

CISCO IOS SOFTWARE RELEASE 12.3(7)XR

PRODUCT OVERVIEW

This product bulletin describes the content and delivery information for Cisco IOS® Software Release 12.3(7)XR, to be used in conjunction with the Cisco IOS Software Release 12.3T product bulletin. Cisco IOS Software Release 12.3(7)XR is a short-lived, early deployment release that will be supported in the sixth release of Cisco IOS Software Release 12.3T. It supports Cisco® SOHO 90 and Cisco 800 Series routers (Cisco SOHO 91, Cisco SOHO 96, Cisco SOHO 97, Cisco 828, Cisco 827-4V, Cisco 831, Cisco 836, and Cisco 837), Cisco 1700 Series routers (Cisco 1701, Cisco 1710, Cisco 1711, Cisco 1712, Cisco 1720, Cisco 1721, Cisco 1751, Cisco 1751-V, and Cisco 1760), and Cisco 3200 Series mobile access routers (Cisco 3220 and Cisco 3250), plus it delivers bug fixes for Cisco ICS 7700 Series Integrated Communication System (Cisco ICS 7750).

The platform and features delivered with this early deployment release will be incorporated immediately into the sixth releases of Cisco IOS Software Release 12.3T. The timeframe for the availability of the sixth release of the Cisco IOS Software Release 12.3T train is the first calendar quarter of 2005. This timeframe is subject to change.

Future early deployment releases will be provided for maintenance support until Cisco IOS Software Release 12.3(7)XR becomes available in the sixth release of Cisco IOS Software Release 12.3T.

In addition to the supported features described in this product bulletin, additional information is available in the release notes for Cisco IOS Software Release 12.3(7)XR.

Customers should be prepared to upgrade using the described migration path.

12.2T

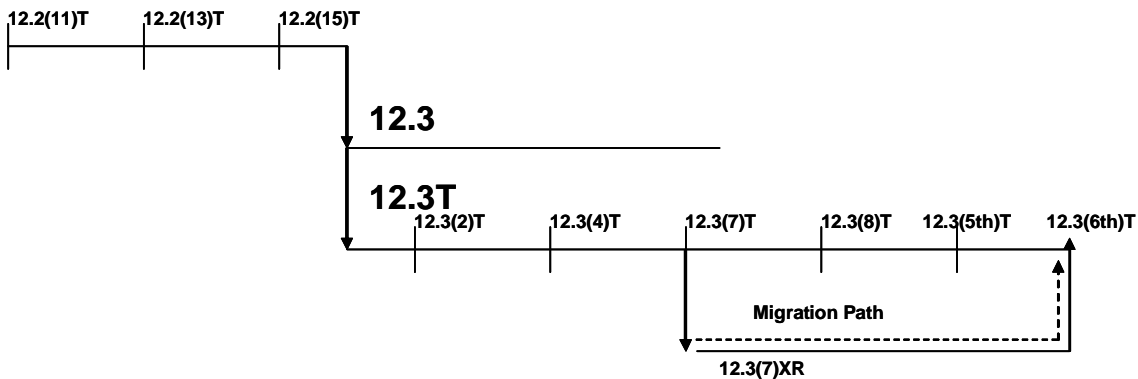


Figure 1. Migration Path

This Cisco IOS Software Release 12.3(7)XR lists only those features that are new to the respective platforms (Table 1).

Table 1. New Features

Feature	Description
DMZ—demilitarized zone	Feature allows a second Ethernet port to be enabled on Cisco 830 Series (third port for Cisco 831)
Enhanced LAN switch monitoring and route pruning	Feature helps ensure that the presence of connected devices on the LAN ports is reported and reflected in routing protocols (Ethernet 1 will be down when no hosts are connected to the LAN switch)
Easy VPN Phase 4.0 and 4.1	Feature enhancements to Cisco Easy VPN remote capabilities for Cisco 830 Series and Cisco 1700 Series routers
Dynamic collocated care of address	Mobile IP, mobile router feature allows roaming into areas without foreign agents for Cisco 3200 Series
Simple Network Management Protocol (SNMP) v3	Support of SNMPv3 in conjunction with Mobile IP functionality for Cisco 3200 Series
Wireless Mobile Interface Card (MIC) support	Support for wireless mobile access router interface card on Cisco 3200Series

DETAILED INFORMATION

New Features

DMZ—Demilitarized Zone

Cisco 831, Cisco 836, and Cisco 837—All feature sets.

DMZ provides an additional Ethernet interface, Ethernet 2, that, when enabled, has the Fast Ethernet 4 port on the LAN side switch as its physical representation. This interface acts as an additional LAN or WAN side interface on Layers 2 and 3 and allows for an additional DMZ leg that can be used for several different purposes. For example, this may include a separate LAN network where traffic to and from the other interfaces can be controlled by access control lists. The behavior of the Cisco IOS firewall is the same as other Ethernet Interfaces. Any state of the switch port is reflected on the Ethernet 2 port once it is put in a “no shut” state.

Because of architectural constraints, performance between Ethernet 0 and Ethernet 2 interfaces and performance to each of these ports from the WAN interface may not be at full Ethernet speeds. The impact will vary, depending on the load on the other interface (Ethernet 0 versus Ethernet 2). In most cases this limitation is not noticeable because the WAN speeds are usually fractions of 10 Mbps.

Enhanced LAN Switch Monitoring and Route Pruning

Cisco 831, Cisco 836, Cisco 837, Cisco SOHO 91, Cisco SOHO 96 and Cisco SOHO 97—All feature sets.

This feature provides an enhancement to the standard behavior of the Ethernet 0 interface that previous to this release did not recognize disconnects or connects on the physical LAN switch as an event from a routing perspective. With this enhancement, if no Ethernet link is recognized on any of the LAN switch ports, the Ethernet port declares itself as being down. When the Ethernet link is reestablished, the link declares itself as up and the network configured on the interface is announced over routing protocols.

Easy VPN Remote Phase 4

This phase includes Cisco 831, Cisco 836, Cisco 837, Cisco 1701, Cisco 1710, Cisco 1711, Cisco 1712, Cisco 1721, Cisco 1751, Cisco 1751-V, and Cisco 1760, Cisco 830 Series all feature sets, Cisco 1700 Series all legacy feature sets containing IPSec Triple Data Encryption Standard (3DES) and Advanced Security, Advanced IP Services, and Advanced Enterprise Services cross platform feature sets.

Several enhancements to the current Easy VPN Remote feature are incorporated in this release. The enhancements are divided in two groups called phases 4.0 and 4.1. Phase 4.0 enhancements will appear on the T release train with the Cisco IOS Software 12.3(fifth)T release, and phase 4.1 enhancements will appear on the T release train with the Cisco IOS Software 12.3(sixth)T release.

Descriptions for the Easy VPN Remote enhancements follow.

Phase 4.0

Easy VPN Remote with IEEE 802.1x Authentication

Previously, configuration of 802.1x port-based authentication on the private interfaces of the Easy VPN Remote router was not supported. This restriction has now been removed.

Easy VPN Remote with Certificates

Previously, only preshared keys could be used as key material for the Internet Key Exchange (IKE) (IPSec Phase 1) connection. The use of public key infrastructure (PKI)/certificates is now supported. Configuration is the same as for standard site-to-site IPSec. When configuring PKI on the remote router, it is critical that the subject-name command is set to the subject name in the certificate or PKI will fail.

Easy VPN Remote Backup Server List Auto-Configuration

Easy VPN Remote allows the configuration of multiple servers (concentrators) to which the remote router will attempt to connect. With this enhancement, the Easy VPN Server can “push” this server list to Easy VPN Remote clients, eliminating the requirement to manually configure the list of servers on the Easy VPN Remote. Instead, only one server needs to be preconfigured on the remote, and the rest of the server list will be pushed from the server at connect time.

Easy VPN Remote Management Enhancements

This feature makes it easy to remotely manage a Cisco IOS Router acting as an Easy VPN Remote. It does this by making the IP address pushed from the server at connect time fully manageable. The pushed address is automatically assigned to a loopback interface that is dynamically created. This enables ping, Telnet, SNMP, and even dynamic routing to use the pushed address as the address to reach the router. The user can design central site management solutions that use the pushed address as the address to reach the remote routers. This feature can be enabled in both client and network extension modes (it is possible to push an address in NEM, [EXPAND “NEM”] although you have the option of managing to the static IP address assigned to the private interface).

Easy VPN Remote Load Balancing

When configured for load balancing, the Cisco VPN 3000 Series Concentrator with Easy VPN, accepts an incoming request from the Easy VPN Remote router on its virtual IP address, and if required (for instance, if the server is heavily loaded), it sends a “notify” message to the remote that contains an IP address that represents the new peer to which the client should connect. The Easy VPN Remote router can receive this “redirect” message and it attempts to connect a different server at the address contained in the notify message. Syslog messages indicate when a transition from one peer to another occurs.

Easy VPN Remote VLAN Support

It is now possible to define a VLAN as an Easy VPN Remote inside (private) interface. This may be an internal VLAN on the remote router (for instance, switch ports in a Cisco 1711). This means that upon definition, IPSec Service Adapters will be established for the VLAN inside interface just as they are for the physical inside interfaces.

Easy VPN Remote Multiple Subnet Support

This enhancement allows multiple subnets on a single inside interface on the Easy VPN Remote router to be defined to Easy VPN. Previously, only a single subnet could be defined for Easy VPN on each inside interface. The subnets can be multiple hops away (cascaded) off the inside interface LAN (for example, the Easy VPN router private interface is connected to a router that has a subnet behind it). The subnets must be configured manually; they cannot be learned by dynamic routing.

Easy VPN Remote and Server on Same Interface

Easy VPN Remote and server functions now can be configured on the same interface. A typical application would be a remote router that acts as a client to the headquarters Easy VPN server, while it acts as a server for local software clients. Such a router typically would have a single public interface to the Internet, and both the server and client functions would be configured on this interface.

Easy VPN Remote and Site-to-Site on Same Interface

Easy VPN Remote and site-to-site (standard IPSec) functions now can be configured on the same interface. A typical application would be a remote router that acts as a client to the headquarters Easy VPN server while it also has a site-to-site tunnel that is used strictly for management.

Easy VPN Perfect Forward Secrecy (PFS) Using Policy Push

The PFS setting for the Easy VPN connection now can be dynamically set at connect time using MODCFG policy push from the server. Previously, PFS had to be configured manually on the Easy VPN Remote.

Phase 4.1

Easy VPN Dial Backup

Easy VPN Dial Backup is a feature that enables Cisco IOS Software to identify when the primary Internet connection goes down and initiates a dial-on-demand routing connection to a preconfigured destination from any alternative WAN/LAN Port (typically ISDN or analog modem but it also could be T1/E1, etc.). It is based on an existing feature that is used for non-Easy VPN situations: Reliable Static Routing Backup Using Object Tracking. Easy VPN Dial Backup delivers a solution for deployments where a remote router has a single dedicated VPN connection over the Internet but can dial up to an Internet service provider (ISP) if the primary link goes down.

The feature allows an object to be tracked (IP address or host name) using periodic pings and installs or removes the static route based on the state of the tracked object. If it determines that Internet connectivity is lost (for instance, the pings fail) the default route for the primary interface is removed and the floating static route for the backup interface becomes the preferred route. This triggers the dialer interface to come up and connect to the ISP. While in backup mode, the pings still are sent out to the primary interface. When the pings start to be received again by the primary interface, the primary connection is declared to be back up, and the primary route is reinserted into the routing table. The dialup connection will time out based on the idle timer settings of the dialer interface. An advantage of Easy VPN Dial Backup is that it does not require that a dynamic routing protocol (Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First Protocol (OSPF), etc.) be running across the VPN to test connectivity.

Easy VPN Remote Traffic Triggered Activation

This feature introduces a new method of activating Easy VPN tunnels based on user traffic. Prior to this feature, there were two ways to bring up the tunnel: manual entry of the Extended Authentication (XAuth) user/password and automatic activation of the tunnel with the user/password stored in the configuration file. The new feature brings up only the tunnel when user traffic needs to use it. It can be used with an idle timer on the tunnel to bring the tunnel up and down only when it is needed for user traffic. This can reduce the load on the Easy VPN concentrator, because tunnels are brought up only when needed.

Dynamic Collocated Care of Address (CCoA) with Dynamic Host Configuration Protocol (DHCP)

Cisco 3201, Cisco 3220, Cisco 3230, and Cisco 3250

Dynamic CCoA terminates the tunnel from the home agent, removing the need for the mobile router to behave as a foreign agent. This allows the mobile router to roam to foreign networks where foreign agents are not deployed, tunneling directly to a home agent. The CCoA can be based on a static IP address, or CCoA can be acquired dynamically by using Point-to-Point Protocol/IP Control Protocol. The Cisco IOS Software command to enable either static or dynamic CCoA is the `ip mobile router-service collocated interface` command.

Support for SNMPv3

Cisco 3201, Cisco 3220, Cisco 3230, and Cisco 3250.

This feature supports SNMPv3 in conjunction with Mobile IP functionality. This includes MIB information for both Foreign Agent and Home Agent registrations and mobile-IP (MoIP) security associations.

Support for Wireless MIC

Cisco 3201, Cisco 3220, Cisco 3230, and Cisco 3250.

This feature supports the Cisco 3200 Series Wireless MIC, thereby providing integrated 802.11b/g wireless WAN or LAN capabilities.

FEATURE SETS AND ORDERING INFORMATION

Table 2 shows platform and feature sets supported by this release, including part numbers for ordering. Spare part numbers end with an '=', non-spare part numbers can be ordered only with the platform for factory installation. This release also includes images for Cisco SOHO 78, Cisco 828, and Cisco ICS 7750. These images are part of this release for the purpose of bug fixes. Detailed information is in the release notes.

Table 2. Feature Sets and Ordering Information

Cisco 830 and Cisco SOHO 90 Series Platforms				Recommended Memory	
Platform	Software Product Description	Image File Name	Part Number	Flash	DRAM
Cisco 831	Cisco 831 Series IOS IP/FW 3DES	c831-k9o3y6-mz	S831CHK9-12307XR	12MB	48MB
			S831CHK9-12307XR=		
Cisco 831	Cisco 831 Series IOS IP/FW/PLUS 3DES	c831-k9o3sy6-mz	S831CHPK9-12307XR	12MB	48MB
			S831CHPK9-12307XR=		
Cisco 836	Cisco 836 Series IOS IP/FW 3DES	c836-k9o3y6-mz	S836CHK9-12307XR	12MB	48MB
			S836CHK9-12307XR=		

Cisco 836	Cisco 836 Series IOS IP/FW/PLUS 3DES	c836-k9o3sy6-mz	S836CHPK9-12307XR	12MB	48MB
			S836CHPK9-12307XR=		
Cisco 836	Cisco 836 Series IOS IP/FW/PLUS ISDN DIAL BKUP 3DES VPN	c836-k9o3s8y6-mz	S836CHSK9-12307XR	12MB	48MB
			S836CHSK9-12307XR=		
Cisco 837	Cisco 837 Series IOS IP/FW 3DES	c837-k9o3y6-mz	S837CHK9-12307XR	12MB	48MB
			S837CHK9-12307XR=		
Cisco 837	Cisco 837 Series IOS IP/FW/PLUS 3DES	c837-k9o3sy6-mz	S837CHPK9-12307XR	12MB	48MB
			S837CHPK9-12307XR=		
Cisco SOHO 91	Cisco soho91 Series IOS IP/FW 3DES	soho91-k9oy6-mz	SSH91CHK9-12307XR	8MB	32MB
			SSH91CHK9-12307XR=		
Cisco SOHO 96	Cisco soho96 Series IOS IP/FW 3DES	soho96-k9oy1-mz	SSH96CHK9-12307XR	8MB	32MB
			SSH96CHK9-12307XR=		
Cisco SOHO 97	Cisco soho97 Series IOS IP/FW 3DES	soho97-k9oy1-mz	SSH97CHK9-12307XR	8MB	32MB
			SSH97CHK9-12307XR=		

Cisco 820 Series and Cisco SOHO 70 Series Platforms				Recommended Memory	
Platform	Software Product Description	Image File Name	Part Number	Flash	DRAM
Cisco 827-4V	Cisco 820 Ser IOS IP/VOICE	c820-v6y6-mz	S820CV-12MB307XR	12MB	48MB
			S820CV-12MB307XR=		
Cisco 827-4V	Cisco 820 Ser IOS IP/VOICE PLUS	c820-sv6y6-mz	S820CVP-12MB307XR	12MB	48MB
			S820CVP-12MB307XR=		
Cisco 827-4V	Cisco 820 Ser IOS IP/FW/VOICE	c820-ov6y6-mz	S820CHV-12MB307XR	12MB	48MB
			S820CHV-12MB307XR=		
Cisco 827-4V	Cisco 820 Ser IOS IP/FW/VOICE PLUS 3DES	c820-k9osv6y6-mz	S820CHVK9-12MB307XR	12MB	48MB
			S820CHVK9-12MB307XR=		
Cisco 828	Cisco 828 Series IOS IP	c828-y6-mz	S828C-12MB307XR	8MB	24MB
			S828C-12MB307XR=		
Cisco 828	Cisco 828 Series IOS IP/FW	c828-oy6-mz	S828CH-12MB307XR	8MB	24MB
			S828CH-12MB307XR=		
Cisco 828	Cisco 828 Series IOS IP PLUS	c828-sy6-mz	S828CP-12MB307XR	8MB	32MB
			S828CP-12MB307XR=		
Cisco 828	Cisco 828 Series IOS IP/FW PLUS 3DES	c828-k9osy6-mz	S828CHK9-12MB307XR	8MB	32MB
			S828CHK9-12MB307XR=		
Cisco SOHO 78	Cisco soho78 Series IOS IP	soho78-y1-mz	SSOHO78C-12MB307XR	8MB	16MB
			SSOHO78C-12MB307XR=		

Cisco 1720,	Cisco 1700 IOS IP	c1700-y-mz	S17C-12307XR	16MB	48MB
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1721, 1751, 1751-V, 1760			S17C-12307XR=		
Cisco 1720, 1721, 1751, 1751-V, 1760, 1701	Cisco 1700 IOS IP/ADSL	c1700-y7-mz	S17C7-12307XR	16MB	48MB
			S17C7-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701	Cisco 1700 IOS IP/ADSL PLUS	c1700-sy7-mz	S17C7P-12307XR	16MB	64MB
			S17C7P-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701	Cisco 1700 IOS IP/ADSL/IPX/AT/IBM PLUS	c1700-bnr2sy7-mz	S17Q7P-12307XR	16MB	96MB
			S17Q7P-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701, 1711, 1712	Cisco 1700 IOS IP/ADSL/FW/IDS PLUS IPSEC 3DES	c1700-k9o3sy7-mz	S17C7HK9-12307XR	32MB	96MB
			S17C7HK9-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701, 1711, 1712	Cisco 1700 IOS IP/ADSL/IPX/AT/IBM/FW/IDS PLUS IPSEC 3DES	c1700-bk9no3r2sy7-mz	S17Q7HK9-12307XR	32MB	96MB
			S17Q7HK9-12307XR=		
Cisco 1751, 1751-V, 1760	Cisco 1700 IOS IP/ADSL/VOX PLUS	c1700-sv8y7-mz	S17C7V8P-12307XR	32MB	96MB
			S17C7V8P-12307XR=		
Cisco 1751, 1751-V, 1760	Cisco 1700 IOS IP/ADSL/VOX/FW/IDS PLUS IPSEC 3DES	c1700-k9o3sv8y7-mz	S17C7V8K9-12307XR	32MB	96MB
			S17C7V8K9-12307XR=		
Cisco 1751, 1751-V, 1760	Cisco 1700 IOS IP/ADSL/IPX/AT/IBM/VOX/FW/IDS PLUS IPSEC 3DES	c1700-bk9no3r2sv8y7-mz	S17Q7V8K9-12307XR	32MB	128MB
			S17Q7V8K9-12307XR=		

Cisco 1700 Series Cross Platform Images				Recommended Memory	
Platform	Software Product Description	Image File Name	Part Number	Flash	DRAM
Cisco 1721, 1751, 1751-V, 1760, 1701	Cisco 1700 IOS IP BASE	c1700-ipbase-mz	S17IPB-12307XR	16MB	64MB
			S17IPB-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701	Cisco 1700 IOS ENTERPRISE BASE	c1700-entbase-mz	S17EB-12307XR	16MB	64MB
			S17EB-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701, 1711, 1712	Cisco 1700 IOS ADVANCED SECURITY	c1700-advsecurityk9-mz	S17ASK9-12307XR	16MB	64MB
			S17ASK9-12307XR=		
Cisco 1751, 1751-V, 1760	Cisco 1700 IOS IP VOICE	c1700-ipvoice-mz	S17IPV-12307XR	32MB	96MB
			S17IPV-12307XR=		

Cisco 1721, 1751, 1751-V, 1760, 1701, 1711, 1712	Cisco 1700 IOS ADVANCED IP SERVICES	c1700-advipservicesk9-mz	S17AISK9-12307XR	32MB	96MB
			S17AISK9-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701	Cisco 1700 IOS ENTERPRISE SERVICES	c1700-entservicesk9-mz	S17ESK9-12307XR	32MB	96MB
			S17ESK9-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701	Cisco 1700 IOS SP SERVICES	c1700-spservicesk9-mz	S17SPSK9-12307XR	32MB	96MB
			S17SPSK9-12307XR=		
Cisco 1721, 1751, 1751-V, 1760, 1701, 1711, 1712	Cisco 1700 IOS ADVANCED ENTERPRISE SERVICES	c1700-adventerprisek9-mz	S17AESK9-12307XR	32MB	128MB
			S17AESK9-12307XR=		
Cisco 1710	Cisco 1710 IOS IP/FW/IDS PLUS IPSEC 3DES	c1710-k9o3sy-mz	S171CHK9-12307XR	16MB	64MB
			S171CHK9-12307XR=		
Cisco 1710	Cisco 1710 IOS IP/IPX/AT/IBM/FW/IDS PLUS IPSEC 3DES	c1710-bk9no3r2sy-mz	S171QHK9-12307XR	16MB	96MB
			S171QHK9-12307XR=		

Cisco 3200 Series Cross-Platform Images				Recommended Memory	
Platform	Software Product Description	Image File Name	Part Number	Flash	DRAM
Cisco 3220	Cisco 3220 Series IOS ADVANCED ENTERPRISE SERVICES	c3220-adventerprisek9-mz	S322AESK9-12MB307XR	8MB	32MB
			S322AESK9-12MB307XR=		
Cisco 3250	Cisco 3250 Series IOS ENTERPRISE BASE	c3250-entbase-mz	S325EB-12MB307XR	8MB	32MB
			S325EB-12MB307XR=		
Cisco 3250	Cisco 3250 Series IOS ADVANCED ENTERPRISE SERVICES	c3250-adventerprisek9-mz	S325AESK9-12MB307XR	8MB	32MB
			S325AESK9-12MB307XR=		

Cisco ICS 7700 Series Platforms				Recommended Memory	
Platform	Software Product Description	Image File Name	Part Number	Flash	DRAM
Cisco ICS 7700	Cisco 7700 IOS REDUCED-IP/VOICE PLUS	ics7700-sv3y10-mz	S77C-12MB307XR	0	64
			S77C-12MB307XR=		
Cisco ICS 7700	Cisco 7700 IOS IP/VOICE PLUS	ics7700-sv3y-mz	S77CVP-12MB307XR	0	64
			S77CVP-12MB307XR=		
Cisco ICS 7700	Cisco 7700 IOS REDUCED-IP/ANALOG VOICE PLUS	ics7700-sv12MBy10-mz	S77CH-12MB307XR	0	64
			S77CH-12MB307XR=		
Cisco ICS 7700	Cisco 7700 IOS IP/FW/VOICE PLUS IPSEC 56	ics7700-k8o3sv3y-mz	S77CHVK8-12MB307XR	0	64
			S77CHVK8-12MB307XR=		

Cisco ICS 7700	Cisco 7700 IOS IP/IPX/AT/IBM/VOICE PLUS	ics7700-bnr2sv3y-mz	S77QVP-12MB307XR	0	64
			S77QVP-12MB307XR=		
Cisco ICS 7700	Cisco 7700 IOS IP/FW/VOICE PLUS IPSEC 3DES	ics7700-k9o3sv3y-mz	S77CHVK9-12MB307XR	0	64
			S77CHVK9- 12MB307XR=		
Cisco ICS 7700	Cisco 7700 IOS IP/IPX/AT/IBM/FW/VOICE PLUS IPSEC 56	ics7700-bk8no3r2sv3y-mz	S77QHVK8-12MB307XR	0	64
			S77QHVK8- 12MB307XR=		
Cisco ICS 7700	Cisco 7700 IOS IP/IPX/AT/IBM/FW/VOICE PLUS IPSEC 3DES	ics7700-bk9no3r2sv3y-mz	S77QHVK9-12MB307XR	0	64
			S77QHVK9- 12MB307XR=		

DOWNLOAD INFORMATION

Customers can download Cisco IOS Software Release 12.3(7)XR from the <http://www.cisco.com> software image library.

FOR MORE INFORMATION

For more information about the Cisco SOHO and 800 series go to <http://www.cisco.com/go/800>, for the Cisco 1700 Series go to <http://www.cisco.com/go/1700>, for Cisco 3200 Series go to <http://www.cisco.com/go/3200>, for Cisco ICS 7700 Series go to <http://www.cisco.com/go/7750>, or contact your local account representative.

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