

Cisco IOS Release 15.0 Feature Sets and Memory Recommendations for Cisco 1900, 2900 and 3900 Series Routers

PB 566278

This product bulletin specifies the software feature sets available for Cisco® 1900, 2900 and 3900 Series Integrated Services Routers in release 15.0. It also issues recommendations for Flash and DRAM memory configuration.

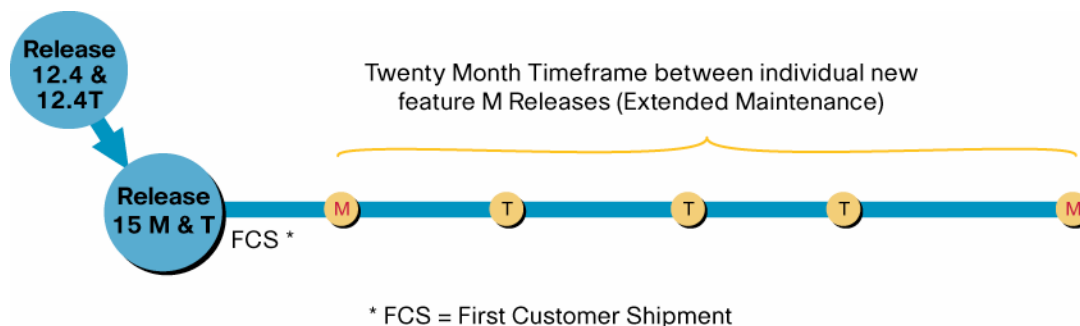
Note: This product bulletin has information on the new Cisco IOS Software release model 15.0 for the Cisco 1900, 2900 and 3900 Series Integrated Services Routers. It does not cover individual new features. For information about new features in Cisco IOS Software release 15.0, refer to the Cisco IOS Software pages at Cisco.com.

Overview

Cisco IOS® Software release 15.0 is the next IOS release following the Cisco IOS 12.4(24)T release. Created for wide deployment in the world's most demanding Enterprise, Access, and Service Provider networks, Cisco IOS Software Release 15.0 will provide a comprehensive portfolio of Cisco technologies, functionality and hardware support from Releases 12.4 and 12.4T, anchored by an intensive stability and testing program. 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.

Cisco IOS Software release 15.0 will benefit users by providing new feature and hardware support more quickly than in previous Mainline (M) and Technology (T) releases, broadened feature consistency with other major IOS releases, more predictable new feature release and rebuild schedules, proactive individual release support policies, enhanced release numbering, and clearer software deployment and migration guidelines. Figure 1 details Cisco IOS Release 15.0.

Figure 1. Release 15.0 Train Map



Unlike the traditional IOS Software M and T model, IOS Software release 15.0 does not diverge into separate M and T software release trains. Beginning with 15.0, new releases will be available 2-3 times per year, delivered sequentially from a single software train. Extended Maintenance (EM) releases will be available approximately every 20 months. Standard maintenance T releases enable faster Cisco feature delivery before the next EM release becomes available.

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

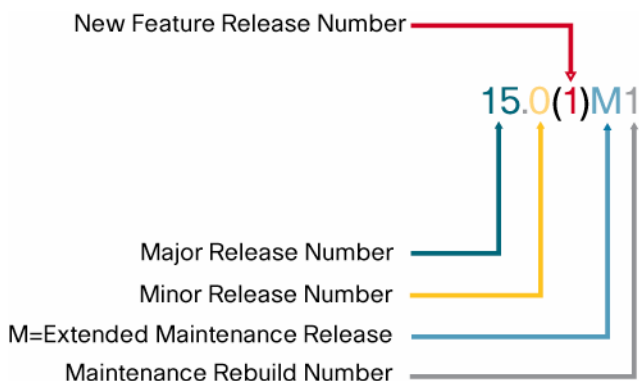
- Feature inheritance from Cisco IOS Software Releases 12.4T and 12.4 Mainline (see Note below).
- New feature releases 3 times a year delivered sequentially from a single train.
- Extended maintenance new feature 15 M releases every 20 months.
- Standard maintenance new feature 15 T releases for the very latest features & hardware support before next 15 M release becomes available on Cisco.com.
- Maintenance rebuilds of 15 M and 15 T releases contain bug fixes only.

15 M Release Numbering (Extended Maintenance)

- Ideal for long-term maintenance, enabling customers to qualify, deploy, and remain on the release for an extended period.
- Provides 44 months of support.
- Incorporates features delivered in previous releases plus incremental new feature enhancements and hardware support.

Figure 2 below defines the release numbering convention for individual 15 M (extended maintenance) releases.

Figure 2. Release Numbering Convention for Cisco IOS Software Release 15 M



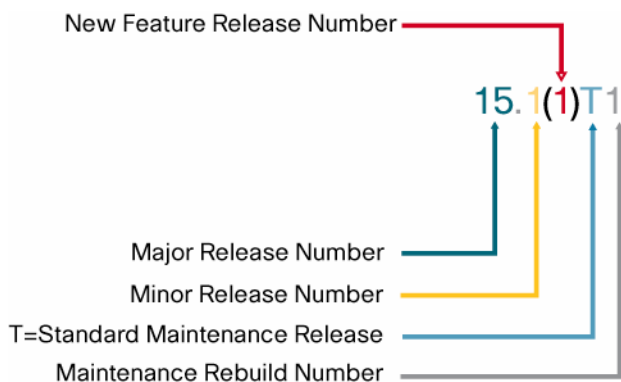
The first maintenance rebuild (for bug fixes only, not new features or new hardware support) of Release 15.0(1)M will be numbered **15.0(1)M1**. Subsequent maintenance releases are defined by an increment of the maintenance rebuild number (e.g. M2, M3, etc.).

15 T Releases Numbering (Standard Maintenance)

- Short deployment releases ideal for latest new features and hardware support before the next M release becomes available.
- Provides regular bug fix maintenance rebuilds for 12 months, plus 6 additional months of critical fix support for network affecting bugs such as Product Security Incident Report Team (PSIRT) issues (standard Cisco PSIRT policy will take precedence, see <http://www.cisco.com/go/psirt>).
- Incorporates features and hardware support delivered in previous releases.

Figure 3 below describes the release numbering convention planned for individual 15 T (standard maintenance) releases.

Figure 3. Release Numbering Convention for Cisco IOS Software Release 15 T



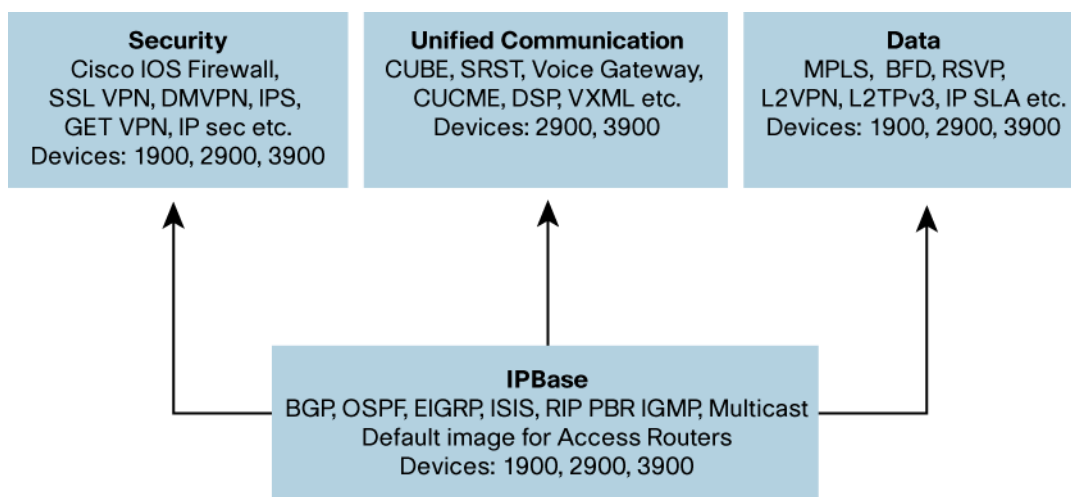
For example, the first planned 15 T new feature release will be numbered **Release 15.1(1)T**. The first maintenance rebuild (for bug fixes only, not new features or new hardware support) of Release 15.1(1)T will be numbered **15.1(1)T1**. Subsequent maintenance releases are defined by an increment of the maintenance rebuild number (e.g. T2, etc.).

The remainder of this product bulletin provides details of Cisco IOS Software release 15.0 availability for the generation two Cisco Integrated Services Routers Series routers and the associated Flash and DRAM memory requirements.

Cisco IOS Software Release 15.0 Features Sets and Universal IOS Images

Generation Two Integrated Services Routers ship with a universal IOS image that contains all the features available for use on the routers. The specific feature set is activated by the use of technology package licenses such as Security, Unified Communications and Data.

Figure 4. IOS Packaging Model for 1900, 2900 and 3900 Series Integrated Services Routers



There will be two flavors of universal images supported on Generation Two of the Integrated Services Routers:

1. Universal images with the “universalk9” designation in the image name: This universal image offers all the Cisco IOS features including strong payload cryptography features such as IPSec VPN, SSL VPN, and Secure Unified Communications.
2. Universal images with the universalk9_npe” designation in the image name: The strong enforcement of encryption capabilities provided by Cisco Software Activation satisfies requirements for the export of encryption capabilities. However, some countries have import requirements that require that the platform does not support any strong crypto functionality such as payload cryptography. To satisfy the import requirements of those countries, the ‘npe’ universal image does not support any strong payload encryption. This image supports security features like Zone-Based Firewall, Intrusion Prevention through SECNPE-K9 license.

For a given flavor and version of universal IOS image, both the Cisco 3925 and Cisco 3945 share the same IOS image. Similarly, the Cisco 1941 and Cisco 1941 Wireless routers share the same universal IOS image. Within the Cisco 2900 Series product family, Cisco 2901, 2911 and 2921 share the universal IOS images for a given type and version. Cisco 2951 has its own unique IOS image different from rest of the Cisco 2900 Series images.

Cisco IOS Software Release 15.0 Image Sets

For Cisco IOS[®] Software release 15.0, cross-platform feature sets simplify the image selection process by providing similar functions across platform boundaries. Each device ships with Universal image. IPBase, DATA, UC (Unified Communications) and SEC (Security) technology packages are enabled in the universal image via Cisco Software Activation licensing keys. Each licensing Key is unique to a particular device and is obtained from Cisco by providing the product ID and serial number of the router and a Product Activation Key (PAK), which is provided by Cisco at time of Software purchase.

Cisco Integrated Services Router 1941 IOS Image Set and Memory Recommendations

Table 1 lists the Cisco IOS Software Release 15.0 feature sets that are available for the Cisco 1941 integrated services router. Note that the flash memory recommendations given in the table are calculated without added management tools such as Cisco Configuration Professional (Cisco CP). For more feature detail refer to the product data sheet

Cisco 1941 Routers: http://www.cisco.com/en/US/prod/collateral/routers/ps10538/data_sheet_c78_556319.html

Table 1. Cisco 1941—15.0 Image Set and Memory Recommendations

Product Family	Software ID	Product Description	Image Filename	Recommended Compact Flash 15.0	Recommended DRAM 15.0
CISCO1941/K9	S19UK9-15001M	Cisco IOS Universal Image 15.0(1)M for 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941W/K9	S19UK9-15001M	Cisco IOS Universal Image 15.0(1)M for 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941/K9	S19NPEK9-15001M	Cisco IOS Universal Image (No Payload Encryption) for 1941	c1900-universalk9_npe-mz.SSA	256MB	512MB
CISCO1941W/K9	S19NPEK9-15001M	Cisco IOS Universal Image (No Payload Encryption) for 1941	c1900-universalk9_npe-mz.SSA	256MB	512MB
CISCO1941/K9	SL-19-IPB-K9(=)	IP Base License (Paper) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941W/K9	SL-19-IPB-K9(=)	IP Base License (Paper) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB

Product Family	Software ID	Product Description	Image Filename	Recommended Compact Flash 15.0	Recommended DRAM 15.0
CISCO1941/K9	SL-19-DATA-K9(=)	Data License (Paper) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941W/K9	SL-19-DATA-K9(=)	Data License (Paper) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941/K9	L-SL-19-DATA-K9=	Data License (E-Delivery) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941W/K9	L-SL-19-DATA-K9=	Data License (E-Delivery) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941/K9	SL-19-SEC-K9(=)	Security License (Paper) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941W/K9	SL-19-SEC-K9(=)	Security License (Paper) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941/K9	L-SL-19-SEC-K9=	Security License (E-Delivery) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941W/K9	L-SL-19-SEC-K9=	Security License (E-Delivery) for Cisco 1941	c1900-universalk9-mz.SSA	256MB	512MB
CISCO1941/K9	SL-19-SECNPE-K9(=)	SEC No Payload Encryption Paper License for Cisco 1941	c1900-universalk9_npe-mz.SSA	256MB	512MB
CISCO1941W/K9	SL-19-SECNPE-K9(=)	SEC No Payload Encryption Paper License for Cisco 1941	c1900-universalk9_npe-mz.SSA	256MB	512MB
CISCO1941/K9	L-SL-19-SECNPE-K9=	SEC No Payload Encryption E License for Cisco 1941	c1900-universalk9_npe-mz.SSA	256MB	512MB
CISCO1941W/K9	L-SL-19-SECNPE-K9=	SEC No Payload Encryption E License for Cisco 1941	c1900-universalk9_npe-mz.SSA	256MB	512MB

Cisco Integrated Services Router 29XX IOS Image Set and Memory Recommendations

Table 2 lists the Cisco IOS Software Release 15.0 feature sets that are available for the Cisco 29XX integrated services router. Note that the flash memory recommendations given in the table are calculated without added management tools such as Cisco Configuration Professional (Cisco CP). For more feature detail refer to the product data sheet

Cisco 29XX Routers: http://www.cisco.com/en/US/prod/collateral/routers/ps10537/data_sheet_c78_553896.html

Table 2. Cisco 2901, 2911, 2921, 2951—15.0 Image Set and Memory Recommendations

Product Family	Product ID	Product Description	Image Filename	Recommended Compact Flash 15.0	Recommended DRAM 15.0
CISCO2901/K9	S29UK9-15001M	Cisco IOS Universal 15.0(1)M Image for 2901-2921	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2911/K9	S29UK9-15001M	Cisco IOS Universal 15.0(1)M Image for 2901-2921	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2921/K9	S29UK9-15001M	Cisco IOS Universal 15.0(1)M Image for 2901-2921	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2951/K9	S2951UK9-15001M	Cisco IOS Universal 15.0(1)M Image for 2951	c2951-universalk9-mz.SSA	256 MB	512 MB
CISCO2901/K9	S29NPEK9-15001M	Cisco IOS Univ. Image 15.0(1)M (No Payload Encryption) for 2901-2921	c2900-universalk9_npe-mz.SSA	256 MB	512 MB

Product Family	Product ID	Product Description	Image Filename	Recommended Compact Flash 15.0	Recommended DRAM 15.0
CISCO2911/K9	S29NPEK9-15001M	Cisco IOS Univ. Image 15.0(1)M (No Payload Encryption) for 2901-2921	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2921/K9	S29NPEK9-15001M	Cisco IOS Univ. Image 15.0(1)M (No Payload Encryption) for 2901-2921	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2951/K9	S2951NPEK9-15001M	Cisco IOS Universal Image 15.0(1)M (No Payload Encryption) for 2951	c2951-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2901/K9	SL-29-IPB-K9(=)	IP Base License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2911/K9	SL-29-IPB-K9(=)	IP Base License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2921/K9	SL-29-IPB-K9(=)	IP Base License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2951/K9	SL-29-IPB-K9(=)	IP Base License (Paper) for Cisco 2901-2951	c2951-universalk9-mz.SSA	256 MB	512 MB
CISCO2901/K9	SL-29-DATA-K9(=)	Data License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2911/K9	SL-29-DATA-K9(=)	Data License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2921/K9	SL-29-DATA-K9(=)	Data License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2951/K9	SL-29-DATA-K9(=)	Data License (Paper) for Cisco 2901-2951	c2951-universalk9-mz.SSA	256 MB	512 MB
CISCO2901/K9	L-SL-29-DATA-K9=	Data License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2911/K9	L-SL-29-DATA-K9=	Data License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2921/K9	L-SL-29-DATA-K9=	Data License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2951/K9	L-SL-29-DATA-K9=	Data License (E-Delivery) for Cisco 2901-2951	c2951-universalk9-mz.SSA	256 MB	512 MB
CISCO2901/K9	SL-29-UC-K9(=)	Unified Commn. License (Paper) for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2911/K9	SL-29-UC-K9(=)	Unified Commn. License (Paper) for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2921/K9	SL-29-UC-K9(=)	Unified Commn. License (Paper) for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2951/K9	SL-29-UC-K9(=)	Unified Commn. License (Paper) for Cisco 2901-2951	c2951-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2901/K9	L-SL-29-UC-K9=	Unified Commn. License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2911/K9	L-SL-29-UC-K9=	Unified Commn. License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB

Product Family	Product ID	Product Description	Image Filename	Recommended Compact Flash 15.0	Recommended DRAM 15.0
CISCO2921/K9	L-SL-29-UC-K9=	Unified Commn. License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2951/K9	L-SL-29-UC-K9=	Unified Commn. License (E-Delivery) for Cisco 2901-2951	c2951-universalk9-mz.SSA	256 MB	512 MB
CISCO2901/K9	SL-29-SEC-K9(=)	Security License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2911/K9	SL-29-SEC-K9(=)	Security License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2921/K9	SL-29-SEC-K9(=)	Security License (Paper) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2951/K9	SL-29-SEC-K9(=)	Security License (Paper) for Cisco 2901-2951	c2951-universalk9-mz.SSA	256 MB	512 MB
CISCO2901/K9	L-SL-29-SEC-K9=	Security License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2911/K9	L-SL-29-SEC-K9=	Security License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2921/K9	L-SL-29-SEC-K9=	Security License (E-Delivery) for Cisco 2901-2951	c2900-universalk9-mz.SSA	256 MB	512 MB
CISCO2951/K9	L-SL-29-SEC-K9=	Security License (E-Delivery) for Cisco 2901-2951	c2951-universalk9-mz.SSA	256 MB	512 MB
CISCO2901/K9	SL-29-SECNPE-K9(=)	SEC No Payload Encryption Paper License for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2911/K9	SL-29-SECNPE-K9(=)	SEC No Payload Encryption Paper License for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2921/K9	SL-29-SECNPE-K9(=)	SEC No Payload Encryption Paper License for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2951/K9	SL-29-SECNPE-K9(=)	SEC No Payload Encryption Paper License for Cisco 2901-2951	c2951-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2901/K9	L-SL-29-SECNPE-K9=	SEC No Payload Encryption E License for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2911/K9	L-SL-29-SECNPE-K9=	SEC No Payload Encryption E License for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2921/K9	L-SL-29-SECNPE-K9=	SEC No Payload Encryption E License for Cisco 2901-2951	c2900-universalk9_npe-mz.SSA	256 MB	512 MB
CISCO2951/K9	L-SL-29-SECNPE-K9=	SEC No Payload Encryption E License for Cisco 2901-2951	c2951-universalk9_npe-mz.SSA	256 MB	512 MB

Cisco Integrated Services Router 39XX IOS Image Set and Memory Recommendations

Table 3 lists the Cisco IOS Software Release 15.0 feature sets that are available for the Cisco 39XX integrated services router. Note that the flash memory recommendations given in the table are calculated without added management tools such as Cisco Configuration Professional (Cisco CP). For more feature detail refer to the product data sheet

Cisco 39XX Routers: http://www.cisco.com/en/US/prod/collateral/routers/ps10536/data_sheet_c78_553924.html

Table 3. Cisco 3925, 3945—15.0 Image Set and Memory Recommendations

Product Family	Software ID	Product Description	Image Filename	Recommended Compact Flash 15.0	Recommended DRAM 15.0
CISCO3925/K9	S39UK9-15001M	Cisco IOS Universal Image for 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3945/K9	S39UK9-15001M	Cisco IOS Universal Image for 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3925/K9	S39NPEK9-15001M	Cisco IOS Univ. Image (No Payload Encryption) for 3925/3945	C3900-universalk9_npe-mz.SSA	256MB	1 GB
CISCO3945/K9	S39NPEK9-15001M	Cisco IOS Univ. Image (No Payload Encryption) for 3925/3945	C3900-universalk9_npe-mz.SSA	256MB	1 GB
CISCO3925/K9	SL-39-IPB-K9(=)	IP Base License (Paper) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3945/K9	SL-39-IPB-K9(=)	IP Base License (Paper) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3925/K9	SL-39-DATA-K9(=)	Data License (Paper) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3945/K9	SL-39-DATA-K9(=)	Data License (Paper) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3925/K9	L-SL-39-DATA-K9=	Data License (E-Delivery) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3945/K9	L-SL-39-DATA-K9=	Data License (E-Delivery) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3925/K9	SL-39-UC-K9(=)	Unified Commn.License (Paper) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3945/K9	SL-39-UC-K9(=)	Unified Commn.License (Paper) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3925/K9	L-SL-39-UC-K9=	Unified Commn. License (E-Delivery) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3945/K9	L-SL-39-UC-K9=	Unified Commn. License (E-Delivery) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3925/K9	SL-39-SEC-K9(=)	Security License (Paper) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3945/K9	SL-39-SEC-K9(=)	Security License (Paper) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3925/K9	L-SL-39-SEC-K9=	Security License (E-Delivery) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB

Product Family	Software ID	Product Description	Image Filename	Recommended Compact Flash 15.0	Recommended DRAM 15.0
CISCO3945/K9	L-SL-39-SEC-K9=	Security License (E-Delivery) for Cisco 3925/3945	C3900-universalk9-mz.SSA	256MB	1 GB
CISCO3925/K9	SL-39-SECNPE-K9(=)	SEC No Payload Encryption Paper License for Cisco 3925/3945	C3900-universalk9_npe-mz.SSA	256MB	1 GB
CISCO3945/K9	SL-39-SECNPE-K9(=)	SEC No Payload Encryption Paper License for Cisco 3925/3945	C3900-universalk9_npe-mz.SSA	256MB	1 GB
CISCO3925/K9	L-SL-39-SECNPE-K9=	SEC No Payload Encryption E License for Cisco 3925/3945	C3900-universalk9_npe-mz.SSA	256MB	1 GB
CISCO3945/K9	L-SL-39-SECNPE-K9=	SEC No Payload Encryption E License for Cisco 3925/3945	C3900-universalk9_npe-mz.SSA	256MB	1 GB

For More Information

For more information about Cisco IOS Software release 15.0 or for a list of new features or software release notes, visit http://www.cisco.com/en/US/products/ps10591/tsd_products_support_series_home.html or contact your local account representative.

Cisco's Integrated Services Routers Generation Two Licensing and Packaging White Paper: http://www.cisco.com/en/US/prod/collateral/routers/ps10616/white_paper_c11_556985.html



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