis denotes Extended Maintenance release.

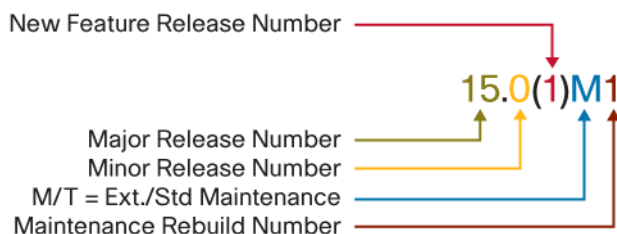
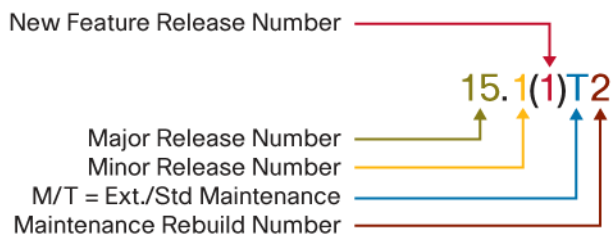


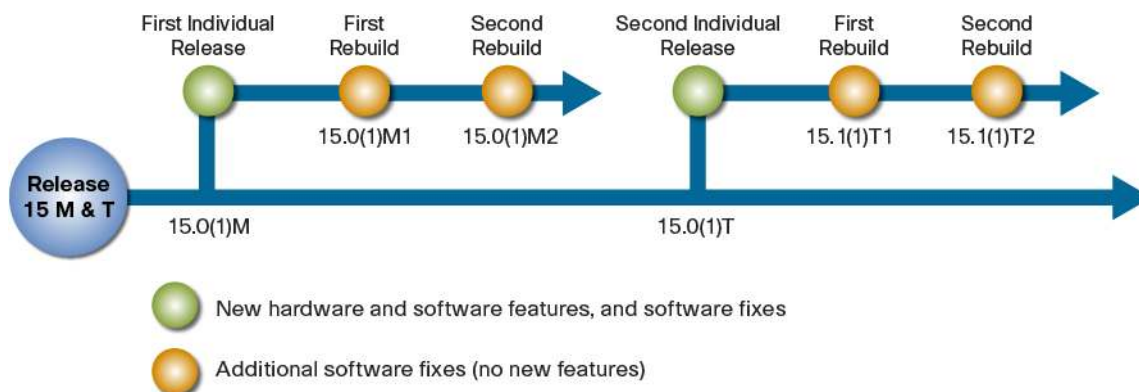
Figure 3. Release 15 T numbering. The letter T after the parenthesis denotes Standard Maintenance release.



Q. What is the numbering scheme for maintenance rebuilds of 15 M and 15 T releases?

A. As illustrated in figure 4 the number **directly after the M or T**, with the exception of the initial new feature release, is the maintenance rebuild number of the release. No new features or hardware support are delivered in maintenance rebuilds of Release 15 M or 15 T.

Figure 4. Maintenance rebuild methodology for Release 15M&T:



- Release 15.0(1)M includes incremental new software features and hardware support, features previously delivered in Release 12.4T, and software fixes
- After its initial introduction, Release 15.0(1)M will receive ongoing maintenance (bug fixes) through release rebuilds
- Rebuilds are identified by a release number suffix increment:

The 1st maintenance rebuild of Release 15.0(1)M is numbered 15.0(1)M1

The 2nd maintenance rebuild of Release 15.0(1)M is numbered 15.0(1)M2

The 1st maintenance rebuild of Release 15.1(1)T is numbered 15.1(1)T1

The 2nd maintenance rebuild of Release 15.1(1)T is numbered 15.1(1)T2

Q. What's the first new feature 15 M (Extended Maintenance) release?

A. Cisco IOS Software Release 15.0(1)M is the first 15 M (Extended Maintenance) release.

Q. What's the first new feature 15 T (Standard Maintenance) release?

A. Cisco IOS Software Release 15.1(1)T is the first 15 T (Standard Maintenance) release.

Q. Does Release 15.1(1)T contain features and hardware support delivered before?

A. Release 15.1(1)T has support for feature delivered in Release 15.0(1)M (and prior releases), as well as incremental new features.

Cisco IOS Software Release 15.0(1)M

Q. What key new features are highlighted in Release 15.0(1)M?

A. Release 15.0(1)M adds support for Service Advertisement Framework (SAF) to enable dynamic discovery of network applications and services, Flexible NetFlow and NBAR integration for layer 2 through 7 per-application-flow visibility and statistics, Embedded Event Manager Version 3.1 enhancements to event detection, notification, and command execution capabilities, and support for the Cisco Integrated Services Routers Generation 2 (ISR G2) 1900, 2900, and 3900 Series.

Other key features in Release 15.0(1)M include the following:

IP Routing

- Graceful OSPF Restart (RFC 3623) (Helper Mode Only)
- Graceful Restart for OSPFv3 (RFC 5187) (Helper Mode Only)
- OSPF Graceful Shutdown
- OSPF Generic Time to Live (TTL) Security Check (GTSM)
- Performance Routing (PfR) Protocol Independent Route Control (PIRO)
- Performance Routing (PfR) EIGRP mGRE DMVPN Hub-and-Spoke Support
- BGP Graceful Restart per Neighbor
- Intermediate System-to-Intermediate System (IS-IS) BFD Support
- IS-IS VRF Support
- MPLS VPN - Inter-AS Option AB
- BGP Route Target Changes Without PE-CE Impact
- IS-IS MIB Support
- MPLS VPN-BGP Local Convergence

IP Multicast

- IGMP Static Group Range Support
- IP Multicast Load Splitting - Equal Cost Multipath (ECMP) using S, G and Next-hop
- IPv4 and IPv6 Multicast Address Group Range Support
- Multicast MIB VRF Support
- Multicast VPN Extranet Support
- Multicast VPN VRF Select
- PIM Triggered Joins

Call Admissions Control Enhancements for Voice and Video

- RSVP Interface-based Receiver Proxy
- RSVP Fast Link Repair
- RSVP VRF lite Admission Control

High Availability

- BFD client for IPv4 Static Routes
- BFD VRF support
- BFD Support for WAN Interfaces

Embedded Management

- EEM policy description display
- EEM policy AAA bypass
- Multiple CLI execution in one TCL command

Security

- Lightweight IPS Engines for Signatures
- New Default IOS IPS Category signatures
- Chaining of Traffic Scanning (Regular Expression) Tables for IPS
- Configurable Threshold Limits for IPS Signatures
- GET VPN VRF-Aware GDOI on GM
- Ability to Disable Volume-based IPSec Lifetime Rekey
- DMVPN Enhancements

Voice

- Cisco Unified Border Element (CUBE) Support for SRTP-RTP Internetworking
- CUBE Support for Out-of-dialog SIP OPTIONS Ping Messages to Monitor SIP Servers
- UC Trusted Firewall Control Version 2
- Cisco UC Release 8.0 SAF Support

Additional details on new features in Release 15.0(1)M are available at
http://www.cisco.com/en/US/docs/ios/15_0/15_0m1/15_0_1_m_newfeatlist.html

Cisco IOS Software Release 15.1(1)T

Q. What key new features are highlighted in Release 15.1(1)T?

A. Release 15.1(1)T adds support for the following new features:

- Cisco Integrated Services Routers Generation 2 3945E and 3925E Series
- Web Services Management Agent (WSMA) support for Transport Layer Security (TLS)
- IP SLA Engine 3
- Configurable MPLS MTU size for Layer 2 traffic over GRE Tunnels
- Unified Survivable Remote Site Telephony 8.0
- Smart Call Home Support for Integrated Services Routers (ISR)

Additional details on new features in Release 15.1(1)T are available at
http://www.cisco.com/en/US/docs/ios/15_1/release/notes/151TFEAT.html

Support Lifecycle and Milestones For Cisco IOS Software Release 15M&T

Q. What is the support lifecycle and milestones for Release 15 M?

A. As mentioned previously, Release 15 M is an Extended Maintenance release. The support lifecycle for Release 15 M is shown in Figure 5 below.

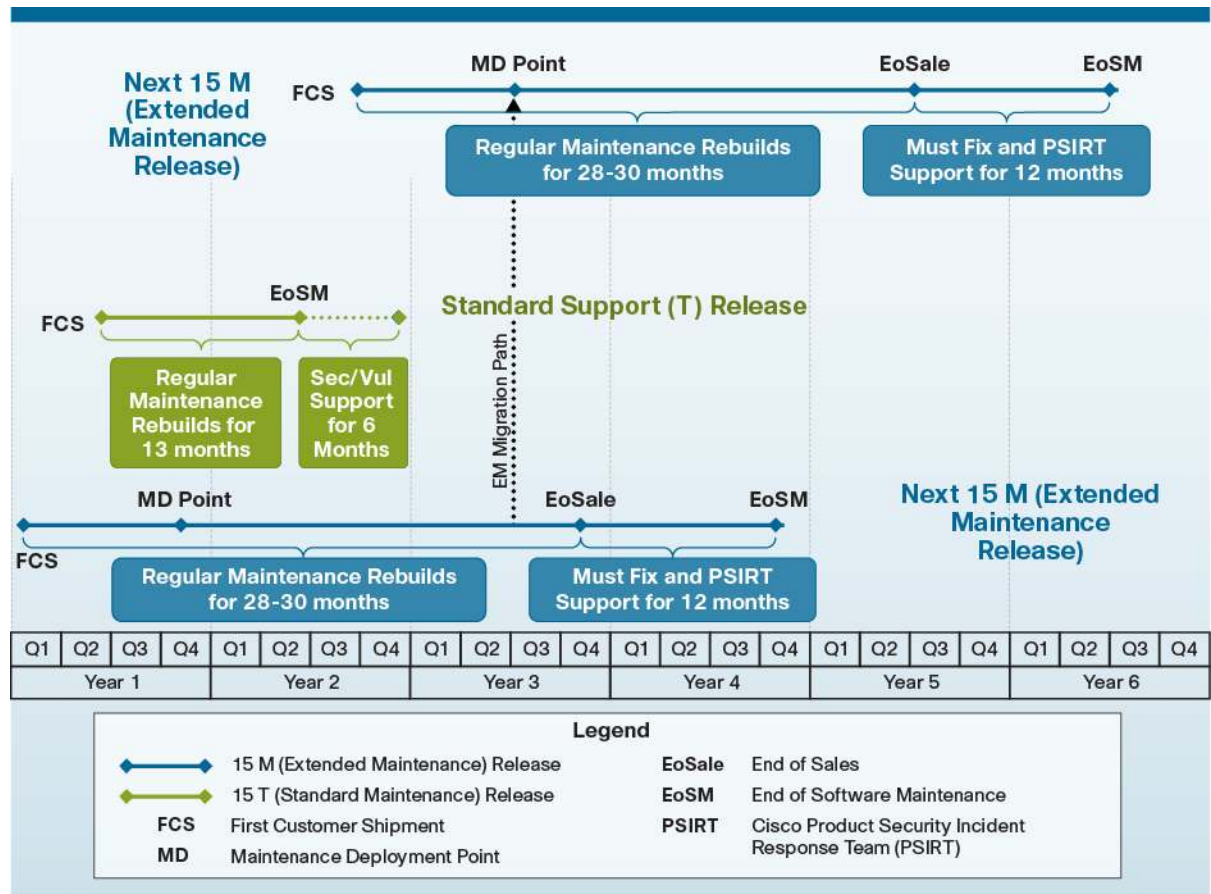
Figure 5. Release 15M&T Support Lifecycle

Table 1 below defines the support milestones shown in Figure 4 for Release 15 M.

Table 1. Cisco IOS Software Release 15.0(1)M milestones

Milestone	Definition	Date
First Customer Shipment (FCS)	The date the software release is first available to customers on Cisco Software Download Center	Day 0
Maintenance Deployment Point (MD Point)	Maintenance Deployment (MD) designated M Releases are widely deployable, as proven through extensive system testing, which continues as part of Cisco's ongoing commitment to improve and increase reliability and quality. A set of stringent criteria is used to analyze the quality of the release, such as high customer satisfaction, expansive customer deployment, demonstrated software reliability, and rigorous ongoing testing.	Typically 9 to 12 months (3rd or 4th maintenance rebuild) after the initial posting (FCS date) of the release on Cisco.com Software Download Center
End of Sale Date (EoSale)	The day the release is no longer orderable or included in manufacturing shipments of Cisco hardware.	Approx. 28-30 months after FCS date
End of Software Maintenance (EoSM)	This is the last date that Cisco Engineering may release any final software maintenance releases or software fixes for the release.	Approx 40-42 months after FCS date

Q. What is the support policy and milestones for 15 T releases?

- A.** Release 15 T is a Standard Maintenance release. Standard Maintenance releases are positioned for a short deployment cycle (until the next Extended Maintenance 15 M release becomes available on Cisco.com).

Each 15 T release receives bug-fix rebuild support for 13 months, plus an additional 6 months support for security/vulnerability issues such as Product Security Incident Response Team (PSIRT) advisories; visit http://www.cisco.com/en/US/products/products_security_advisories_listing.html for more information.

The software support lifecycle for Release 15.1(1)T is illustrated in Figure 6.

Figure 6. Support Lifecycle for Cisco IOS Software Release 15 T



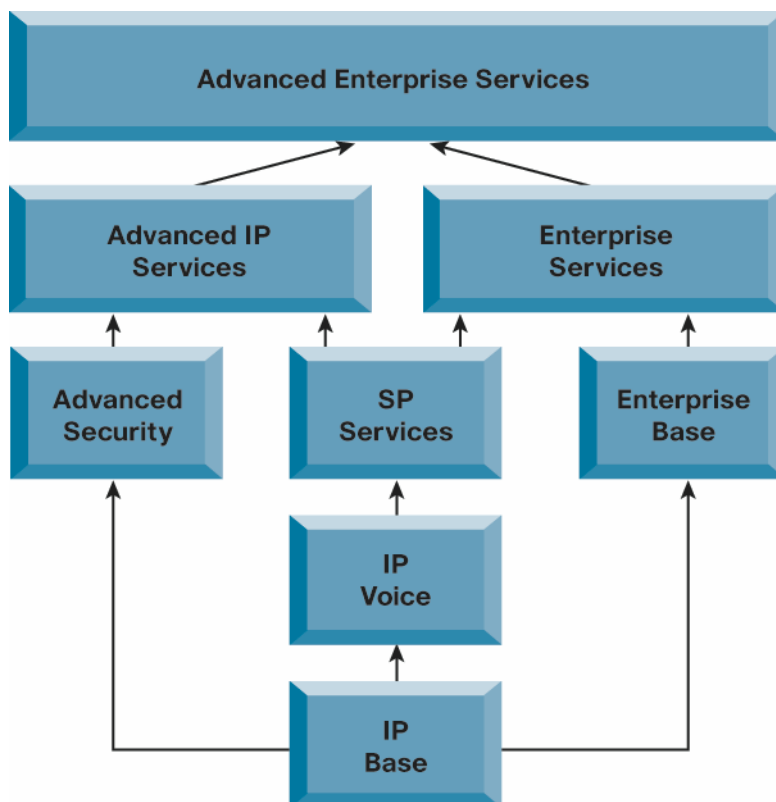
Packaging

Q. What is Cisco IOS Packaging?

- A.** Cisco IOS Packaging simplifies the image selection process by consolidating the total number of packages and using consistent package names across all hardware products.

Cisco IOS Packaging in Release 15M&T for Cisco routers previously supported in Release 12.4T is shown in Figure 7 below

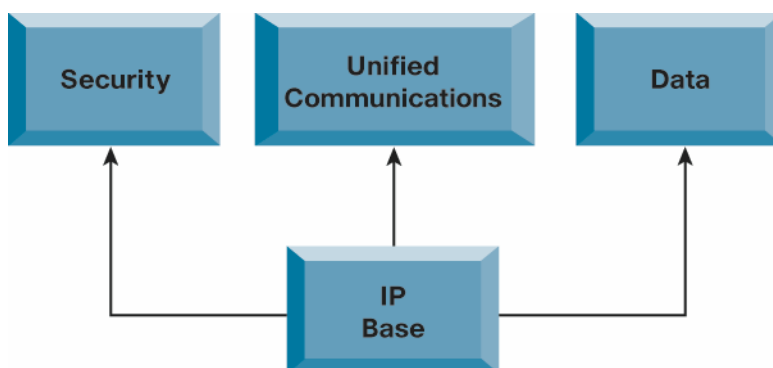
Figure 7. Cisco IOS Release 15M&T Packaging Framework for Cisco Routers Previously Supported in 12.4T *.



Cisco IOS Packaging for Cisco Integrated Services Routers Generation 2

Cisco Integrated Services Routers Generation 2 (ISR G2) 1900, 2900, and 3900 Series support services on demand through the use of software licensing which enables customers to realize operational savings through ease of software ordering and management. When you order a new ISR G2 platform, the router is shipped with a single universal IOS software image and corresponding feature set packages as shown in Figure 8 below.

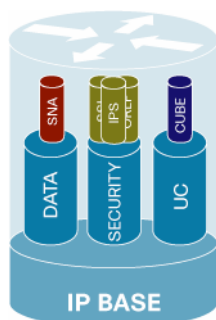
Figure 8. Cisco IOS Release 15.0(1)M Packaging for ISR G2 1900, 2900, and 3900 Series *



* Hardware-specific feature sets may affect respective Cisco IOS Software Package availability. Refer to the Cisco Product and Services support page on Cisco.com to obtain additional information specific to your hardware platform: <http://www.cisco.com/en/US/products/index.html>.

Cisco IOS Software Activation for Integrated Services Routers Generation 2

Software Activation enables an 'On Demand Service' activation model for Cisco ISR G2 and supported network modules with consistent licensing policies and manageability as available on other Cisco Software Activation platforms. Customers will realize operational savings through reduced truck rolls, ease of software ordering, simplified software management and greater flexibility in deploying new features.



Each ISR G2 router will ship with a universal Cisco IOS Software image and will use Software Activation Licensing keys to activate IOS functionality. Features ordered with the router will be pre-activated at the factory or by your Cisco partner.

For more information please visit <http://www.cisco.com/web/go/isrg2>.

Q. What IPv6 packaging changes are in Cisco IOS Software Release 15M&T?

- A.** For years, Cisco IOS Software has expanded support of IP Version 6 (IPv6) to the majority of its technology areas and hardware platforms. Due to market trends such as available IPv4 address pool exhaustion and regional registries issuing advisory to the Internet community to adopt IPv6 and national mandates, Cisco IOS packaging for IPv6 is now evolving.

Cisco will support packaging parity for IPv6 with IPv4, for Cisco Integrated Services Routers Generation 2, starting with Cisco IOS Software Release 15.0(1)M, as well as in future 15 M and 15 T releases. IPv6 feature support for a technology will now be packaged in the same feature set as IPv4.

Additional Information

Q. What are release notes and caveats?

A. Caveats describe unexpected behavior (i.e.: software defect) in Cisco IOS Software releases. Release notes include detailed descriptions on Cisco IOS Software Release 15M&T features, a list of resolved caveats from the most recent maintenance release, as well as a list of open caveats and any existing workaround.. Release notes are available at: <http://www.cisco.com/cisco/web/psa/default.html>

Q. Where can I find additional information and collateral about Release 15M&T?

A. <http://www.cisco.com/go/ios>



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV
Amsterdam, The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Cisco and the Cisco Logo are trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and other countries. A listing of Cisco trademarks can be found at www.cisco.com/go/trademarks. Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (100206)