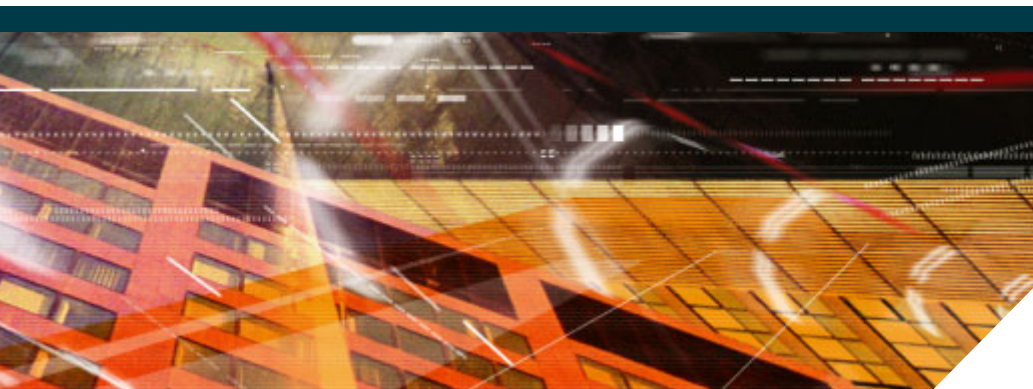




Beyond Access: Enabling the Full-Service Branch



Quick Reference Guide: Access Routers

Cisco SOHO, 800, 1700, 2600, 3600,
3700, 7200, 7300, and 7400 Series

Beyond Access: Enabling the Full-Service Branch

This is your guide to Cisco access routers, the widest and most versatile portfolio of products enabling the deployment of full services to all users, from the home office to the branch office to the enterprise campus.

Cisco Systems is the only company to offer solutions that fully support the enterprise-wide deployment of network-enabled applications. By delivering intelligent services to the farthest reaches of an organization, Cisco access routers provide the high availability, enhanced security, and advanced quality of service (QoS) required to support today's most sophisticated applications, including Voice over IP, videoconferencing, e-learning, customer relations management, and collaborative applications.

And as you'll discover from the pages that follow, Cisco makes it easy to meet tomorrow's needs as well, with modular designs that allow incremental migration as business and network requirements change.

So read on—and see for yourself how Cisco Systems delivers benefits beyond access, enabling the full-service branch.

Power Branch Solutions for small to medium sized business/branch offices

Cisco SOHO Series

Small Office, Home Office

- Multi-user access
- Firewall protection
- Manageability and reliability of Cisco IOS software
- ADSL, ADSL over ISDN, G.SDSL & Ethernet models

Cisco 800 Series

Business, Remote Office, Home Office

- Stateful Firewall Protection
- IPSec 3DES for VPNs with Cisco Easy VPN
- QoS for voice and video Applications
- VoIP with 4 analog FXS ports (827-4V)
- Manageability and reliability of Cisco IOS software
- ADSL, ADSL over ISDN, G.SDSL, ISDN, Serial and Ethernet models



SOHO/800 Series

Cisco 1700 Series

Small/Medium Business

- Voice/Data integration
- Built-in Fast Ethernet
- Modular WAN interfaces, including integrated ADSL and G.SHDSL
- Business-class security, including hardware encryption



1700 Series

Cisco 2600 Series

Small/Medium Business or Enterprise Branch Office

- Voice/Data integration (Analog and Digital)
- Built in Multiple Fast Ethernet LAN and/or Token Ring
- Completely modular solution
- Hardware or software compression
- Hardware and software IPSEC encryption
- Support for multiple LAN/WAN media by way of network modules and WICs
- Enterprise/Managed service for service providers (CPE-Class)



2600 Series

Cisco 3600 Series

Enterprise Branch Office

- High-performance processor
- Up to six network module slots
- Built-in one/two Ethernet 10/100
- Voice/Data integration (Analog and Digital)
- Completely modular solution
- Hot swappable
- Hardware and software compression
- Support for multiple LAN/WAN media by way of network modules and WICs
- Higher port density for LAN/WAN and integrated modems
- Enterprise/managed service for service providers (CPE-Class)



3600 Series

Cisco 3700 Series



3700 Series

Cisco 7200 Series



7200 Series

Cisco 7300 Series



7300 Series

Cisco 7400 Series



7400 Series



Beyond Access: Enabling the Full-Service Branch

Quick Reference Guide

Series Overview

Cisco SOHO and 800 Series	3
Cisco 1700 Series	X
Cisco 2600 Series	X
Cisco 3600 Series	X
Cisco 3700 Series	X
Cisco 7200 Series	X
Cisco 7300 Series	X
Cisco 7400 Series	X
Modules for 3700, 3600, and 2600XM Series	X

Module Compatibility

for 3700, 3600, and 2600XM Series	X
for the 7000 Series	X

Cisco SOHO Series and 800 Series



Cisco SOHO Series and 800 Series routers make it easy and affordable to extend the power of Cisco IOS technology to small businesses, small remote offices, and telecommuters, providing superior security, reliability, and manageability at a low cost. These routers deliver secure, multi-user access to the Internet or corporate LAN through a single ADSL, ADSL-over-ISDN, G.SHDSL, ISDN, or serial connections (up to 512 Kbps), or via an Ethernet WAN port connected to an external broadband modem.

Benefits and Advantages

Business-Class Security

Cisco SOHO Series and 800 Series routers provide the proven security features of Cisco IOS software, including stateful Firewall Protection. A stateful firewall offers more intelligent perimeter security by denying or permitting WAN traffic based on a session's state, so requests from users behind the firewall can be received, while still preventing unauthorized access.

Virtual Private Networking

Cisco 800 Series routers offer the added protection of virtual private networks (VPNs), which use data encryption and secure tunnels to protect data as it travels from one site to another, such as a branch office to corporate headquarters. The Cisco 800 Series supports IPSec 3DES, the most secure form of data encryption. With the support of Cisco Easy VPN Remote, it's simple to set up, manage, and maintain VPN connections using Cisco 800 Series routers. Users who have PC VPN software clients can use SOHO Series routers, with support for IPSec passthrough, to provide managed firewall protection for remote offices or home office networks.

Simplified Installation and Setup

Cisco SOHO Series and 800 Series routers come with color-coded cables and connectors, as well as default configurations, so even users with limited technical experience can quickly install and activate them. The Cisco Router Web Setup (CRWS) tool, a Web-based installation software tool, makes configuration just as simple by providing a graphical interface and easy-to-follow instructions.

QoS

The Cisco 800 Series Routers provide Quality of Service (QoS) for traffic management. QoS can give precedence to mission critical applications or delay sensitive applications such as voice and video traffic.

Integrated Support for VoIP

The Cisco 827-4V ADSL router provides four integrated FXS ports to deliver toll-quality voice for interoffice voice with remote offices or teleworkers.

When to Deploy

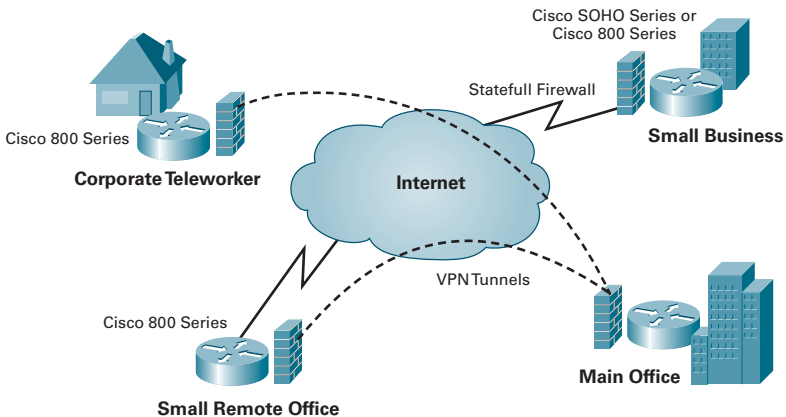
Sell the Cisco SOHO Series and 800 Series when the customer needs:

- Secure, reliable Internet access for Small Business and secure, managed VPN access for small remote offices and teleworkers (Cisco 800 Series);
- Secure, managed VPN access for small remote offices and teleworkers (Cisco 800 Series);
- Advanced router and quality of service (QoS) features for applications such as IP Phones (800 Series);
- Easy to deploy products for sites with non technical uses;
- Reduced operational costs for network managers or service providers who work with or provide service to small or remote office customers;
- The proven reliability and manageability of Cisco IOS software;
- VoIP with ADSL lines (Cisco 827-4V).

Series Distinctions

	Cisco SOHO Series	Cisco 800 Series
WAN Technologies	Ethernet, ADSL, ADSL over ISDN, G.SHDSL	Ethernet, ADSL, ADSL over ISDN, G.SHDSL, ISDN, Serial
Security	Stateful Firewall	Stateful Firewall
VPN	IPSec Pass-through Only	Integrated IPSec 3DES, Easy VPN, IPSec Pass-through
QoS	DSL ATM QoS only	DSL ATM QoS & IP QoS
Upgradability	Software Updates to Default Software Image Only	Software Updates & Upgrades to New Software Feature Set. Upgradeable Memory

Example Customers



Transition Information

The new Cisco SOHO 77H routers should be deployed in scenarios that previously called for SOHO 77 routers. Similarly, the new Cisco 827H routers are intended to take the place of Cisco 827 routers in future deployments. These new models provide additional functionality at no additional cost.

For more information on product transitions, see page XX

Platform Overviews

Platform	Target Market	Key Features	Fixed LAN Connections	Fixed WAN Connections	Default /Max DRAM	Default/Max Flash	Power Supply
ISDN & Serial Routers							
Cisco 801	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, QoS, IOS Remote Management	1-port Ethernet (10BASE-T)	1-port ISDN BRI (S/T)	4/12MB	8/12MB	External
Cisco 802	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, QoS, IOS Remote Management	1-port Ethernet (10BASE-T)	1-port ISDN BRI (U) NT-1	4/12MB	8/12MB	External
Cisco 803	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, QoS, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port ISDN BRI (S/T) 2 analog telephone ports	4/12MB	8/12MB	External
Cisco 804	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, QoS, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port ISDN BRI (U) NT-1, 2 analog telephone ports	4/12MB	8/12MB	External
Cisco 805	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, QoS, IOS Remote Management	1-port Ethernet (10BASE-T)	1-port serial (up to 512 Kbps)	4/12MB	8/16MB	External
Ethernet to Ethernet Routers							
Cisco SOHO 71	Small Business, Remote Users with VPN PC Clients	Stateful Firewall, Web GUI, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port Ethernet (10BASE-T)	16/16MB	8/8MB	External
Cisco 806	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, Easy VPN QoS, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port Ethernet (10BASE-T)	16/32MB	8/8MB	External
ADSL over ISDN Routers							
Cisco SOHO 76	Small Business, Remote Users with VPN PC Clients	Stateful Firewall, IPSec 3DES, QoS, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port ADSL over ISDN	16/16MB	8/8MB	External
Cisco 826		Stateful Firewall, IPSec 3DES, Easy VPN, QoS, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port ADSL over ISDN	16/32MB	8/8MB	External

Platform Overviews

Platform	Target Market	Key Features	Fixed LAN Connections	Fixed WAN Connections	Default /Max DRAM	Default/Max Flash	Power Supply
ADSL Routers							
Cisco SOHO 77H	Small Business, Remote Users with VPN PC Clients	Stateful Firewall, Web GUI, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port ADSL	16/16MB	8/8MB	External
Cisco 827H	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, Easy VPN, QoS, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port ADSL	16/32MB	8/8MB	External
Cisco 827-4V	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, Easy VPN, QoS, IOS Remote Management, VoIP	1-port Ethernet (10BASE-T)	1-port ADSL	24/32MB	8/16MB	External
G.SHDSL Routers							
Cisco SOHO 78	Small Business, Remote Users with VPN PC Clients	Firewall, Web GUI, Remote Management	4-port Ethernet hub (10BASE-T)	1-port G.SHDSL	16/16MB	8/8MB	External
Cisco 828	Small Business, Remote Office, Teleworker	Stateful Firewall, IPSec 3DES, Easy VPN, QoS, IOS Remote Management	4-port Ethernet hub (10BASE-T)	1-port G.SHDSL	16/32MB	8/8MB	External

Series Specifications

Processor	RISC CPU
Flash Memory	8MB-12MB (Cisco 800 Series expandable to 12MB-16MB)
System DRAM Memory	4MB-32MB (Cisco 800 Series expandable to 12MB-32MB)
Internal Power Supply	No
Dimensions (H x W x D)	2.0 x 9.7 x 8.5 in. (5.1 x 24.6 x 21.6 cm)
Performance	9Mbps Clear Text
Console port	1 (up to 115.2 Kbps)
Auxiliary port	No Base Configuration: Fixed configuration with single WAN port
Maximum Ethernet Ports	4-port Ethernet LAN hub (1 Ethernet WAN on Cisco SOHO 71 & Cisco 806)
Maximum High-Speed Serial (up to 2 Mbps)	1 (Cisco 805)
Maximum Low-Speed Serial (up to 128 Kbps)	0
Voice/Data Support (Y/N)	Cisco 827-4V only
Integrated Modems	0
Maximum Number of ISDN BRI Ports	1
Maximum Number of ISDN PRI Ports	0
Integrated CSU/DSU	NO

Series Specifications *continued*

Compression (H/W or S/W)	S/W
Encryption (H/W or S/W)	S/W
Redundant Power Supply Support	No
Minimum Cisco IOS Release	Dependent upon model

IOS Memory Requirements

	Description	DRAM	Flash
CISCO 801-804			
c800-k8nosy6-mw	IP/IPX/Firewall/IPSEC 3DES P	12	8
c800-k8osy6-mw	IP/Firewall/IPSEC 3DES PLUS	12	8
c800-oy6-mw	IP/Firewall	8	8
c800-sy6-mw	IP Plus	8	8
c800-y6-mw	IP	4	8
Cisco 805			
c805-k8nosy6-mw	IP/IPX/Firewall/IPSEC 3DES P	12	8
c805-k8osy6-mw	IP/Firewall/IPSEC 3DES PLUS	12	8
c805-oy6-mw	IP/Firewall	8	4
c805-sy6-mw	IP Plus	8	8
c805-y6-mw	IP	8	4
	Description	DRAM	Flash
Cisco 827 and CISCO 826			
c820-k9osv6y6-mz	IP/Firewall/Voice /IPSEC 3DE	32	8
c820-k9osy6-mz	IP/Firewall/IPSEC 3DES Plus	24	8
c820-ov6y6-mz	IP/Firewall/Voice	24	8
c820-oy6-mz	IP/Fire wall	20	8
c820-sv6y6-mz	IP/Voice Plus	24	8
c820-sy6-mz	IP Plus	20	8
c820-v6y6-mz	IP/Voice	24	8
c820-y6-mz	IP	16	8
Cisco 828			
c828-k9osy6-mz	IP/Firewall/IPSEC 3DES Plus	24	8
c828-oy6-mz	IP/Firewall	20	8
c828-sy6-mz	IP/Plus	16	8
c828-y6-mz	IP	16	8

Cisco IOS Memory Requirements

Cisco 828

c806-k9osy6-mz	IP/Firewall/IPSEC 3DES Plus	20	8
c806-oy6-mz	IP/Firewall	16	8
c806-sy6-mz	IP Plus	16	8
c806-y6-mz	IP	16	8

SOHO Series

soho70-y1-mz	IP	16	8
soho78-y1-mz	IP	16	8
soho71-oy6-mz	IP/FW	16	8

Ordering Information

	Part Number	Description
Cisco SOHO Series		
Cisco SOHO 71	CISCOSOH071	Ethernet router, 1E, 4E hub, stateful firewall
Cisco SOHO 76	CISCOSOH076	Cisco SOHO 76 Router 1 ADSL over ISDN, 4E Hub, stateful FW
Cisco SOHO 77H	CISCOSOH077	Cisco SOHO 77H router 1 ADSL, 4E hub, stateful firewall
Cisco SOHO 78	CISCOSOH078	Cisco SOHO 78 router, 1 G.SHDSL, 4E Hub
Cisco 800 Series Products		
Cisco 801	CISCO801	ISDN/Ethernet Router
Cisco 802	CISCO802	ISDN BRI/ETHERNET ROUTER
Cisco 803	CISCO803	ISDN BRI/ETHERNET ROUTER, 4PORT HUB, 2 POTS
Cisco 804	CISCO804	ISDN BRI/ETHERNET ROUTER, NT-1, 4-PORT HUB, 2 POTS
Cisco 805	CISCO805	Cisco 805 Ethernet/Serial Router
Cisco 806	CISCO806	Cisco 806 Broadband Router 4E, 1E, stateful firewall
Cisco 811	CISCO811	ISDN Ethernet router with integrated Japan DSU
Cisco 813	CISCO813	ISDN/Ethernet router with integrated 4 port hub / Japan DSU
Cisco 826	CISCO826	Cisco 826 ADSL router (co-existing with ISDN local loops)
Cisco 827H	CISCO827H	Cisco 827H router, 1 ADSL, 4E hub, stateful FW
Cisco 827-4V	CISCO827-4V	Cisco 827-4V ADSL router 1E, 1ADSL, 4 Voice
Cisco 828	CISCO828	Cisco 828 G.SHDSL Router 1E, 1G.SHDSL

Cisco 1700 Series



The Cisco 1700 Series of modular access routers is designed to provide a cost-effective, integrated platform for small and midsize businesses and small branch offices, ensuring they can efficiently roll out new services as needs change. These routers provide flexibility and manageability to meet demanding and evolving requirements, such as multiservice data/voice/video/fax integration, business-class digital subscriber line (DSL) support, and comprehensive security.

Benefits and Advantages

Flexibility and Investment Protection

The modularity of the Cisco 1700 Series allows it to easily adapt to evolving needs. WAN interface cards (WICs) and voice interface cards (VICs) enable easy additions or changes, without requiring a forklift upgrade of an entire platform. The wide range of available WIC solutions supports WAN technologies such as broadband DSL, ISDN, leased lines, and Frame Relay, while VIC solutions can support Voice over IP and Voice over Frame Relay. These modules are shared with Cisco 1600, 2600, 3600, and 3700 series routers.

Comprehensive Security

To keep networks secure and protect sensitive information, businesses deploy a range of security technologies, including firewalls, VPNs, and IDSs. Cisco IOS[®] Software is the industry's widely accepted standard for the Internet and private network operations. Cisco 1700 Series routers provide powerful firewall, VPN, and intrusion detection capabilities. As new security technologies are developed, they often can be simply uploaded—there's no need for costly hardware replacements.

Business-Class DSL Connectivity

The new WIC-ADSL and WIC-1SHDSL offer business-class broadband service with scalable performance, flexibility, and security for branch and regional offices. The Cisco 1700 Series provides the perfect solution for a variety of businesses requiring high-speed business-class DSL connectivity on a secure, high-performance, modular platform.

Multiservice Data/Voice/Video/Fax Integration

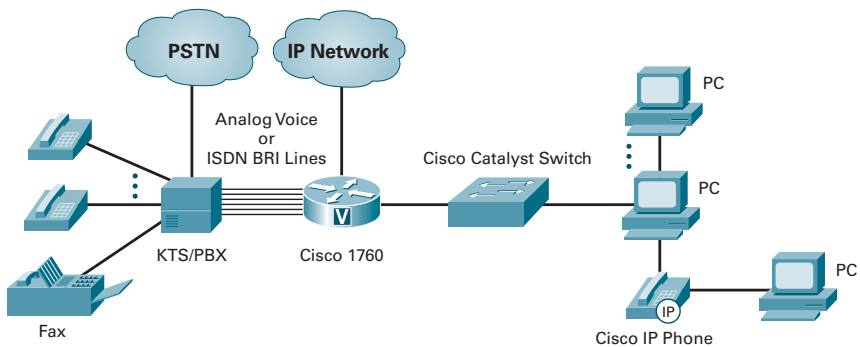
In addition to supporting the same security and business-class DSL features as the entire Cisco 1700 Series, the Cisco 1751 and 1760 offer a cost-effective way to extend converged multiservice networking to branch offices. They work with existing phones, faxes, and other equipment, simplifying deployment of IP telephony. Service integration using IP protocols over the Internet enables administrators to reduce long-distance toll charges between offices, and support voice-enabled desktop applications such as integrated messaging and packet video.

When to Deploy

Sell the Cisco 1700 Series when the customer needs:

- The flexibility to add or change WAN services to support new needs and applications, including VPNs, integrated voice/fax/data over the WAN, and broadband DSL and cable access services;
- An integrated access solution that combines a best-in-class router with firewall, high-speed encryption, VPN tunnel server, DSU/CSU, and ISDN NT-1 functions in one platform;
- Business requiring high-speed business-class DSL connectivity on a secure, high-performance modular platform;
- Integrated routing and switching functionality;
- Multiservice voice/video/fax/data integration;
- Up to five serial interfaces (including the AUX port) for retail/point-of-sale or small bank branch office applications.

Product Positioning



Transition Information

The new Cisco 1721 routers should be deployed in scenarios that previously called for Cisco 1720 routers. This new model provides additional functionality at no additional cost. For more information on product transitions, see page XX.

Platform Overview

	VICs/		Fixed	Performance	DRAM	DRAM	FLASH	FLASH	Power
	WICs	WICs	LAN Ports	(Kpps)	(default MB)	(max MB)	(default MB)	(max MB)	Supply
Cisco 1710	-	-	1	?	32	64	16	16	AC
Cisco 1721	2	-	1	12	32	96	16	16	AC
Cisco 1751	-	1	2	12	32	96	16	16	AC
Cisco 1751-V	-	1	2	12	64	128	32	32	AC
Cisco 1760	-	2	2	15	32	96	16	64	AC
Cisco 1760V	-	2	2	15	64	96	32	64	AC

Series Specifications

Processor	RISC CPU (additional processors on modules)
Dimensions (H x W x D)	
1710, 1721, 1751, 1751-V	4.0 x 11.2 x 8.7 in. (10.0 x 28.4 x 22.1 cm)
1760, 1760-V	1.7 x 17.5 x 12.8 in. (4.32 x 44.5 x 32.5 cm)
Flash Memory	16MB-32MB (expandable to 16MB-64MB)
System DRAM Memory	32MB-64MB (expandable to 64MB-96MB)
WAN Interface Cards Slots	0-2
Voice Interface Card Slots	0-2
Combination VIC/WIC Slots	0-2
Internal Expansion Slots	1
Internal Power Supply	AC
Performance	Ranges 12 to 15 Kpps
Console port	1 (up to 115.2 Kbps)
Auxiliary port	1 (up to 115.2 Kbps)
Base Configuration	Fixed single, dual, mixed (Ethernet, 10/100 Ethernet) ports with up to four modular slots
Maximum Ethernet Ports	3
Maximum 10/100 Ethernet Ports	1
Maximum High-Speed Serial (up to 2 Mbps)	4
Maximum Low-Speed Serial (up to 128 Kbps)	4 sync, 5 async
Voice/Data Support (Y/N)	Yes (1751 only)
Maximum Number of ISDN BRI Ports	4
Maximum Number of ISDN PRI Ports	4
Integrated CSU/DSU	Yes (T1/E1, Fractional T1/E1, 56k/64k)
Compression (H/W or S/W)	S/W
Encryption (H/W or S/W)	S/W + H/W
Redundant Power Supply Support	No
Minimum Cisco IOS Release	Varies depending on model

Cisco IOS Requirements

Cisco 1760 Data Software Feature Sets for Cisco IOS Release 12.2(2)XK

Software Product Description	Software Image	Recommended	
		Flash Memory	DRAM Memory
Cisco 1700 Cisco IOS IP/ADSL/IPX/AT/IBM/FW/IDS PLUS IPSEC 56	c1700-bk8no3r2sy7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/IPX/AT/IBM/FW/IDS PLUS IPSEC 3DES	c1700-bk9no3r2sy7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/IPX/AT/IBM PLUS	c1700-bnr2sy7-mz	16	48
Cisco 1700 Cisco IOS IP/IPX/AT/IBM	c1700-bnr2y-mz	8	32
Cisco 1700 Cisco IOS IP/ADSL/FW/IDS PLUS IPSEC 56	c1700-k8o3sy7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL PLUS IPSEC 56	c1700-k8sy7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/FW/IDS PLUS IPSEC 3DES	c1700-k9o3sy7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL PLUS IPSEC 3DES	c1700-k9sy7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/IPX/FW/IDS PLUS	c1700-no3sy7-mz	16	48
Cisco 1700 Cisco IOS IP/IPX	c1700-ny-mz	8	24
Cisco 1700 Cisco IOS IP/FW/IDS	c1700-o3y-mz	8	24
Cisco 1700 Cisco IOS IP/ADSL PLUS	c1700-sy7-mz	8	32
Cisco 1700 Cisco IOS IP/ADSL	c1700-y7-mz	8	24
Cisco 1700 Cisco IOS IP	c1700-y-mz	8	24
Cisco 1700 Cisco IOS IP/ADSL/IPX/AT/IBM/VOICE/FW/IDS PLUS IPSEC 56	c1700-bk8no3r2sv3y7-mz	32	64
Cisco 1700 Cisco IOS IP/ADSL/IPX/AT/IBM/VOICE/FW/IDS PLUS IPSEC 3DES	c1700-bk9no3r2sv3y7-mz	32	64
Cisco 1700 Cisco IOS IP/ADSL/VOICE/FW/IDS PLUS IPSEC 56	c1700-k8o3sv3y7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/VOICE PLUS IPSEC 56	c1700-k8sv3y7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/VOICE/FW/IDS PLUS IPSEC 3DES	c1700-k9o3sv3y7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/VOICE PLUS IPSEC 3DES	c1700-k9sv3y7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/IPX/VOICE/FW/IDS PLUS	c1700-no3sv3y7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/VOICE/FW/IDS PLUS	c1700-o3sv3y7-mz	16	48
Cisco 1700 Cisco IOS IP/ADSL/VOICE PLUS	c1700-sv3y7-mz	16	48
Cisco 1700 Cisco IOS IP/VOICE PLUS	c1700-sv3y-mz	16	48

Ordering Information

Product Number	Product Description
CISCO1760	10/100 Modular Router w/ 2WIC/VIC,2VIC slots,19 inch Chassis
CISCO1760-ADSL	10/100 BaseT Modular Router w/ADSL WIC, IP/ADSL
CISCO1760-SHDSL	10/100 BaseT Modular G.shdsl Router, 19 inch Chassis
CISCO1760-VPN/K9	1760 VPN Bundle with VPN Module, 48MB DRAM, IP Plus/FW/3DES
CISCO1760-VPN/K9-A	1760 VPN Bun. w/ADSL WIC, VPN Module, 48MB DRAM, IP+/FW/3DES
CISCO1760-V	10/100 Modular Router w/Voice IP/VOICE Plus, 19 inch Chassis
CISCO1751	10/100 Modular Router w/ 3 slots, IOS IP, 16F/32D
CISCO1751-V	10/100 Modular Router w/Voice, IOS IP/VOICE Plus, 32F/64D
CISCO1751-VPN/K9	1751 VPN Bundle with VPN Module, 48MB DRAM, IP Plus/FW/3DES
CISCO1751-VPN/K9-A	1751 VPN Bun. w/ADSL WIC, VPN Module, 48MB DRAM, IP+/FW/3DES
CISCO1720-VPN-M/K8	1720 VPN Bundle, Dual-E w/1 WAN slot, VPN Module, IP/FW/DES
CISCO1720-VPN-M/K9	1720 VPN Bundle, Dual-E w/1 WAN slot, VPN Module, IP/FW/3DES
CISCO1750	10/100 Modular Router w/1VIC, 2WIC/VIC slots,Cisco IOS IP SW
CISCO1750-2V	10/100 Modular Router w/2 Voice channels, IOS IP/VOICE + SW
CISCO1750-4V	10/100 Modular Router w/4 Voice channels, IOS IP/VOICE + SW
CISCO1750-ADSL	10/100 BaseT Modular ADSL Router
CISCO1721-ADSL	10/100 BaseT Modular ADSL Router, IP/DSL
CISCO1721	10/100BaseT Modular Router w/2 WAN slots, 16M Flash/32M DRAM
CISCO1721-VPN/K9	1721 VPN Bundle with VPN Module, 48MB DRAM, IP Plus/FW/3DES
CISCO1720	10/100BaseT Modular Router w/2 WAN slots, 8M Flash/32M DRAM
CISCO1720-ADSL	10/100 BaseT Modular ADSL Router
CISCO1720-SHDSL	10/100 BaseT Modular G.SHDSL Router, IP/DSL
CISCO1721-SHDSL	10/100 BaseT Modular G.SHDSL Router, IP/DSL
CISCO1710-VPN-M/K9	Dual-Ethernet Security Access Router, VPN Module, IP/3DES/FW

Notes

Cisco 2600 Series Modular Access Routers



Cisco Systems extends enterprise/provider-class versatility, integration, and power to branch offices with Cisco 2600 Series modular access routers. With more than 1.5 million 2600 Series units installed worldwide, this popular series offers network managers and service providers flexibility and investment protection in a compact, single-box solution. The Cisco 2600XM models and the top-of-the-line Cisco 2691 are the latest additions to the series, providing even more flexibility, performance, and memory, as well as higher service densities to support today's and tomorrow's branch office needs.

Benefits and Advantages

Integrated Flexible Routing and Low-Density Switching

With the support of an optional 16-port 10/100 EtherSwitch network module, branch offices can take advantage of the flexibility of integrated routing and switching functions in one unit for low port densities. This offers high-speed connections between individual desktops, servers, and other network resources in a single unit for Layer 2, and allows WAN connection at Layer 3 through the router. An optional external power chassis provides power to IP phones and Aironet 802.11 Base Stations.

Versatility/Investment Protection

Thousands of field-upgradable customized solutions ensure easy migration to future network requirements. More than 50 WAN interface cards (WICs) and network modules (NMs) are shared with the Cisco 1600, 1700, 3600, and 3700 series products. Modules can be interchanged between small, midsize, and regional branch offices. The advanced integration mod-

ule (AIM) slot offers expandability for integration of advanced services, such as hardware-assisted data compression, encryption, Voice and ATM hardware-assisted data compression, and encryption.

Business-Class DSL Connectivity

The new WIC-ADSL and WIC-1SHDSL offer business-class broadband service with scalable performance, flexibility, and security for branch and regional offices. The Cisco 2600 Series provides the perfect solution for a variety of businesses requiring high-speed business-class DSL connectivity on a secure, high-performance, modular platform.

Multiservice Voice/Data Networks

Supports up to 60 simultaneous calls, using analog and digital connections to phones, faxes, key systems, PBXs, and PSTN switches, enabling inter-branch toll charges to be reduced or eliminated. Using Cisco IOS[®] quality of service (QoS) features, such as WFQ,

Benefits and Advantages *continued*

CAR, RSVP, and Custom and Priority Queuing, voice traffic is digitized and encapsulated in Frame Relay or IP packets and consolidated with data traffic to extend multiservice infrastructure to the branch office.

Virtual Private Networking/Security

Offers advanced tunneling features, including L2F and L2TP, standards based, hardware supported IPSEC encryption, Cisco IOS Firewall feature set, and diverse WAN and dial interfaces, ideal for both VPN entry points and home gateways.

Power

High-speed routing performance up to 70,000 packets per second, for maximum scalability to support more concurrent services.

Interoperability/Multiprotocol support

Offers a comprehensive set of protocols and services, including virtual private networking, firewall protection, encryption, WAN optimization, and enhanced multimedia support features.

When to Deploy

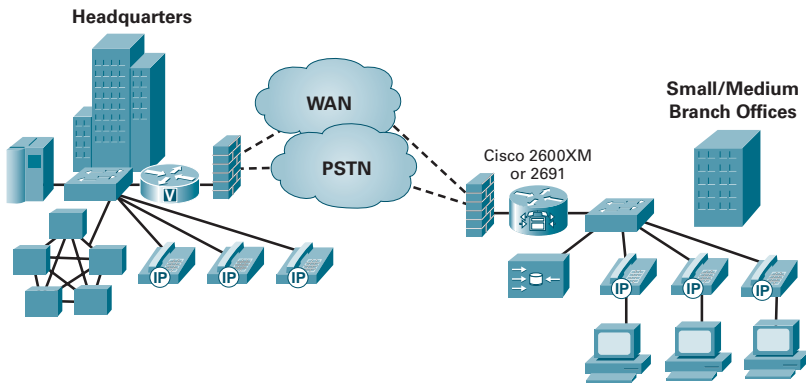
Deploy the Cisco 2600 Series when you need:

- A cost-effective solution for the long term that adapts to evolving network requirements;
- Virtual Private Network (VPN)/Extranet access with firewall protection to reduce costs and increase security for partners and employees;
- Dial concentration with async, ISDN, or analog modems;
- Integrated routing and switching functionality;
- Voice/fax/data multiservice integration;
- Serial device concentration of point-of-sale devices, ATMs, alarm systems, SDLC controllers with legacy terminals and LAN devices sharing a single WAN connection;
- Business requiring high-speed business-class DSL connectivity on a secure, high-performance modular platform;
- Support for advanced QoS features such as the Resource Reservation Protocol (RSVP), Weighted Fair Queuing (WFQ), and IP Precedence to reduce recurring WAN costs.

Transition Information

The new Cisco 2610XM, 2611XM, 2620XM, 2621XM, 2650XM, and 2651XM routers should be deployed in scenarios that previously called for Cisco 2610, 2611, 2620, 2620, 2650, and 2651 routers, respectively. The new XM models offer improved performance and increased default memory and maximum memory at no additional cost. For more information on product transitions, see page XX

Product Positioning



Options of:

- Voice enabled routers
- VPN-enabled routers
- Integrated stateful firewall
- WCCP for Content Networking
- Dial access
- Integrated low-density switching

Platform Overview

	NMs	AIM	WICs	Fixed LAN Ports	Performance (Kpps)	DRAM (MB) default	DRAM (MB) max	Flash (MB) default	Flash (MB) max	Power Supply
Cisco 2610XM / 2611XM	1	1	2	1 / 2 FE	20	32	128	16	48	AC, DC, RPS
Cisco 2612	1	1	2	1TR, 1E	15	32	64	8	16	AC, DC, RPS
Cisco 2620XM / 2621XM	1	1	2	1 / 2 FE	30	32	128	16	48	AC, DC, RPS
Cisco 2650XM / 2651XM	1	1	2	1 / 2 FE	40	64	128	16	48	AC, DC, RPS
Cisco 2691	1	2	3	2 FE	70	64	256	* 32	* 128	AC

* Compact Flash

Series Specifications

Dimensions [Height x Width x Depth]:

All except Cisco2691:	1.69 x 17.5 x 11.8 in (43 x 445 x 300 mm) 1 Rack Unit (RU) height
Cisco 2691:	3.50 x 17.1 x 11.0 in (88 x 434 x 279 mm) 2 Rack Units (RU) height

Console port:	1 (up to 115.2 Kbps)
Auxiliary port:	1 (up to 115.2 Kbps)
Integrated CSU/DSU:	Yes (T1/E1, Fractional T1/E1, 56k/64k)
Voice/Data Support (Y/N):	Yes
Compression (H/W or S/W):	S/W + H/W
Encryption (H/W or S/W):	S/W + H/W
Maximum Ethernet Ports:	18
Maximum 10/100 Ethernet Ports:	18
Maximum 1000 Ethernet Ports:	1
Maximum Token Ring Ports:	1
Maximum High-Speed Serial (up to 2 Mbps):	10
Maximum Low-Speed Serial (up to 128 Kbps):	14 sync, 39 async
Maximum Integrated Modems:	22 Analog
Maximum Number of ISDN BRI Ports:	11
Maximum Number of ISDN PRI Ports:	2

Minimum Cisco IOS Release:

Cisco 2610	IOS 12.0 Mainline
Cisco 2610XM	IOS 12.1(14) Mainline, 12.2(X) Mainline (future) or 12.2(8) T1
Cisco 2611	IOS 12.0 Mainline
Cisco 2611XM	IOS 12.1(14) Mainline, 12.2(X) Mainline (future) or 12.2(8) T1
Cisco 2612	IOS 12.0 Mainline
Cisco 2620	IOS 12.1 Mainline
Cisco 2620XM	IOS 12.1(14) Mainline, 12.2(X) Mainline (future) or 12.2(8) T1
Cisco 2621	IOS 12.1 Mainline
Cisco 2621XM	IOS 12.1(14) Mainline, 12.2(X) Mainline (future) or 12.2(8) T1
Cisco 2650	IOS 12.2 Mainline
Cisco 2650XM	IOS 12.1(14) Mainline, 12.2(X) Mainline (future) or 12.2(8) T1
Cisco 2651	IOS 12.2 Mainline
Cisco 2651XM	IOS 12.1(14) Mainline, 12.2(X) Mainline (future) or 12.2(8) T1
Cisco 2691	IOS 12.2(8) T1

Cisco IOS Requirements

Support for Cisco 2691 starts in Cisco IOS release 12.2(8)T1

Support for Cisco 2600XM Series Routers starts in Cisco IOS mainline release 12.2.(14) and in 12.2(8)T1. In addition, support for 2600XM Series Routers will be added in a future 12.2 mainline release.

Cisco IOS Release 12.2T Memory Recommendations for the Cisco 2600 Series Routers

Feature Set	Software Image	Rec Flash Memory	Rec DRAM Memory
IP	c2600-i-mz	8 MB	32 MB
IP Plus	c2600-is-mz	16 MB	48 MB
IP Plus IPSec 3DES	c2600-ik9s-mz	16 MB	64 MB
IP Plus IPSec 56	c2600-ik8s-mz	16 MB	64 MB
IP/FW/IDS	c2600-io3-mz	8 MB	32 MB
IP/FW/IDS Plus IPSec 3DES	c2600-ik9o3s-mz	16 MB	64 MB
IP/FW/IDS Plus IPSec 56	c2600-ik8o3s-mz	16 MB	64 MB
IP/H.323	c2600-ix-mz	8 MB	32 MB
IP/IPX/AT/DEC	c2600-d-mz	8 MB	32 MB
IP/IPX/AT/DEC Plus	c2600-ds-mz	16 MB	64 MB
IP/IPX/AT/DEC/FW/IDS Plus	c2600-do3s-mz	16 MB	64 MB
Enterprise Basic	c2600-j1s3-mz	16 MB	64 MB
Enterprise Plus	c2600-js-mz ¹	32 MB	96 MB
Enterprise Plus IPSec 3DES	c2600-jk9s-mz ¹	32 MB	96 MB
Enterprise Plus IPSec 56	c2600-jk8s-mz ¹	32 MB	96 MB
Enterprise Plus/H.323 MCM	c2600-jsx-mz ¹	32 MB	96 MB
Enterprise/FW/IDS Plus IPSec 3DES	c2600-jk9o3s-mz ¹	32 MB	96 MB
Enterprise/FW/IDS Plus IPSec 56	c2600-jk8o3s-mz ¹	32 MB	96 MB
Enterprise/SNASw Plus	c2600-a3js-mz ¹	32 MB	96 MB
Enterprise/SNASw Plus IPSec 3DES	c2600-a3jk9s-mz ¹	32 MB	96 MB
Enterprise/SNASw Plus IPSec 56	c2600-a3jk8s-mz ¹	32 MB	96 MB

¹ In Cisco IOS Release 12.2(8)T, this image is supported only in the Cisco 2650 and 2651.

Cisco IOS Release 12.2T Memory Recommendations for the Cisco 2691 Router.

Feature Set	Software Image	Rec Flash Memory	Rec DRAM Memory
IP	c2691-i-mz	32 MB	64 MB
IP Plus	c2691-is-mz	32 MB	128 MB
IP Plus IPSec 3DES	c2691-ik9s-mz	32 MB	128 MB
IP Plus IPSec 56	c2691-ik8s-mz	32 MB	128 MB
IP/FW/IDS	c2691-io3-mz	32 MB	64 MB
IP/FW/IDS Plus IPSec 3DES	c2691-ik9o3s-mz	32 MB	128 MB
IP/FW/IDS Plus IPSec 56	c2691-ik8o3s-mz	32 MB	128 MB
IP/H.323	c2691-ix-mz	32 MB	128 MB
Enterprise Plus	c2691-js-mz	32 MB	128 MB
Enterprise Plus IPSec 3DES	c2691-jk9s-mz	32 MB	128 MB
Enterprise Plus IPSec 56	c2691-jk8s-mz	32 MB	128 MB
Enterprise Plus/H.323 MCM	c2691-jsx-mz	32 MB	128 MB
Enterprise/FW/IDS Plus IPSec 3DES	c2691-jk9o3s-mz	32 MB	128 MB
Enterprise/FW/IDS Plus IPSec 56	c2691-jk8o3s-mz	32 MB	128 MB
Enterprise/SNASw Plus	c2691-a3js-mz	32 MB	128 MB
Enterprise/SNASw Plus IPSec 3DES	c2691-a3jk9s-mz	32 MB	128 MB
Enterprise/SNASw Plus IPSec 56	c2691-a3jk8s-mz	32 MB	128 MB

Ordering Information

The Cisco 2600 is ordered from components. You must specify:

- A 2600 series chassis: All Cisco 2600 chassis ship with the minimum recommended memory for the most recent default Cisco IOS IP feature set, documentation, console, auxiliary and LAN cables, 19" rack mount brackets, RJ-45 to DB-9 and DB-25 converters, and blank panels that cover unused WAN interface card and or network module slots. AC, DC and RPS power options are available for all chassis except the Cisco 2691.
- A CD software pack with desired software release.
- A power cord

Optional items are

- Cisco IOS feature set upgrade. The IP feature set is the default and included with the chassis.
- Up to two WAN Interface Cards (up to three for Cisco 2691)
- A Network Module
- An Advanced Integration Module (up to two for Cisco 2691)
- Flash Memory Upgrade
- DRAM Memory Upgrade
- Cables
- NEBS/ETSI compliance kit (not available for Cisco 2691)

Cisco 3600 Series



The Cisco 3600 Series provides ideal multiservice platforms for large and midsize offices and smaller Internet service providers. This line is optimized for the broadest application support, including legacy protocols, analog dial, high-density terminal server aggregation, RAS, and ATM AAL2. With more than 70 modular interface options, the Cisco 3600 Series provides solutions for data, voice, video, hybrid dial access, virtual private networks (VPNs), and multiprotocol data routing, without the time and expense of managing several devices.

Benefits and Advantages

Consolidation/Integration

Combines the capabilities of dial access VPN, advanced LAN-to-LAN routing services, and multiservice integration of voice, video, data in one platform, substantially reducing life cycle costs compared to multiple-device solutions.

Integrated Flexible Routing and Low-Density Switching

With the support of optional 16-port* 10/100 EtherSwitch network modules, branch offices can take advantage of the flexibility of integrated routing and switching functions in one unit for low port densities.

This offers high-speed connections between individual desktops, servers, and other network resources in a single unit for Layer 2, and allows WAN connection at Layer 3 through the router. An optional external power chassis provides power to IP phones and Aironet 802.11 Base Stations.

Versatility/Investment Protection

Includes regular introductions of network modules addressing additional media and applications support. Dozens of WAN interface cards (WICs) and network modules (NMs) are shared with the Cisco 1600, 1700, 2600, and 3700 series products. Modules can be interchanged between small, midsize, and regional branch offices.

Advanced Multiservice Support

Delivers rich quality of service (QoS) features of Cisco IOS, and the power to support them at bandwidths in excess of multiple T1/E1. Features such as Weighted Fair Queuing (WFQ), IP Precedence, Resource Reservation Protocol (RSVP) and Committed Access Rate (CAR) provide both the traffic shaping and prioritization necessary for a robust multiservice platform that can handle mission-critical networking.

* Only Cisco 3660 also accepts the 36-port EtherSwitch network module.

Benefits and Advantages *continued***VPN/Security**

Offers advanced tunneling features, including L2F and L2TP, standards based, hardware supported IPSEC encryption, Cisco IOS Firewall feature set, and diverse WAN and dial interfaces, ideal for both VPN entry points and home gateways.

Voice and Hybrid Dial Access

Integrates dial access and voice with traditional LAN-to-LAN routing, with advanced standards-based support for Voice over IP, Voice over Frame Relay, and Voice over ATM.

Integrated Cisco IOS®

Provides extensive security features, reduced WAN service costs, enhanced multimedia support with robust QoS and guaranteed interoperability across all Cisco routers.

Remote Management

Simple Network Management Protocol (SNMP), telnet, and a console port for remote management and monitoring.

Power

High-speed routing performance up to 120,000 packets per second, for maximum scalability to support more concurrent services.

Interoperability/Multiprotocol support

Offers a comprehensive set of protocols and services, including virtual private networking, firewall protection, encryption, WAN optimization, and enhanced multimedia support features.

When to Deploy

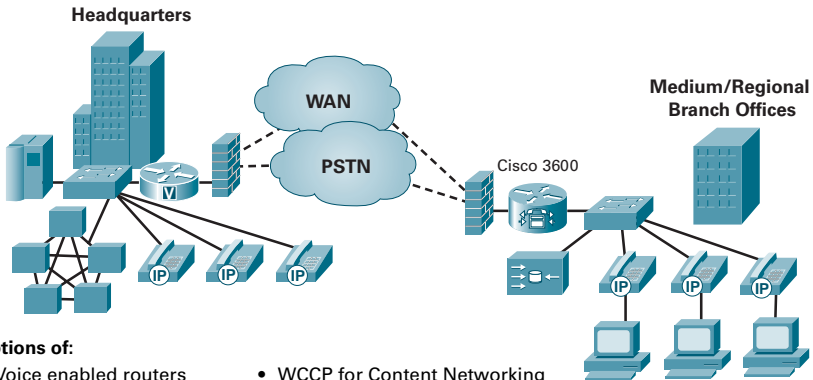
Deploy the Cisco 3600 Series when you need:

- A single-box platform for easier management and much lower life cycle costs than multi-vendor/multi-box solutions;
- A flexible, cost-effective solution for the long term that adapts to evolving network requirements;
- Rich QoS features to ensure optimum traffic prioritization and bandwidth utilization;
- An ideal platform for dial-up applications, with flexible LAN media support (Ethernet, Fast Ethernet, Token Ring) and high-density ISDN, async, and analog and digital modem support;
- Virtual private network/extranet access with firewall protection to reduce costs and increase security for partners and employees;
- Integrated routing and switching functionality;
- Voice/fax/data multiservice integration.

Platform Overview

	NMs	AIM	Fixed LAN Ports	Performance (Kpps)	DRAM (MB)		FLASH(MB)		Power Supply
					default	max	default	max	
Cisco 3620	2	-	Use Module	40	16	64	16	32	AC/DC, RPS
Cisco 3640	4	-	Use Module	70	16	128	16	32	AC/DC, RPS
Cisco 3661	6	2	1 FE	120	32	256	16	64	AC/DC, RPS
Cisco 3662	6	2	2 FE	120	32	256	16	64	AC/DC, RPS

Product Positioning



Options of:

- Voice enabled routers
- VPN-enabled routers
- Integrated stateful firewall
- WCCP for Content Networking
- Dial access
- Integrated low-density switching

Series Specifications

Processor	RISC CPU (additional processors on modules)
Dimensions [Height x Width x Depth]:	
Cisco 3620:	1.75 x 17.5 x 13.5 in 44 x 445 x 343 mm; 1 Rack Unit (RU) height
Cisco 3640:	3.44 x 17.5 x 15 in 88 x 445 x 381 mm; 2 Rack Units (RU) height
Cisco 3660:	8.7 x 17.5 x 11.8 in 221 x 445 x 300 mm; 5 Rack Units (RU) height
Console port	1 (up to 115.2 Kbps)
Auxiliary port	1 (up to 115.2 Kbps)
Integrated CSU/DSU	Yes (T1/E1, Fractional T1/E1, 56k/64k)
Voice/Data Support (Y/N)	Yes
Compression (H/W or S/W)	S/W + H/W
Encryption (H/W or S/W)	S/W + H/W
Maximum Ethernet Ports	46
Maximum 10/100 Ethernet Ports	46
Maximum 1000 Ethernet Ports	2
Maximum Token Ring Ports	6
Maximum High-Speed Serial (up to 2 Mbps)	24
Maximum Low-Speed Serial (up to 128 Kbps)	48 sync, 192 async
Maximum Integrated Modems	96 Analog, 120 Digital
Maximum Number of ISDN BRI Ports	48
Maximum Number of ISDN PRI Ports	12
Minimum Cisco IOS Release:	
Cisco 3620 – 11.1(7)AA	
Cisco 3640 – 11.1(7)AA	
Cisco 3661 – 12.0(5)T	
Cisco 3662 – 12.0(5)T	

Cisco IOS Requirements

Cisco IOS Release 12.2T Memory Recommendations for the Cisco 3620 Router

Feature Set	Image Name	Rec Flash Memory	Rec DRAM Memory
IP	c3620-i-mz	8 MB	32 MB
IP Plus	c3620-is-mz	16 MB	64 MB
IP Plus IPSec 3DES	c3620-ik9s-mz	16 MB	64 MB
IP Plus IPSec 56	c3620-ik8s-mz	16 MB	64 MB
IP/FW/IDS	c3620-io3-mz	8 MB	32 MB
IP/FW/IDS Plus IPSec 3DES	c3620-ik9o3s-mz	16 MB	64 MB
IP/FW/IDS Plus IPSec 56	c3620-ik8o3s-mz	16 MB	64 MB
IP/H.323	c3620-ix-mz	8 MB	48 MB
IP/IPX/AT/DEC	c3620-d-mz	8 MB	32 MB
IP/IPX/AT/DEC Plus	c3620-ds-mz	16 MB	64 MB
IP/IPX/AT/DEC/FW/IDS Plus	c3620-do3s-mz	16 MB	64 MB
Enterprise Basic	c3620-j1s3-mz	16 MB	64 MB

Cisco IOS Release 12.2T Memory Recommendations for the Cisco 3640 Router

Feature Set	Image Name	Rec Flash Memory	Rec DRAM Memory
IP	c3640-i-mz	8 MB	32 MB
IP Plus	c3640-is-mz	16 MB	64 MB
IP Plus IPSec 3DES	c3640-ik9s-mz	16 MB	64 MB
IP Plus IPSec 56	c3640-ik8s-mz	16 MB	64 MB
IP/FW/IDS	c3640-io3-mz	8 MB	32 MB
IP/FW/IDS Plus IPSec 3DES	c3640-ik9o3s-mz	16 MB	64 MB
IP/FW/IDS Plus IPSec 56	c3640-ik8o3s-mz	16 MB	64 MB
IP/H.323	c3640-ix-mz	8 MB	48 MB
IP/IPX/AT/DEC	c3640-d-mz	8 MB	32 MB
IP/IPX/AT/DEC Plus	c3640-ds-mz	16 MB	64 MB
IP/IPX/AT/DEC/FW/IDS Plus	c3640-do3s-mz	16 MB	64 MB
Enterprise Plus	c3640-js-mz	32 MB	96 MB
Enterprise Plus IPSec 3DES	c3640-jk9s-mz	32 MB	96 MB
Enterprise Plus IPSec 56	c3640-jk8s-mz	32 MB	96 MB
Enterprise Plus/H.323 MCM	c3640-jsx-mz	32 MB	96 MB
Enterprise/FW/IDS Plus IPSec 3DES	c3640-jk9o3s-mz	32 MB	96 MB
Enterprise/FW/IDS Plus IPSec 56	c3640-jk8o3s-mz	32 MB	96 MB
Enterprise/SNASw Plus	c3640-a3js-mz	32 MB	96 MB
Enterprise/SNASw Plus IPSec 3DES	c3640-a3jk9s-mz	32 MB	96 MB
Enterprise/SNASw Plus IPSec 56	c3640-a3jk8s-mz	32 MB	96 MB

Cisco IOS Release 12.2T Memory Recommendations for the Cisco 3660 Series Routers

Feature Set	Image Name	Rec Flash Memory	Rec DRAM Memory
IP	c3660-i-mz	8 MB	32 MB
IP Plus	c3660-is-mz	16 MB	64 MB
IP Plus IPSec 3DES	c3660-ik9s-mz	32 MB	64 MB
IP Plus IPSec 56	c3660-ik8s-mz	32 MB	64 MB
IP/FW/IDS	c3660-io3-mz	8 MB	64 MB
IP/FW/IDS Plus IPSec 3DES	c3660-ik9o3s-mz	32 MB	64 MB
IP/FW/IDS Plus IPSec 56	c3660-ik8o3s-mz	32 MB	64 MB

IOS Requirements

Feature Set	Image Name	Rec Flash Memory	Rec DRAM Memory
IP/H.323	c3660-ix-mz	8 MB	64 MB
IP/IPX/AT/DEC	c3660-d-mz	8 MB	64 MB
IP/IPX/AT/DEC FW IDS Plus	c3660-d03s-mz	16 MB	64 MB
IP/IPX/AT/DEC Plus	c3660-ds-mz	16 MB	64 MB
Enterprise Plus	c3660-js-mz	32 MB	96 MB
Enterprise Plus IPSec 3DES	c3660-jk9s-mz	32 MB	96 MB
Enterprise Plus IPSec 56	c3660-jk8s-mz	32 MB	96 MB
Enterprise Plus/H.323 MCM	c3660-jsx-mz	32 MB	96 MB
Enterprise/FW/IDS Plus IPSec 3DES	c3660-jk9o3s-mz	32 MB	96 MB
Enterprise/FW/IDS Plus IPSec 56	c3660-jk8o3s-mz	32 MB	96 MB
Enterprise/SNASw Plus	c3660-a3js-mz	32 MB	96 MB
Enterprise/SNASw Plus IPSec 3DES	c3660-a3jk9s-mz	32 MB	96 MB
Enterprise/SNASw Plus IPSec 56	c3660-a3jk8s-mz	32 MB	96 MB

Ordering Information

The Cisco 3600 is ordered from components. You must specify:

- A 3600 series chassis: All chassis ship with the minimum recommended memory for the most recent default Cisco IOS IP feature set, documentation, console, auxiliary and LAN cables, 19" rack mount brackets, RJ-45 to DB-9 and DB-25 converters, and blank panels that cover unused WAN interface card and or network module slots. AC, DC and RPS power options are available for all chassis.
- A CD software pack with desired software release.
- A power cord

Optional items are

- A Cisco IOS feature set upgrade or revision. The IP feature set is the default and included with the chassis.
- Up to six WAN Interface Cards
- Up to six Network Modules, with on-board WAN and Voice Interface Cards
- Flash Memory Upgrade
- DRAM Memory Upgrade
- Cables

Notes

Cisco 3700 Series Modular Access Routers

The Cisco 3700 Series is a new line of modular routers that enable flexible and scalable deployment of new applications in an integrated branch office access platform. The Cisco 3700 Series is ideal for sites and solutions requiring the highest levels of integration at the edge for branch office IP Telephony, voice gateway, and integrated flexible routing with low-density switching solutions. The Cisco 3700 Series provides a consolidated service infrastructure and high service density in a compact form factor that enables the incremental integration of branch applications.

Benefits and Advantages

High Service Density

This series introduces a new, wider interface form factor—the High Density Services Module (HDSM). With four network module (NM) slots, the Cisco 3745 can accept two HDSMs by removing the center guides between each pair of adjacent NM slots. With two NM slots, the Cisco 3725 can accept an HDSM in one while still leaving the other free. Each model also offers three WAN Interface Card (WIC) slots and two Advanced Integration Module (AIM) slots.

Integrated Flexible Routing and Low-Density Switching

When configured with the new 16- or 36-port EtherSwitch Module, the Cisco 3700 Series offers a single, integrated platform that combines flexible routing and low-density switching. This offers high-speed connections between individual desktops, servers, and other network resources in a single unit for Layer 2, and allows WAN connection at Layer 3 through the router. An optional external power chassis provides power to IP phones and Aironet 802.11 Base Stations.

Integration/Manageability

Provides a single-platform solution for branch office IP telephony and voice gateway services, lowering costs of ownership, simplifying management, and allowing flexible, incremental migration and integration.

Versatility/Investment Protection

Thousands of field-upgradable customized solutions ensure easy migration to future network requirements. More than 70 WAN interface cards (WICs), and Network Modules are shared with the Cisco 1600, 1700, 2600, and 3600 series products. Modules can be interchanged between small, midsize, and regional branch offices. The advanced integration module (AIM) slot offers expandability for integration of advanced services, such as hardware-assisted data compression, encryption, Voice and ATM hardware-assisted data compression, and encryption.

Benefits and Advantages *continued*

Incremental Migration to IP Telephony

Supports a wide range of traditional telephony devices and newer IP telephony solutions to enable immediate or gradual migration. Analog telephony connectivity options start at two analog ports and scaling to 16, 32, 48 or 64 analog ports. Digital telephony connectivity is just as scalable, with options from 12 to 240 channels. IP telephony solutions are further supported on the Cisco 3700 Series through a powerful set of features including line-powered IP phone connectivity that begins with 16 ports and scales to 36, 52, or 72 ports.

Power

High-speed routing performance up to 225,000 packets per second, providing the scalability to support more concurrent services.

Interoperability/Multiprotocol support

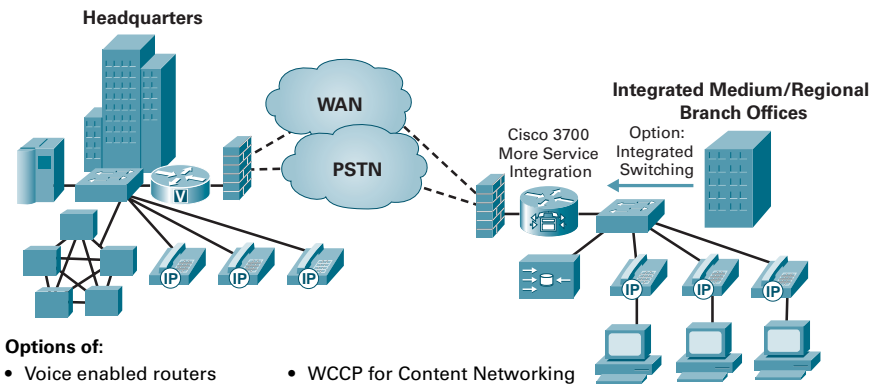
Offers a comprehensive set of protocols and services, including virtual private networking, firewall protection, encryption, WAN optimization, and enhanced multimedia support features.

When to Deploy

Deploy the Cisco 3700 Series when you need need:

- New levels of branch office service density in a compact form factor;
- Integrated flexible routing and low-density switching (16 or 36 ports);
- Flexible, incremental, and scalable migration to a converged branch office network;
- Compatibility with over 90% of the world's legacy analog and digital TDM PBXs;
- Survivable Remote Site Telephony features that enable branch offices to leverage centralized call control while providing local branch IP Telephony redundancy;
- Increased default memory of 32MB Compact Flash and 128MB DRAM;
- Support for advanced quality of service (QoS), bandwidth optimization, and data fragmentation, as well as voice call admission control, call control, and queuing mechanisms, without sacrificing the expected data performance needed for future growth.

Product Positioning



Options of:

- Voice enabled routers
- VPN-enabled routers
- Integrated stateful firewall
- WCCP for Content Networking
- Dial access
- Integrated low-density switching

Platform Overview

Platform	NMs	AIM	WICs	Fixed LAN Ports	Performance (Kpps)	DRAM (default MB)	DRAM (max MB)	FLASH (default MB)	FLASH (max MB)	Power Supply
Cisco 3725	2	2	3	2 FE	100	128	256	32	128	AC, RPS
Cisco 3745	4	2	3	2 FE	225	128	256	32	128	AC,DC, RPS

Series Specifications

Processor: MIPS RISC Processor

Dimensions [Height x Width x Depth]:

Cisco 3725: 3.5 x 17.1 x 15 in 88 x 434 x 381 mm 2 Rack Unit (RU) height

Cisco 3745: 5.25 x 17.25 x 15 in 133 x 438 x 381 mm 3 Rack Units (RU) height

Console port: 1 (up to 115.2 Kbps)

Auxiliary port: 1 (up to 115.2 Kbps)

Integrated CSU/DSU: Yes (T1/E1, Fractional T1/E1, 56k/64k)

Voice/Data Support (Y/N): Yes

Compression (H/W or S/W): S/W + H/W

Encryption (H/W or S/W): S/W + H/W

Maximum Ethernet Ports: 46

Maximum 10/100 Ethernet Ports: 46

Maximum 1000 Ethernet Ports: 2

Maximum Token Ring Ports: 4

Maximum High-Speed Serial (up to 2 Mbps): 22

Maximum Low-Speed Serial (up to 128 Kbps) 38 sync, 134 async

Maximum Integrated Modems: 70 Analog, 60 Digital

Maximum Number of ISDN BRI Ports: 35

Maximum Number of ISDN PRI Ports: 8

Minimum Cisco IOS Release:

Cisco 3725 – IOS 12.2(8)T

Cisco 3745 – IOS 12.2(8)T

Cisco IOS Requirements

Support for Cisco 3700 Series Routers starts in Cisco IOS release 12.2(8)T

Cisco IOS Release 12.2T Memory Recommendations for the Cisco 3725 Router

Feature Set	Image Name	Rec Flash Memory	Rec DRAM Memory
IP	c3725-i-mz	32 MB	128 MB
IP Plus	c3725-is-mz	32 MB	128 MB
IP Plus IPSec 3Des	c3725-ik9s-mz	32 MB	128 MB
IP/FW/IDS	c3725-io3-mz	32 MB	128 MB
IP/FW/IDS Plus IPsec 3Des	c3725-ik9o3s-mz	32 MB	128 MB
Enterprise Plus	c3725-js-mz	32 MB	128 MB
Enterprise Plus IPsec 3Des	c3725-jk9s-mz	32 MB	128 MB
Enterprise/FW/IDS Plus IPsec 3Des	c3725-jk9o3s-mz	32 MB	128 MB
Enterprise Plus/H323 MCM	c3725-jsx-mz	32 MB	128 MB
IP/H323	c3725-ix-mz	32 MB	128 MB

Cisco IOS Release 12.2T Memory Recommendations for the Cisco 3745 Router

Feature Set	Image Name	Rec Flash Memory	Rec DRAM Memory
IP	c3745-i-mz	32 MB	128 MB
IP Plus	c3745-is-mz	32 MB	128 MB
IP Plus IPSec 3Des	c3745-ik9s-mz	32 MB	128 MB
IP/FW/IDS	c3745-io3-mz	32 MB	128 MB
IP/FW/IDS Plus IPsec 3Des	c3745-ik9o3s-mz	32 MB	128 MB
Enterprise Plus	c3745-js-mz	32 MB	128 MB
Enterprise Plus IPsec 3Des	c3745-jk9s-mz	32 MB	128 MB
Enterprise/FW/IDS Plus IPsec 3Des	c3745-jk9o3s-mz	32 MB	128 MB
Enterprise Plus/H323 MCM	c3745-jsx-mz	32 MB	128 MB
IP/H323	c3745-ix-mz	32 MB	128 MB

Ordering Information

The Cisco 3700 is ordered from components. You must specify:

- A 3700 series chassis: All chassis ship with the minimum recommended memory for the most recent default Cisco IOS IP feature set, documentation, console, auxiliary and LAN cables, 19" rack mount brackets, RJ-45 to DB-9 and DB-25 converters, and blank panels that cover unused WAN interface card and or network module slots.
- A CD software pack with desired software release.
- A power cord

Optional items are

- A Cisco IOS feature set upgrade or revision. The IP feature set is the default and included with the chassis.
- Up to three WAN Interface Cards
- Up to four Network Modules, with on-board WAN and Voice Interface Cards
- Up to two Advanced Integration Modules
- Up to two Integrated Etherswitch power supplies
- Flash Memory Upgrade
- DRAM Memory Upgrade
- Cables

Cisco 7200 Series Modular Access Routers

Cisco 7200 series routers deliver exceptional versatility in a compact form factor. With processing speeds up to 400,000 packets per second, port adaptors ranging from NxDS0 to OC-12, and an unparalleled number of high-touch IP services, the Cisco 7200 is an ideal high-end access router for large branch office environments. A key strength of the Cisco 7200 is its modularity. With a choice of 4- and 6-slot chassis, a selection of processors providing up to 400 kpps, an extensive range of LAN and WAN interfaces with up to 48 ports per chassis, and single or dual power supplies, the customer can customize their system to achieve the performance, connectivity, and capacity desired. This modularity combined with a low initial price point guarantees both investment protection and maximum return on investment, allowing the customer to upgrade and/or redeploy their Cisco 7200 as their network needs change.

Benefits and Advantages

Compact Form Factor

Up to six port adapters in a fully modular 3RU form factor. Rack Density System (RDS) allows for up to nine Cisco 7206 routers per rack with front-to-back airflow.

Exceptional Value

As the most powerful Cisco single-processor platform, the Cisco 7200 offers customers a superior price/performance ratio supporting high-speed media and high-density configurations with up to 400 kpps processing at a competitive price point.

Simplified Network Convergence

The Cisco 7200's Multiservice Interchange (MIX)-enabled backplane allows for integration of data, voice, and video in a single WAN Edge device. With the latest quality of service (QoS) features, the Cisco 7200 Series enables enterprises to save money by bypassing their carrier's long distance charges.

Virtual Private Network (VPN) Support

The dedicated VPN acceleration adapters available on the Cisco 7200 enable an integrated solution for routing, QoS, multicast, and multiprotocol traffic across the VPN. Utilizing the VPN Acceleration Module (VAM), the Cisco 7200 Series VPN Router delivers IPsec encryption scalability to 145 Mbps for the most demanding head-end site-to-site VPN deployments.

Enhanced Security

With support for access control lists (ACL), network address translation (NAT), Netflow, along with firewall, intrusion detection, and service level validation features, the Cisco 7200 is an ideal platform for ensuring network security.

Benefits and Advantages *continued*

Maximum ROI

A low price per port entry point makes the value of the Cisco 7200 unbeatable, while still allowing customers to upgrade and/or redeploy their equipment as their network needs change.

Feature Rich

Full support for Cisco IOS software and enhancements for high-performance network services enables the Cisco 7200 to offer industry-leading network services including MPLS, broadband aggregation, quality of service, security, and multiservice.

Connectivity/Flexibility

Providing high port density and an extensive range of LAN and WAN media, the Cisco 7200 dramatically reduces the cost per port and allows for flexible configurations to meet your specific network needs.

Common port adapters

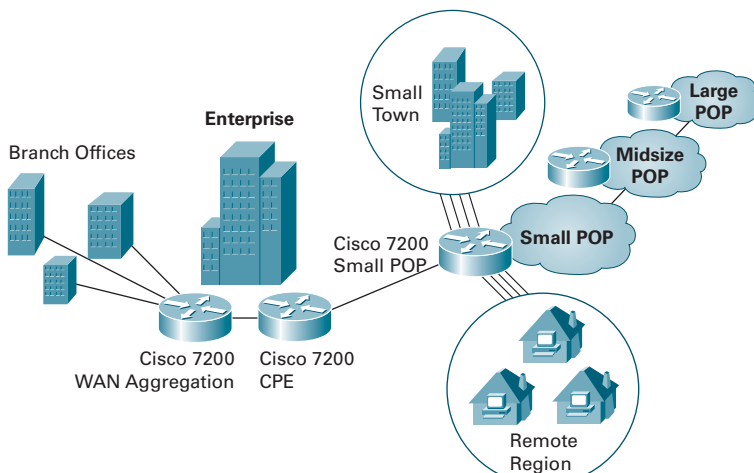
By using the same port adapters as the Cisco 7500 Versatile Interface Processor (VIP), 7600 FlexWAN Module, 7100, and 7400, using the Cisco 7200 simplifies stocking spares and protects customer investment in interfaces.

When to Deploy

Deploy the Cisco 7200 Series when you need a high-performance access solution offering:

- Flexibility in configurations
- A wide range of services
- A wide range of connectivity options
- High performance in a compact form factor

Product Positioning



Series Specifications

Processor	RM7K RISC Processor
Flash Memory	48MB (expandable to 128MB)
System DRAM Memory	128MB (expandable to 512MB)
Modular Slots	4 or 6
Supported Port Adaptors	70+
Internal Power Supply	AC or DC, dual option
Dimensions	
7204VXR	5.25 x 16.8 x 17 in.;
7206VXR	5.25 x 16.8 x 17 in.
Performance	Up to 400,000 (depending on configuration)
Console port	1
Auxiliary port	1
Base Configuration	4 or 6-slot chassis, 1 AC power supply, IP software
Maximum Ethernet Port	
7204VXR	32
7206VXR	48
Maximum 10/100 Ethernet Ports	
7204VXR	4
7206VXR	6
Maximum Token Ring Ports	
7204VXR	16
7206VXR	24
Maximum High-Speed Serial (up to 2 Mbps)	
7204VXR	8
7206VXR	12
Maximum Low-Speed Serial (up to 128 Kbps)	
7204VXR	32
7206VXR	48
Voice/Data Support (Y/N)	Yes
Integrated Modems	No
Maximum Number of ISDN BRI Ports	
7204VXR	32
7206VXR	48
Maximum Number of ISDN PRI Ports	
7204VXR	32
7206VXR	48
Integrated CSU/DSU	Yes (dependent of PA configuration)
Compression (H/W or S/W)	S/W + H/W
Encryption (H/W or S/W)	S/W + H/W
Redundant Power Supply Support	Yes, for AC or DC
Minimum Cisco IOS Release	Cisco IOS 11.1(16)CA or later

Cisco IOS Requirements

Memory Requirements

Generally, 16MB of Flash and 128MB of DRAM is recommended; however, Flash and DRAM requirements typically vary by IOS release.

Product Description	Image Name
DESKTOP/IBM	c7200-ds-mz
DESKTOP/IBM IPSEC 56	c7200-dk8s-mz
DESKTOP/IBM/FW/IDS	c7200-do3s-mz
DESKTOP/IBM/FW/IDS IPSEC 3DES	c7200-dk9o3s-mz
DESKTOP/IBM/FW/IDS IPSEC 56	c7200-dk8o3s-mz
ENTERPRISE	c7200-js-mz
ENTERPRISE IPSEC 3DES	c7200-jk9s-mz
ENTERPRISE IPSEC 56	c7200-jk8s-mz
ENTERPRISE MCM	c7200-jx2-mz
ENTERPRISE SSG	c7200-g4js-mz
ENTERPRISE/FW/IDS	c7200-jo3s-mz
ENTERPRISE/FW/IDS IPSEC 3DES	c7400-jk9o3s-mz
ENTERPRISE/FW/IDS IPSEC 56	c7400-jk8o3s-mz
ENTERPRISE/SNASW IPSEC 3DES	c7400-a3jk9s-mz
ENTERPRISE/SNASW IPSEC 56	c7400-a3jk8s-mz
ENTERPRISE/SNASW PLUS	c7400-a3js-mz
IP	c7200-is-mz
IP IPSEC 56	c7200-ik8s-mz
IP PLUS IPSEC 3DES	c7200-ik9s-mz
IP/FW/IDS	c7200-io3s-mz
IP/FW/IDS IPSEC 3DES	c7200-ik9o3s-mz

Ordering Information

Cisco 7200 Series Base Chassis, Processing Engine, and I/O Controller

CISCO7204VXR	Cisco 7204VXR, 4-slot chassis, 1 AC Supply
CISCO72006VXR	Cisco 7206VXR, 6-slot chassis, 1 AC Supply
NPE-225=	Cisco 7200 Network Processing Engine, 225 pps
NPE-400=	Cisco 7200VXR Network Processing Engine, 400 pps
NSE-1=	Cisco 7200VXR Network Services Engine, 300 pps plus PXF
C7200-I/O=	Cisco 7200 Input/Output Controller, Spare
C7200-I/O-2FE/E	Cisco 7200 Input/Output Controller with Dual 10/100 Ethernet
C7200-I/O-GE+E=	Cisco 7200 Input/Output Controller with GE and Ethernet

Cisco 7300 Series Modular Access Routers



The Cisco 7300 Series Internet Router is designed for the network edge, where high performance IP services are required to enable profitability, service differentiation, and business agility. Utilizing a compact, modular form factor, the Cisco 7300 Series delivers high-touch IP services at optical speeds necessary for high-end enterprise applications. The Cisco 7300 Series delivers an evolving set of hardware accelerated IP services via the Cisco patented Parallel eXpress Forwarding (PXF) IP Services Processor technology. Providing a range of IP connectivity from T3 to Gigabit Ethernet/OC-48, engineered for high availability and multi-protocol support, the Cisco 7300 is the optical evolution of Cisco System's mid-range routers.

Benefits and Advantages

Compact and Flexible

The Cisco 7300 is a 4-RU platform with four port adapter (PA) slots per chassis. This compact form factor reduces capital and operational expenditures as well as enabling "pay as you grow" deployment to reduce upfront capital investment.

High-performance IP Service Application

The Cisco 7300 Series includes the award-winning PXF IP processor technology for hardware-accelerated services such as Cisco Express Forwarding (CEF), NetFlow v8, Turbo access control lists (ACL), packet classification and marking, and low latency queuing (LLQ). Furthermore, the NSE-100 Network Services Engine offers 3.5Mpps of forwarding performance.

High Availability/High Productivity

With a redundant NSE-1 route processor and redundant AC/DC power supplies, the Cisco 7300 provides 24/7 network access for your employees, ensuring a productive and efficient work environment year-round.

Investment Protection

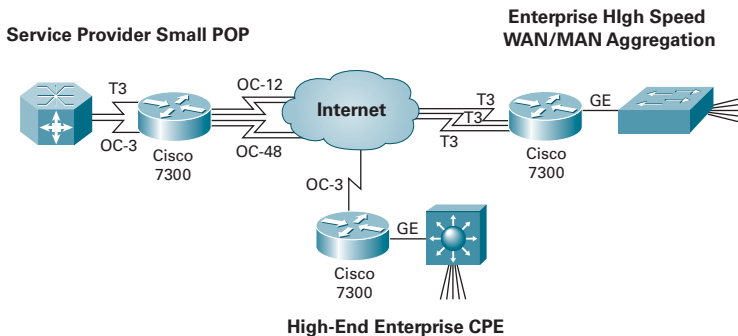
With the multiprotocol support of the Cisco 7300— including IP, Internetwork Packet Exchange [IPX], data-link switching [DLSw], AppleTalk, and more—businesses can leverage their existing networks and simplify integration into new environments.

When to Deploy

Deploy the Cisco 7300 when you need:

- A compact and modular form factor that allows for incremental investments;
- Scalable deployment with range of connectivity options, including OC-12 POS and OC-48 POS;
- High availability — redundant route processor, a high-availability feature ensures reliability of the network;
- NSE-100 Network Services Forwarding Engine, offering 3.5 Mpps performance for PXF-accelerated services to enable optical speed at the edge;
- 2 Gigabit Ethernet ports per NSE-100, enabling cost-effective and high-performance Gigabit Ethernet connectivity;
- Hardware-accelerated services;
- Multiprotocol support;
- Multiple OC-3 ports for redundant connectivity and segregation of the network.

Product Positioning



Series Specifications

Processor	RM 7000 MIPS and Parallel eXpress Forwarding (PXF)
Flash Memory	64MB (expandable to 128MB)
System DRAM Memory	128MB (expandable to 512MB)
Modular Slots	4
Fixed Ports	2
Internal Power Supply	AC or DC (both redundant)
Dimensions	7 x 17.2 x 20.5 in.
Performance	Up to 3.5 Mpps
Console port	1
Auxiliary port	1
Base Configuration	4-slot chassis, NSE-100, 1 AC power supply, IP software
Maximum Ethernet Ports	2 fixed GE ports
Voice/Data Support (Y/N)	Yes
Integrated Modems	No
Integrated CSU/DSU	Yes (T3)
Compression (H/W or S/W)	S/W + H/W
Encryption (H/W or S/W)	S/W + H/W
Redundant Power Supply Support	Yes
Minimum Cisco IOS Release	Cisco IOS 12.1.10-EX or later

Cisco IOS Requirements

Memory Requirements

Generally, 16MB of Flash and 128MB of DRAM is recommended; however, Flash and DRAM requirements typically vary by IOS release.

Product Description	Image Name
ENTERPRISE/SNASW PLUS	c7300-a3js-mz
ENTERPRISE	c7300-js-mz
ENTERPRISE/FW/IDS IPSEC 3DES	c7300-ik9o3s -mz
ENTERPRISE/FW/IDS IPSEC 56	c7300-ik8o3s -mz
IP PLUS	c7300-is-mz
IP/FW/IDS IPSEC 3DES	c7300-ik9o3s -mz
IP/FW/IDS IPSEC 56	c7300-ik8o3s -mz

Ordering Information

CISCO7304	4-slot chassis, NSE100, 1 Power Supply, IP Software
CISCO7304=	Cisco 7300, 4-slot chassis
7300-NSE-100=	Cisco 7300 Network Services Engine 100
Cisco 7300 Memory Options	
7300-MEM-256	256MB SDRAM for Cisco 7300
7300-MEM-512	512MB SDRAM for Cisco 7300
7300-I/O-CFM-64M	Cisco 7300 Compact Flash Memory, 64 MB
7300-I/O-CFM-128M	Cisco 7300 Compact Flash Memory, 128 MB
Cisco 7300 Line Cards	
7300-7300-4OC3POS-MM=	4-port OC3 POS line card for Cisco 7300 w/ Multi-mode
7300-4OC3POS-SM=	4-port OC3 POS line card for Cisco 7300 w/ Single-mode IR
7300-4OC3POS-SML=	4-port OC3 POS line card for Cisco 7300 w/ Single-mode LR
7300-1OC48POS-SMS=	1-port OC48 POS line card for Cisco 7300 w/ Single-mode SR
7300-1OC48POS-SMI=	1-port OC48 POS line card for Cisco 7300 w/ Single-mode IR
7300-1OC48POS-SML=	1-port OC48 POS line card for Cisco 7300 w/ Single-mode LR
7300-2OC3POS-MM=	2-port OC3 Packet over SONET/SDH line card for Cisco 7300 Multimode
7300-2OC3POS-SM=	2-port OC3 Packet over SONET/SDH line card for Cisco 7300 Single-mode Intermediate Reach
7300-2OC3POS-SML=	2-port OC3 Packet over SONET/SDH line card for Cisco 7300 Single-mode Long Reach
7300-2OC3ATM-MM=	2-port OC3 ATM line card for Cisco 7300 Multimode
7300-2OC3ATM-SM=	2-port OC3 ATM line card for Cisco 7300 Single-mode Intermediate Reach
7300-2OC3ATM-SML=	2-port OC3 ATM line card for Cisco 7300 Single-mode Long Reach
7300-1OC12POS-MM=	1-port OC-12c/STM-4 Packet over SONET/SDH, Cisco 7300 Line Card, Multimode
7300-1OC12POS-SM=	1-port OC-12c/STM-1 Packet over SONET/SDH, Cisco 7300 Line Card, Single-mode Intermediate Reach
7300-1OC12POS-SML=	1-port OC-12c/STM-1 Packet over SONET/SDH, Cisco 7300 Line Card, Single-mode Long Reach
7300-2OC12POS-MM=	2-port OC-12c/STM-4 Packet over SONET/SDH, Cisco 7300 Line Card, Multimode
7300-2OC12POS-SM=	2-port OC-12c/STM-1 Packet over SONET/SDH, Cisco 7300 Line Card, Single-mode Intermediate Reach
7300-2OC12POS-SML=	2-port OC-12c/STM-1 Packet over SONET/SDH, Cisco 7300 Line Card, Single-mode Long Reach
7300-6T3=	6-Port Clear Channel T3 Card, Cisco 7300 Line Card
Cisco 7300 Power Supplies and Cords	
7300-PWR-DC=	Cisco 7300 DC Power Supply Spare
7300-PWR-AC=	Cisco 7300 AC Power Supply Spare
7300-PWR/2-DC	Cisco 7300 Redundant DC Power Supply Option
7300-PWR/2-AC	Cisco 7300 Redundant AC Power Supply Option
Cisco 7300 Accessories	
7300-HALFSLOTBLNK	Cisco 7300 Half Slot Blank Line Card
7300-4RU/RCKBRKT=	Cisco 7304 Chassis Rackmount Bracket Spare
7300-CNTR-SPTUM=	Cisco 7300 Center Septum Spare
Cisco 7300 Software Options	
S73CP-12109EX	Cisco 7300 IOS IP PLUS
S73A-12109EX	Cisco 7300 IOS ENTERPRISE

Cisco 7400 Series Modular Access Routers



The Cisco 7400 Internet Router is the highest performance single-rack unit, service-rich router in the industry. This modular, one-port adapter slot unit leverages over 40 standard 7200/7500/7600 series port adapters. Its compact, stackable architecture makes the the Cisco 7400 an excellent router for either a centralized stacked configuration or a distributed edge CPE for access environments. Leveraging Cisco's patented Parallel eXpress Forwarding (PXF) technology, the Cisco 7400 series delivers a premium suite of hardware-accelerated network services.

Benefits and Advantages

Form factor with high Density

The smallest form factor with stackability feature. One-RU Form Factor with Front-to-Back Airflow and Single Port Adapter Slot delivers maximum performance density .

Cisco Parallel eXpress Forwarding (PXF): Patented technology with unique advantages delivers high-performance, hardware-accelerated, high-touch IP services such as ACL, NAT, NetFlow, LLQ, CAR, Traffic Shaping, PPP, L2TP and RBE.

Flexibility/Investment Protection

Supports a broad range of connectivity options via more than 40 port adaptors (PA), from 64Kbps to T1/T3 & OC-3 interfaces. The Cisco 7400 supports common PAs with the Cisco 7200, 7500 and 7600 routers, enabling stocking spares simplification and interface investment protection.

Comprehensive Management Services

Includes remote management, provisioning, trouble shooting and software upgrades. Cisco Element Manager Framework (CEMF) simplifies and accelerates the deployment and management of new services and elements across the network.

Maximum LAN Connectivity

Two Fixed 10/100/1000 Mbps ports (RJ-45 for Fast Ethernet and Ethernet, and Gigabit Interface Converter [GBIC] for Gigabit Ethernet), delivering the most LAN connectivity without the extra rack space.

Superior Efficiency

Flexibility and high availability with one-third of traditional power consumption, with AC, DC 48V, DC 24V, or dual DC 48V with 50W power consumption options.

Cisco IOS® Software

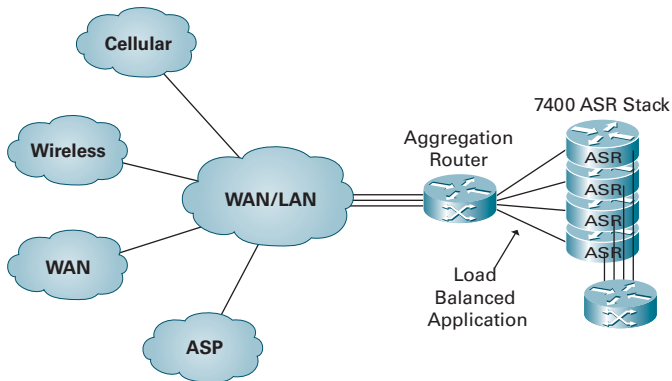
Supports IP network services, including quality of service (QoS), security, compression, and IP Security Triple Digital Encryption Standard (IPSec 3DES) encryption at high speed. Cisco Cluster Management Suite: Saves time and money by enabling management of an entire stack as a cluster using a single interface. Stackability: "Pay as you grow" option provides an opportunity to build and even redeploy the stack to other parts of the network as requirements change.

When to Deploy

Deploy the Cisco 7400 Series when you need:

- Compact form factor with 1 RU, front-to-back airflow for stackability. Ideal for 1 RU router upgrades to OC3 WAN performance and GE LAN interfaces.
- Hardware-accelerated IP network services with Cisco PXF adaptive IP network services processor
- Deploy as a network appliance for IPSEC, Firewall, QoS enforcement or MPLS PE or CPE
- Cost-effective Gigabit Ethernet to Gigabit Ethernet Layer 2-7 network services
- Deploy for complete service suite for broadband subscriber services application for both LAC, PTA and LNS designs (PPP, L2TP, RBE)
- Flexible WAN connectivity supporting over 40 interfaces including serial, multichannel, ISDN, Frame Relay, ATM, and Packet over SONET (PoS), from NxDS0 to OC-3 speeds.

Product Positioning



Series Specifications

Processor	RM7K RISC Processor + PXF processor
Flash Memory	64MB (expandable to 128MB)
System DRAM Memory	128MB (expandable to 512MB)
Modular Slots	1
Fixed Ports	2
Supported Port Adaptors	40+
Internal Power Supply	AC, DC48V, DC24V or dual DC48V power supply
Dimensions	1.72 x 17.3 x 11.8 in.
Performance	Up to 350,000 pps
Console port	1 RJ45
Auxiliary port	1 RJ45
Base Configuration	1-slot chassis, power supply, IP software
Maximum number of Ethernet Ports	10
Maximum number 10/100 Ethernet Ports	4
Maximum number of 10/100/1000 Ethernet Ports	3
Maximum High-Speed Serial (up to 2 Mbps)	8
Maximum Low-Speed Serial (up to 128 Kbps)	8
Voice/Data Support (Y/N)	Yes
Integrated Modems	No
Maximum Number of ISDN BRI Ports	8
Maximum Number of ISDN PRI Ports	8
Integrated CSU/DSU	Yes
Compression (H/W or S/W)	S/W + H/W
Encryption (H/W or S/W)	S/W + H/W
Redundant Power Supply Support	Yes
Minimum Cisco IOS Release	Cisco IOS 12.2.1 or later

Cisco IOS Requirements

Memory Requirements

Generally, 16MB of Flash and 128MB of DRAM is recommended; however, Flash and DRAM requirements typically vary by IOS release.

Product Description	Image Name
DESKTOP/IBM/FW/IDS IPSEC 56	c7400-dk8o3s-mz
DESKTOP/IBM IPSEC 56	c7400-dk8s-mz
DESKTOP/IBM/FW/IDS IPSEC 3DES	c7400-dk9o3s-mz
DESKTOP/IBM/FW/IDS	c7400-do3s-mz
DESKTOP/IBM	c7400-ds-mz
IP/FW/IDS IPSEC 56	c7400-ik8o3s-mz
IP IPSEC 56	c7400-ik8s-mz
IP/FW/IDS IPSEC 3DES	c7400-ik9o3s-mz
IP PLUS IPSEC 3DES	c7400-ik9s-mz
IP/FW/IDS	c7400-io3s-mz
IP	c7400-is-mz
ENTERPRISE/FW/IDS IPSEC 56	c7400-jk8o3s-mz
ENTERPRISE IPSEC 56	c7400-jk8s-mz
ENTERPRISE/FW/IDS IPSEC 3DES	c7400-jk9o3s-mz
ENTERPRISE IPSEC 3DES	c7400-jk9s-mz
ENTERPRISE/FW/IDS	c7400-jo3s-mz
ENTERPRISE	c7400-js-mz
ENTERPRISE MCM	c7400-jx2-mz
ENTERPRISE SSG	c7200-g4js-mz

Ordering Information

Cisco 7400 Bundles

CISCO7401ASR-BB	Cisco 7401, 1 slot chassis, power supply, 256-MB SDRAM, Broadband Feature Liscense
CISCO7401ASR-CP	Cisco 7401, 1 slot chassis, power supply, 128-MB SDRAM, CPE Software

Cisco 7400 Memory Options

EM-COMP-FLD64M	Cisco 7400 PCMCIA Flash disk, 64 MB
MEM-COMP-FLD128M	Cisco 7400 PCMCIA Flash disk, 128 MB
MEM-7400ASR-256MB	256 MB memory for Cisco 7400
MEM-7400ASR-512MB	512 MB memory for Cisco 7400

Cisco 7400 ASR Transceiver Modules

GBIC-LX/LH	GBIC for 1000BaseLX standard
GBIC-SX=	GBIC for 1000BaseSX (short wavelength)
GBIC-ZX=	Gigabit Interface Converter for 1000 BASE-ZX

Cisco 7400 ASR Power Supplies and Cords

CAB-AC=	AC power cord, US (also available for UK, Europe, Italy, Australia, and Argentina)
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Cisco ASR Spares and Accessories

ACS-7400-RMK=	Cisco 7400 Rackmount kit and Cable Management Bracket
MAS-74KBLANK=	Cisco 7400 Blank Card Carrier
MAS-74KSLOTDIV=	Cisco 7400 Port Adapter Divider (spare)
PKG-7400=	Cisco 7400 Spare System Packaging Material

Network Module Compatibility

NETWORK MODULE	ROUTER COMPATIBILITY				
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM
Ethernet Switching Network Modules and Accessories					
NM-16ESW: 16 port 10/100 EtherSwitch NM	•	•	•	•	•
NM-16ESW-1GIG: 16 port 10/100 EtherSwitch NM with 1 GE (1000BaseT) port	•	•	•	•	•
NM-16ESW-PWR: 16 port 10/100 EtherSwitch NM with In-Line Power support	•	•	•	•	•
NM-16ESW-PWR-1GIG: 16 port 10/100 EtherSwitch NM with In-Line Power and GE	•	•	•	•	•
PPWR-DCARD-16ESW: In-line power daughtercard for 16 port EtherSwitch NM	•	•	•	•	•
NMD-36ESW: 36 port 10/100 EtherSwitch HDSM	•	•	–	–	–
NMD-36ESW-2GIG: 36 port 10/100 EtherSwitch HDSM with 1 GE (1000BaseT) port	•	•	–	–	–
NMD-36ESW-PWR: 36 port 10/100 EtherSwitch HDSM with In-Line Power support	•	•	–	–	–
NMD-36ESW-PWR-2G: 36 port 10/100 EtherSwitch HDSM with In-Line Power and GE	•	•	–	–	–
PPWR-DCARD-36ESW: In-line power daughtercard for 36 port EtherSwitch NM	•	•	–	–	–
GE-DCARD-ESW: 1000BaseT daughter card for EtherSwitch Modules	•	•	•	•	•
PPWR-PS-360W: 360W power supply for EtherSwitch Modules	•	–	–	–	–
PPWR-PS-CHASSIS: Power Supply Chassis for PPWR-PS-360W	–	•	•	•	•
PWR-CHASSIS-360W: Power Supply Chassis including one PPWR-PS-360W	–	•	•	•	•
LAN Network Modules					
NM-1FE-FX: 1-Port Fast Ethernet Network Module, FX Only	Future	•	•	•	–
NM-1FE-TX: 1-Port Fast Ethernet Network Module (TX Only)	–	•	•	–	–
NM-1E: 1-Port Ethernet Network Module	–	•	•	–	•
NM-4E: 4-Port Ethernet Network Module	–	•	•	–	•

Network Modules

NETWORK MODULE	ROUTER COMPATIBILITY				
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM
LAN and WIC Combo Network Modules					
NM-1FE2W: 1 10/100 Ethernet 2 WAN Card Slot Network Module	•	•	•	•	–
NM-2FE2W: 2 10/100 Ethernet 2 WAN Card Slot Network Module	•	•	•	•	–
NM-1FE1R2W: 1 10/100 Ethernet 1 4/16 Token-Ring 2 WAN Card Slot NM	•	•	•	•	–
NM-1E2W: 1 Ethernet 2 WAN Card Slot Network Module	–	•	•	–	–
NM-2E2W: 2 Ethernet 2 WAN Card Slot Network Module	–	•	•	–	–
NM-1E1R2W: 1 Ethernet 1 Token Ring 2 WAN Card Slot Network Module	–	•	•	–	–
NM-2W: 2 WAN Card Slot Network Module (no LAN)	•	•	•	•	•
LAN and T1/E1 Combo Network Modules					
NM-1FE1CT1: 1 Port F Ethernet 1 Port Channelized T1/ISDN-PRI NM	–	•	•	–	–
NM-1FE1CT1-CSU: 1 Port F Ethernet 1 Port Channelized T1/ISDN-PRI with CSU NM	–	•	•	–	–
NM-1FE1CE1B: 1 Port F Ethernet 1 Port Channelized E1/ISDN-PRI Balanced NM	–	•	•	–	–
NM-1FE1CE1U: 1 Port F. Ether. 1 Port Channelized E1/ISDN-PRI Unbalanced NM	–	•	•	–	–
NM-1FE2CT1: 1 Port F Ethernet 2 Port Channelized T1/ISDN-PRI NM	–	•	•	–	–
NM-1FE2CT1-CSU: 1 Port F Ethernet 2 Port Channelized T1/ISDN-PRI with CSU NM	–	•	•	–	–
NM-1FE2CE1B: 1 Port F Ethernet 2 Port Channelized E1/ISDN-PRI Balanced NM	–	•	•	–	–
NM-1FE2CE1U: 1 Port F. Ether. 2Port Channelized E1/ISDN-PRI Unbalanced NM	–	•	•	–	–
Serial Connectivity Network Modules					
NM-1HSSI: Single port HSSI network module	•	•	•	•	–
NM-4T: 4-Port Serial Network Module	–	•	•	–	–
NM-4A/S: 4-Port Async/Sync Serial Network Module	•	•	•	•	•
NM-8A/S: 8-Port Async/Sync Serial Network Module	•	•	•	•	•
NM-16A: 16 port Asynchronous Module	Future	•	•	•	•
NM-32A: 32 port Asynchronous Module	Future	•	•	•	•

Network Modules

NETWORK MODULE	ROUTER COMPATIBILITY				
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM
Channelized T1/E1 and ISDN Network Modules					
NM-1CT1: 1-Port Channelized T1/ISDN-PRI Network Module	•	•	•	•	•
NM-1CT1-CSU: 1-Port Channelized T1/ISDN-PRI with CSU Network Module	•	•	•	•	•
NM-1CE1B: 1-Port Channelized E1/ISDN-PRI Balanced Network Module	•	•	•	•	•
NM-1CE1U: 1-Port Channelized E1/ISDN-PRI Unbalanced Network Module	•	•	•	•	•
NM-2CT1: 2-Port Channelized T1/ISDN-PRI Network Module	•	•	•	•	•
NM-2CT1-CSU: 2-Port Channelized T1/ISDN-PRI with CSU Network Module	•	•	•	•	•
NM-2CE1B: 2-Port Channelized E1/ISDN-PRI Balanced Network Module	•	•	•	•	•
NM-2CE1U: 2-Port Channelized E1/ISDN-PRI Unbalanced Network Module	•	•	•	•	•
NM-4B-S/T: 4-Port ISDN-BRI Network Module	•	•	•	•	•
NM-4B-U: 4-Port ISDN-BRI with NT-1 Network Module	•	•	•	•	•
NM-8B-S/T: 8-Port ISDN-BRI Network Module	•	•	•	•	•
NM-8B-U: 8-Port ISDN-BRI with NT-1 Network Module	•	•	•	•	•
ATM Network Modules					
NM-1A-OC3MM: Single port ATM OC-3 Multimode network module for 3600	–	•	•	•	–
NM-1A-OC3SMI: Single port ATM OC-3 Singlemode Intermediate Reach NM	–	•	•	•	–
NM-1A-OC3SML: Single port ATM OC-3 Singlemode Long Reach Network Module	–	•	•	•	–
NM-1A-OC3MM-1V: 1-port Multimode OC-3 ATM CES Network Module	–	•	•	–	–
NM-1A-OC3SMI-1V: 1-port Singlemode Intermediate Reach OC-3 ATM CES NM	–	•	•	–	–
NM-1A-OC3SML-1V: 1-port Singlemode Long Reach OC-3 ATM CES NM	–	•	•	–	–
NM-1A-T3: 1-Port DS3 ATM Network Module	•	•	•	•	•
NM-1A-E3: 1-Port E3 ATM Network Module	•	•	•	•	•
NM-1ATM-25: One port ATM 25Mbps Network Module	–	•	•	–	•
NM-4T1-IMA: 4-port T1 ATM Network Module with IMA	•	•	•	•	•
NM-4E1-IMA: 4-port E1 ATM Network Module with IMA	•	•	•	•	•

Network Modules

NETWORK MODULE	ROUTER COMPATIBILITY				
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM
NM-8T1-IMA: 8-port T1 ATM Network Module with IMA	•	•	•	•	•
NM-8E1-IMA: 8-port E1 ATM Network Module with IMA	•	•	•	•	•
Digital Dialup and Remote Access Network Modules and Accessories					
NM-6DM: 6 Port Digital Modem Network Module	•	•	•	–	–
NM-12DM: 12 Port Digital Modem Network Module	•	•	•	–	–
NM-18DM: 18 Port Digital Modem Network Module	•	•	•	–	–
NM-24DM: 24 Port Digital Modem Network Module	•	•	•	–	–
NM-30DM: 30 Port Digital Modem Network Module	•	•	•	–	–
MICA-6MOD: 6 Port Digital Modem Network Module, Spare	•	•	•	–	–
Analog Dialup and Remote Access Network Modules					
NM-8AM: 8-Port Analog Modem Network Module	Future	•	•	•	•
NM-8AM-J: 8-Port Analog Modem Network Module for Singapore, Japan, Malaysia	Future	•	•	•	•
NM-16AM: 16 Port Analog Modem Network Module	Future	•	•	•	•
NM-16AM-J: 16 Port Analog Modem Network Module for Singapore, Japan, Malaysia	Future	•	•	•	•
Analog and ISDN Basic Rate Voice Network Modules and Accessories					
NM-1V: One-slot Voice/fax Network Module	•	•	•	•	•
NM-2V: Two-Slot Voice/fax Network Module	•	•	•	•	•
NM-HDA-4FXS: High density analog voice/fax network module with 4 FXS	•	•	•	•	•
EM-HDA-4FXO: 4-port voice/fax expansion module - FXO	•	•	•	•	•
EM-HDA-8FXS: 8-port voice/fax expansion module - FXS	•	•	•	•	•
DSP-HDA-16: 16-channel DSP module for NM-HDA	•	•	•	•	•
High Density Digital Voice Network Modules and Accessories					
NM-HDV-1T1-12: Single-Port 12 Channel T1 Voice/Fax Network Module	•	•	•	•	•
NM-HDV-1T1-24: Single-Port 24 Channel T1 Voice/Fax Network Module	•	•	•	•	•
NM-HDV-1T1-24E: Single-Port 24 Enhanced Channel T1 Voice/Fax Network Module	•	•	•	•	•
NM-HDV-2T1-48: Dual-Port 48 Channel T1 Voice/Fax Network Module	•	•	•	•	•
NM-HDV-1E1-12: Single-Port 12 Channel E1 Voice/Fax Network Module	•	•	•	•	•
NM-HDV-1E1-30: Single-Port 30 Channel E1 Voice/Fax Network Module	•	•	•	•	•

Network Modules

NETWORK MODULE	ROUTER COMPATIBILITY				
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM
NM-HDV-1E1-30E : Single-Port 30 Enhanced Channel E1 Voice/Fax Network Module	•	•	•	•	•
NM-HDV-2E1-60 : Dual-Port 60 Channel E1 Voice/Fax Network Module	•	•	•	•	•
NM-HDV-1J1-30 : Single-Port 30 Channel J1 Voice/Fax Network Module	•	•	•	•	•
NM-HDV-1J1-30E : Single-Port 30 Enhanced Channel J1 Voice/Fax Network Module	•	•	•	•	•
PVDM-12 : 12-channel Packet Voice DSP Module Upgrade - Spare	•	•	•	•	•
NM-HDV : High Density Voice/Fax Network Module (Single VIC Slot)	•	•	•	•	•
Alarm Monitoring and Control Network Modules and Accessories					
NM-AIC-64 : Alarm Monitoring and Control Network Module	–	•	•	–	•

Interface Cards

NETWORK MODULE	ROUTER COMPATIBILITY							
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM	1760	1751	1721
Serial WAN Interface Cards								
WIC-1T : 1-Port Serial WAN Interface Card	–	•	•	–	•	•	•	•
WIC-2T : 2-Port Serial WAN Interface Card	•	•	•	•	•	•	•	•
WIC-1DSU-T1 : 1-Port T1/Fractional T1 DSU/CSU WAN Interface Card	–	–	•	•	•	•	•	•
WIC-1DSU-56K4 : 1-port 4-WIRE 56/64 KBPS WAN Interface Card	•	•	•	•	•	•	•	•
WIC-2A/S : 2-Port Async/Sync Serial WAN Interface Card	•	•	•	•	•	•	•	•
ISDN BRI WAN Interface Cards								
WIC-1B-S/T : 1-Port ISDN WAN Interface Card(dial and leased line)	•	•	•	•	•	•	•	•
WIC-1B-U : 1-Port ISDN with NT-1 WAN Interface Card (dial and leased line)	•	•	•	•	•	•	•	•

Interface Cards

NETWORK MODULE	ROUTER COMPATIBILITY							
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM	1760	1751	1721
DSL WAN Interface Cards								
WIC-1ADSL: 1-port ADSL WAN Interface Card	•	•	•	•	•	•	•	•
WIC-1SHDSL: 1-Port G.SHDSL WIC	Future	•	•	•	•	•	•	•
Analog Modem WAN Interface Cards								
WIC-1AM: One-port Analog Modem WAN Interface Card	•	•	•	•	•	•	•	•
WIC-2AM: Two-port Analog Modem WAN Interface Card	•	•	•	•	•	•	•	•
Ethernet WAN Interface Cards								
WIC-1ENET: Single-port Ethernet WAN Interface Card	-	-	-	-	-	-	•	•
T1, E1 and G.703 Multiflex Trunk Voice and WAN Interface Cards								
VWIC-1MFT-T1: 1-Port RJ-48 Multiflex Trunk - T1	•	•	•	•	•	•	•	•
VWIC-2MFT-T1: 2-Port RJ-48 Multiflex Trunk - T1	•	•	•	•	•	•	•	•
VWIC-2MFT-T1-DI: 2-Port RJ-48 Multiflex Trunk - T1 With Drop and Insert	•	•	•	•	•	•	•	•
VWIC-1MFT-E1: 1-Port RJ-48 Multiflex Trunk - E1	•	•	•	•	•	•	•	•
VWIC-1MFT-G703: 1-Port RJ-48 Multiflex Trunk - G.703	•	•	•	•	•	•	•	•
VWIC-2MFT-E1: 2-Port RJ-48 Multiflex Trunk - E1	•	•	•	•	•	•	•	•
VWIC-2MFT-E1-DI: 2-Port RJ-48 Multiflex Trunk - E1 With Drop and Insert	•	•	•	•	•	•	•	•
VWIC-2MFT-G703: 2-Port RJ-48 Multiflex Trunk - G.703	•	•	•	•	•	•	•	•
Analog Voice Interface Cards								
VIC-2FXS: Two-port Voice Interface Card - FXS	•	•	•	•	•	•	•	-
VIC-2FXO: Two-port Voice Interface Card - FXO	•	•	•	•	•	•	•	-
VIC-2FXO-EU: Two-port Voice Interface Card - FXO (for Europe)	•	•	•	•	•	•	•	-
VIC-2FXO-M1: Two-port Voice	•	•	•	•	•	•	•	-

Interface Cards

NETWORK MODULE	ROUTER COMPATIBILITY							
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM	1760	1751	1721
Interface Card - FXO w/ Reversal (for US+)								
VIC-2FXO-M2: Two-port Voice Interface Card - FXO w/ Reversal (for EU)	•	•	•	•	•	•	•	-
VIC-2FXO-M3: Two-port Voice Interface Card - FXO (for Australia)	•	•	•	•	•	•	•	-
VIC-2E/M: Two-port Voice Interface Card - EandM	•	•	•	•	•	•	•	-
VIC-2DID: Two-port DID (Direct Inward Dial) voice/fax Interface Card	•	•	•	•	•	•	•	-
ISDN BRI Voice Interface Cards								
VIC-2BRI-NT/TE: Two-port Voice Interface Card - BRI (NT and TE)	•	•	•	•	•	•	•	-
VIC-2BRI-S/T-TE: Two-port Voice Interface Card - BRI (Terminal)	•	•	•	•	•	-	-	-
J1 Voice Interface Card for Japan								
VIC-1J1: One Port Digital Voice Interface Card (J1) for Japan	•	•	•	•	•	-	-	-

Advanced Integration Modules

NETWORK MODULE	ROUTER COMPATIBILITY							
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM	1760	1751	1721
Compression Advanced Integration Modules								
AIM-COMPR4: Compression Advanced Integration Module for Cisco 3660	Future	•	-	•	-	-	-	-
NM-COMPR: Compression Network Module for Cisco 3620 and 3640	-	-	•	-	-	-	-	-
AIM-COMPR2: Compression Advanced Integration Module for Cisco 2600	-	-	-	-	•	-	-	-

Advanced Integration Modules

NETWORK MODULE	ROUTER COMPATIBILITY							
	3725 3745	3661 3662	3620 3640	2691	2600 2600XM	1760	1751	1721

VPN and Encryption Advanced Integration Modules

AIM-VPN/HP: DES/3DES VPN Advanced Integration Module for 3660 and 3745 - High Performance	•	•	-	-	-	-	-	-
AIM-VPN/EP: DES/3DES VPN Advanced Integration Module for 2600 and 3725 - Enhanced Performance	•	-	-	•	•	-	-	-
NM-VPN/MP: DES/3DES VPN Network Module for 3620 and 3640 - Mid Performance	-	-	•	-	-	-	-	-
AIM-VPN/BP: DES/3DES VPN Advanced Integration Module for 2600 - Base Performance	-	-	-	-	•	-	-	-
MOD1700-VPN: Cisco 1700 Series VPN Module	-	-	-	-	-	•	•	•

ATM Advanced Integration Modules

AIM-ATM: High Performance ATM Segmentation and Reassembly (SAR) Advanced Integration Module	Future	•	-	•	•	-	-	-
AIM-ATM-1E1: High Performance E1 ATM Bundle, one AIM-ATM and one VWIC-1MFT-E1	-	-	-	•	•	-	-	-
AIM-ATM-1T1: High Performance T1 ATM Bundle, one AIM-ATM and one VWIC-1MFT-T1	-	-	-	•	•	-	-	-

Voice Advanced Integration Modules

AIM-ATM-VOICE-30: ATM SAR and 30 Channel Voice/Fax DSP Advanced Integration Module	Future	•	-	•	•	-	-	-
AIM-VOICE-30: 30 Channel Voice/Fax DSP Advanced Integration Module	Future	•	-	•	•	-	-	-

Cisco 7000 Series Interface Cards; ATM PA's

INTERFACE CARD	ROUTER COMPATIBILITY			
	7200VXR	7400	7500 (VIP4)	7600 FlexWAN
PA-A1-OC3-SM 1 Port ATM OC3 Single Mode Intermediate Reach Port Adapter	•	•	•	-
PA-A2-4E1XC-OC3SM CES OC3 Port Adapter 4E1 Ports 120ohms	•	-	-	-
PA-A2-4E1XC-E3ATM CES Port Adapter E3/E1 120 ohms	•	-	-	-
PA-A2-4E1YC-OC3SM	•	-	-	-
PA-A2-4E1YC-E3ATM	•	-	-	-
PA-A2-4T1C-OC3SM ATM CES Port Adapter, 4T1 CES Ports and 1 OC3 ATM SM Port	•	-	-	-
PA-A2-4T1C-T3ATM ATM CES Port Adapter, 4T1 CES Ports and 1 T3 ATM Port	•	-	-	-
PA-A3-8T1IMA 8-port ATM Inverse Mux T1 Port Adapter	•	•	•	-
PA-A3-8E1IMA 8-port ATM Inverse Mux E1 (120 Ohm) Port Adapter	•	-	•	-
PA-A3-OC3-MM 1-Port ATM Enhanced OC3c/STM1 Multimode Port Adapter	•	•	•	• (Native) • (Hybrid)
PA-A3-OC12-MM 1 Port ATM Enhanced OC12/STM4 multi-mode	-	-	• 4	-
PA-A3-T3/E3 1-Port ATM Enhanced DS3 Port Adapter	•	•	•	• (Native) • (Hybrid)
Ethernet PA's				
PA-12E/2FE	•	-	-	-
PA-2FE-TX/FX 2-Port Fast Ethernet 100Base TX/FX Port Adapter	•	•	•	-
PA-2FEISL	• PA-2FEISL">	-	-	-
PA-4E 4-Port Ethernet 10BaseT Port Adapter	•	•	•	-
PA-5EFL 5-Port Ethernet 10BaseFL Port Adapter	•	-	-	-

Interface Cards; ATM PA's

INTERFACE CARD	ROUTER COMPATIBILITY			
	7200VXR	7400	7500 (VIP4)	7600 FlexWAN
PA-8E 8-Port Ethernet 10BaseT Port Adapter	•	•	•	–
PA-FE-TX/FX 1-Port Fast Ethernet 100BaseFx/Tx Port Adapter	•	•	•	–
PA-GE Gigabit Ethernet Port Adapter	•	–	–	–
Other LAN PA's				
PA-100VG	–	–	–	–
PA-4R	–	–	–	–
PA-4R-FDX	–	–	–	–
PA-4R-DTR Port Adapter:4-Port Dedicated Token Ring, 4/16Mbps, HDX/FDX	•	–	–	–
PA-F-MM/SM 1-Port FDDI Full Duplex Multimode/Singlemode Port Adapter	–	–	•	–
PA-F/FD-MM/SM 1-Port FDDI Full Duplex Multimode/Singlemode Port Adapter	–	–	•	–
Serial PA's				
PA-4E1G/120 4-Port E1 G.703 Serial Port Adapter (120ohm/Balanced)	•	•	•	–
PA-4T 4 Port Serial Port Adapter, Enhanced	–	–	–	–
PA-4T+ 4-Port Serial Port Adapter, Enhanced	•	•	•	• (Native) • (Hybrid)
PA-8T-232 8-Port Serial, 232 Port Adapter	•	•	•	• (Native) • (Hybrid)
PA-2JT(2)	–	–	–	–
High-Speed Serial PA's				
PA-H 1-Port HSSI Port Adapter	•	•	•	• (Native) • (Hybrid)
PA-2H 2-Port HSSI Port Adapter	•	•	•	• (Native) • (Hybrid)
PA-E3 1 Port E3 Serial Port Adapter with E3 DSU	•	•	•	• (Native) • (Hybrid)
PA-2E3 2 Port E3 Serial Port Adapter with E3 DSUs	•	•	•	• (Native) • (Hybrid)
PA-T3 1 Port T3 Serial Port Adapter with T3 DSUs	•	•	•	• (Native) • (Hybrid)

Interface Cards; ATM PA's

INTERFACE CARD	ROUTER COMPATIBILITY			
	7200VXR	7400	7500 (VIP4)	7600 FlexWAN
PA-2T3 2 Port T3 Serial Port Adapter with T3 DSUs	•	•	•	• (Native) • (Hybrid)
PA-T3+ 1 Port T3 Serial Port Adapter Enhanced	•	•	•	• (Native) • (Hybrid)
PA-2T3+ 2 Port T3 Serial Port Adapter Enhanced	•	•	•	• (Native) • (Hybrid)
Multichannel Serial PA's				
PA-2CT1/PRI	–	–	–	–
PA-2CE1/PRI-xxx	–	–	–	–
PA-4B-U	•	–	–	–
PA-8B-S/T 8-Port BRI Port Adapter, S/T Interface	•	–	–	–
PA-CT3/4T(1)	–	–	–	–
PA-MC-2T(1) 2-Port multichannel T1 port adapter with integrated CSU/DSUs	•	–	•	–
PA-MC-4T(1) 4-Port multichannel T1 port adapter with integrated CSU/DSUs	•	–	•	• (Native) • No(Hybrid)(1)
PA-MC-8T(1) 8-Port multichannel T1 port adapter with integrated CSU/DSUs	•	•	•	• (Native) • (Hybrid)
PA-MC-8DSX(1)	•	–	•	–
PA-MC-8TE1+ 8 port multichannel T1/E1 8PRI port adapter	•	•	–	–
PA-MC-2E1/120 2 port multichannel E1 port adapter with G.703 120ohm interf	•	•	•	–
PA-MC-8E1/120 8 port multichannel E1 port adapter with G.703 120ohm interf	•	•	•	• (Native) • (Hybrid)
PA-MC-E3 1 port Multi-Channel E3 port adapter	•	•	•	• (Native) • (Hybrid)
PA-MC-T3 1 port multichannel T3 port adapter	•	•	•	• (Native) • (Hybrid)
PA-MC-2T3+ 2 port multichannel T3 port adapter	•(2)	•	•	• (Native) • (Hybrid)
PA-MC-STM-1MM 1-Port multichannel STM-1 multimode port adapter	•	–	•4	• ???(Native) 12.1(7)E • (Hybrid)

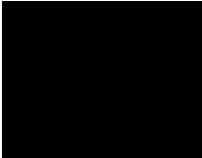
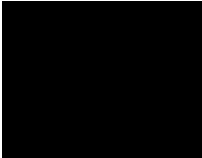
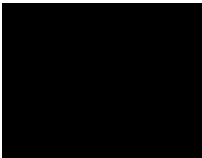
Interface Cards; ATM PA's

INTERFACE CARD	ROUTER COMPATIBILITY			
	7200VXR	7400	7500 (VIP4)	7600 FlexWAN
PA-MCX-2TE(1) 2-Port MIX-enabled multichannel T1/E1 with CSU/DSU	•	–	–	–
PA-MCX-4TE(1) 4-Port MIX-enabled multichannel T1/E1 with CSU/DSU	•	–	–	–
PA-MCX-8TE(1) 8-Port MIX-enabled multichannel T1/E1 with CSU/DSU	•	–	–	–
Sonet PA's				
PA-POS-OC3-MM 1-Port Packet/SONET OC3c/STM1 Multimode Port Adapter	•	•	•	•
Other PA's and SA's				
PA-1C-P	•	–	–	–
PA-1C-E	•	–	–	–
PA-4C-E 1 Port Enhanced ESCON Channel Port Adapter	•	–	–	–
SA-ISA Integrated Services Adapter for IPSec or MPPE encryption	•1	–	–	–
SA-VAM VPN Acceleration Module for Cisco 7100 and 7200 Series	•	–	–	–
SA-COMP/x	–	–	–	–
SA-ENCRYPT Encryption Service Adapter - Spare	–	–	–	–
PA-SRP-OC12SMI DPT-OC12 Singe-mode intermediate PA	• PA-SRP-OC12">	–	–	–
PA-SRP-OC12SMX DPT-OC12 Singe-mode extended reach PA	•	–	–	–
PA-VXC-2TE1 2 port TE1 hi-capacity enhanced voice PA	•	–	–	–
PA-VXC-2TE1+ 2 port TE1 hi-capacity enhanced voice PA	•	–	•	–
PA-VXB-2TE1 2 port T1/E1 moderate capacity enhanced voice PA	•	–	–	–
PA-VXB-2TE1+ 2 port T1/E1 moderate capacity enhanced voice PA	•	•	•	–
PA-VXA-1TE1-24+ 1-Port T1/E1 Digital Voice Port Adapter with 24 Channels	•	•	•	–

Network Modules for Cisco 3700, 3600 and 2600XM series

LAN and Mixed Media Network Modules

Ethernet Switching Network Modules and Accessories

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-16ESW 16 port 10/100 EtherSwitch Network Module 	Provides 16 switch ports and one internal port to the router engine. Features amongst other 802.1p prioritization and 802.1Q VLAN, and 802.1D Spanning Tree protocol. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	Requires an IOS “PLUS” feature set. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-16ESW-1GIG 16 port 10/100 EtherSwitch Network Module with 1 GE (1000BaseT) port 	Provides 16 switch ports, one GE port and one internal port to the router engine. Features amongst other 802.1p prioritization and 802.1Q VLAN, and 802.1D Spanning Tree protocol. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	This is a bundle of one NM-16-ESW and one GE-DCARD-ESW. Requires an IOS “PLUS” feature set. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-16ESW-PWR 16 port 10/100 EtherSwitch Network Module with In-Line Power support 	Provides 16 switch ports with in-line power support and one internal port to the router engine. Features amongst other 802.1p prioritization and 802.1Q VLAN, and 802.1D Spanning Tree protocol. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	This is a bundle of one NM-16-ESW and one PPWR-DCARD-16ESW. Requires an IOS “PLUS” feature set. Requires an external power supply chassis PPWR-CHASSIS-360W when installed in a 2600 or 3600 series router or an internal power supply PPWR-PS-360W when installed in a 3700 series router.

LAN and Mixed Media Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-16ESW-PWR-1GIG 16 port 10/100 EtherSwitch Network Module with In-Line Power and GE	Provides 16 switch ports with in-line power support, one GE port and one internal port to the router engine. Features amongst other 802.1p prioritization and 802.1Q VLAN, and 802.1D Spanning Tree protocol. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	This is a bundle of one NM-16-ESW, one GE-DCARD-ESW and one PPWR-DCARD-16ESW. Requires an IOS “PLUS” feature set. Requires an external power supply chassis PWR-CHASSIS-360W when installed in a 2600 or 3600 series router or an internal power supply PPWR-PS-360W when installed in a 3700 series router.
PPWR-DCARD-16ESW In-line power daughtercard for 16 port EtherSwitch Network Module	Enables in-line power capability to the NMD-16ESW. Note that a power supply is required. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	Requires a 16 port 10/100 Etherswitch Network Module. Requires an external power supply chassis PWR-CHASSIS-360W when installed in a 2600 or 3600 series router or an internal power supply PPWR-PS-360W when installed in a 3700 series router.
NMD-36ESW 36 port 10/100 EtherSwitch HDSM	Provides 36 switch ports and one internal port to the router engine. Features amongst other 802.1p prioritization and 802.1Q VLAN, and 802.1D Spanning Tree protocol. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(8)T 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	Requires an IOS “PLUS” feature set. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NMD-36ESW-2GIG 36 port 10/100 EtherSwitch HDSM with GE (1000BaseT) port	Provides 36 switch ports, two GE ports and one internal port to the router engine. Features amongst other 802.1p prioritization and 802.1Q VLAN, and 802.1D Spanning Tree protocol. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(8)T 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	This is a bundle of one NMD-36-ESW and two GE-DCARD-ESW. Requires an IOS “PLUS” feature set. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

LAN and Mixed Media Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NMD-36ESW-PWR 36 port 10/100 EtherSwitch HDSM with In-Line Power support	Provides 36 switch ports with in-line power support and one internal port to the router engine. Features amongst other 802.1p prioritization and 802.1Q VLAN, and 802.1D Spanning Tree protocol. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IPTelephony	3700 series – 12.2(8)T 3660 series – 12.2(8)T 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	This is a bundle of one NMD-36-ESW and one PPWR-DCARD-36ESW. Requires an IOS “PLUS” feature set. Requires an external power supply chassis PWR-CHASSIS-360W when installed in a 3660 series router or an internal power supply PPWR-PS-360W when installed in a 3700 series router.
NMD-36ESW-PWR-2G 36 port 10/100 EtherSwitch HDSM with In-Line Power and GE (1000BaseT) port	Provides 36 switch ports with in-line power support, two GE ports and one internal port to the router engine. Features amongst other 802.1p prioritization and 802.1Q VLAN, and 802.1D Spanning Tree protocol. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IPTelephony	3700 series – 12.2(8)T 3660 series – 12.2(8)T 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	This is a bundle of one NMD-36-ESW, two GE-DCARD-ESW and one PPWR-DCARD-36ESW. Requires an IOS “PLUS” feature set. Requires an external power supply chassis PWR-CHASSIS-360W when installed in a 3660 series router or an internal power supply PPWR-PS-360W when installed in a 3700 series router.
PPWR-DCARD-36ESW In-line power daughtercard for 36 port EtherSwitch Network Module	Enables in-line power capability to the NMD-36ESW. Note that a power supply is required. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IPTelephony	3700 series – 12.2(8)T 3660 series – 12.2(8)T 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	Requires a 36 port 10/100 Etherswitch High-Density Service Module. Requires an external power supply chassis PWR-CHASSIS-360W when installed in a 3660 series router or an internal power supply PPWR-PS-360W when installed in a 3700 series router.
GE-DCARD-ESW 1000BaseT daughter card for EtherSwitch Modules	Provides one Gigabit port for a file server or future intra-chassis stacking of Etherswitch modules. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IPTelephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	Requires a 16 or 36 port port 10/100 Etherswitch Module with an available GE port slot.

LAN and Mixed Media Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
PPWR-PS-360W 360W power supply for EtherSwitch Modules	Provides up to 360W in-line power. Suitable for up to 36 IP phones. Can be added internally into the Cisco 3700 Series or in a power supply chassis PPWR-PS-CHASSIS for use with 2600 or 3600 series routers. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	Requires a 16 or 36 port 10/100 Etherswitch Module with appropriate in-line power daughter card.
PPWR-PS-CHASSIS Power Supply Chassis for PPWR-PS-360W	A separate power supply chassis for Etherswitch modules installed in 2600 and 3600 series routers. The chassis accommodates up to four PPWR-PS-360W power supplies. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	Requires a 16 or 36 port 10/100 Etherswitch Module with appropriate in-line power daughter card. Requires at least one PPWR-PS-360W power supply
PWR-CHASSIS-360W Power Supply Chassis including one PPWR-PS-360W	A separate power supply chassis for Etherswitch modules installed in 2600 and 3600 series routers. Configured with one PPWR-PS-360W power supply and can accommodate up to three additional power supplies. Modular Router Solutions LAN Switching LAN-to-LAN Routing Inter-VLAN Routing IP Telephony	3700 series – 12.2(8)T 3660 series – 12.2(2)XT 3640 – 12.2(2)XT 3620 – 12.2(2)XT 2691 – 12.2(8)T 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XT 2620 series – 12.2(2)XT 2610 series – 12.2(2)XT	Requires a 16 or 36 port 10/100 Etherswitch Module with appropriate in-line power daughter card. This is a bundle consisting of one PPWR-PS-CHASSIS and one PPWR-PS-360W

LAN Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1FE-FX One-port Fast Ethernet, FX Only Network Module	Provides a single auto-sensing 10/100BaseFX connection via a fiber connector. Modular Router Solutions Inter-VLAN Routing LAN-to-LAN Routing VPN & Firewall Solutions	3700 series - Future 3660 series – 12.0(5)T 3640 – 11.3(1)T 3620 – 11.3(1)T 2691 – 12.2(8)T 2600XM series – Future 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. VLAN support requires an IOS "Plus" feature set.
NM-1FE-TX One-port Fast Ethernet, TX Only Network Module	Provides a single auto-sensing 10/100TX connection via an RJ-45 connector. Modular Router Solutions Inter-VLAN Routing LAN-to-LAN Routing VPN & Firewall Solutions	3700 series – Not Available 3660 series – 12.0(5)T 3640 – 11.2(6)P 3620 – 11.2(6)P 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. VLAN support requires an IOS "Plus" feature set.
NM-1E One-port Ethernet Network Module	Provides a single Ethernet LAN connection via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. Modular Router Solutions LAN-to-LAN Routing VPN and Firewall Solutions	3700 series – Not Available 3660 series – 12.0(5)T 3640 – 11.2(4)XA 3620 – 11.2(4)XA 2691 – Not Available 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(4)T 2610 series – 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-4E Four-port Ethernet Network Module	Provides connections to four Ethernet LANs. One connection is via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. The other 3 connections are via 10BaseT RJ-45 connectors. Modular Router Solutions LAN-to-LAN Routing VPN and Firewall Solutions	3700 series - Not Available 3660 series – 12.0(5)T 3640 – 11.2(6)P 3620 – 11.2(6)P 2691 – Not Available 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(4)T 2610 series – 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

LAN and WIC Combo Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1FE2W One-port 10/100 Ethernet 2 WAN Interface Card Slot Network Module	Provides one full/half duplex, auto-sensing 10/100 Ethernet port and two WAN Interface Card (WIC) expansion slots. The 10/100 Ethernet connection is via an RJ-45 connector. Modular Router Solutions Inter-VLAN Routing LAN-to-LAN Routing VPN & Firewall Solutions Voice & Fax Integration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 12.0(7)XK 3620 - 12.0(7)XK 2691 - 12.2(8)T 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Supports all current WICs and VWICs.
NM-2FE2W Two-port 10/100 Ethernet 2 WAN Interface Card Slot Network Module	Provides two full/half duplex, auto-sensing 10/100 Ethernet ports and two WAN Interface Card (WIC) expansion slots. The 10/100 Ethernet connections are via RJ-45 connectors. Modular Router Solutions Inter-VLAN Routing LAN-to-LAN Routing VPN & Firewall Solutions Voice & Fax Integration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 12.0(7)XK 3620 - 12.0(7)XK 2691 - 12.2(8)T 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Supports all current WICs and VWICs.
NM-1FE1R2W One-port 10/100 Ethernet One-port 4/16 Token Ring 2 WAN Interface Card Slot Network Module	Provides one full/half duplex, auto-sensing 10/100 Ethernet port, one full/half duplex 4/16 token ring port, and 2 WAN Interface Card (WIC) expansion slots. The 10/100 Ethernet connection is via an RJ-45 connector. The Token Ring connection is via an STP or UTP connector. Modular Router Solutions Inter-VLAN Routing LAN-to-LAN Routing VPN & Firewall Solutions Voice & Fax Integration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 12.0(7)XK 3620 - 12.0(7)XK 2691 - 12.2(8)T 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Supports all current WICs and VWICs.
NM-1E2W 1 Ethernet 2 WAN Interface Card Slot Network Module	Provides one Ethernet port and two WAN Interface Card (WIC) expansion slots. The Ethernet connection is via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. Modular Router Solutions LAN-to-LAN Routing VPN & Firewall Solutions	3700 series - Not Available 3660 series - 12.0(5)T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2691 - Not Available 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Supported WICs include WIC-1T, WIC-1B-S/T, WIC-1B-U, WIC-1DSU-56K4 and WIC-1DSU-T1.

LAN and WIC Combo Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-2E2W 2 Ethernet 2 WAN Interface Card Slot Network Module	Provides two Ethernet ports and two WAN Interface Card (WIC) expansion slots. The Ethernet connection is via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. Modular Router Solutions LAN-to-LAN Routing VPN & Firewall Solutions	3700 series – Not Available 3660 series – 12.0(5)T 3640 – 11.1(7)AA 3620 – 11.1(7)AA 2691 – Not Available 2600XM series – Not Available Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Supported WICs include WIC-1T, WIC-1B-S/T, WIC-1B-U, WIC-1DSU-56K4 and WIC-1DSU-T1.
NM-1E1R2W 1 Ethernet 1 Token Ring 2 WAN Interface Card Slot Network Module	Provides one Ethernet port, one Token Ring and two WAN Interface Card (WIC) expansion slots. The Ethernet connection is via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. The Token Ring connection is via an STP or UTP connector. Modular Router Solutions LAN-to-LAN Routing VPN & Firewall Solutions	3700 series – Not Available 3660 series – 12.0(5)T 3640 – 11.1(8)AA 3620 – 11.1(8)AA 2691 – Not Available 2600XM series – Not Available Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Supported WICs include WIC-1T, WIC-1B-S/T, WIC-1B-U, WIC-1DSU-56K4 and WIC-1DSU-T1.
NM-2W Two WAN Interface Card Slot Network Module	Provides 2 WAN Interface Card (WIC) expansion slots supporting all current WICs and VWICs. Modular Router Solutions Serial & Legacy Concentration Voice & Fax Integration	3700 series - 12.2(8)T 3660 series – 12.0(7)XK 3640 – 12.0(7)XK 3620 – 12.0(7)XK 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(7)XK 2610 series – 12.0(7)XK	Requires at least one WIC or VWIC. Supports all current WICs and VWICs.

LAN and T1/E1 Combo Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1FE2W One-port 10/100 Ethernet 2 WAN Interface Card Slot Network Module	Provides one full/half duplex, auto-sensing 10/100 Ethernet port and two WAN Interface Card (WIC) expansion slots. The 10/100 Ethernet connection is via an RJ-45 connector. <hr/> Modular Router Solutions Inter-VLAN Routing LAN-to-LAN Routing VPN & Firewall Solutions Voice & Fax Integration	3700 series - 12.2(8)T 3660 series – 12.0(7)XK 3640 – 12.0(7)XK 3620 – 12.0(7)XK 2691 – 12.2(8)T 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Supports all current WICs and VWICs.
NM-1FE1CT1-CSU One-port Fast Ethernet 1-Port Channelized T1/ISDN-PRI with CSU Network Module	Provides a single auto-sensing 10/100BaseTX connection via an RJ-45 connector and a single channelized T1/ISDN PRI with integrated DSU/CSU connection via an RJ-48 connector. <hr/> Modular Router Solutions ISDN Concentration Inter-VLAN Routing LAN-to-LAN Routing	3700 series - Not Available 3660 series – 12.0(7)XK 3640 – 11.3(4)T1 3620 – 11.3(4)T1 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-1FE1CE1B One-port Fast Ethernet One-Port Channelized E1/ISDN-PRI Balanced Network Module	Provides a single auto-sensing 10/100BaseTX connection via an RJ-45 connector and a single channelized E1/ISDN PRI balanced (120 ohm) connection via a DB-15 connector. <hr/> Modular Router Solutions ISDN Concentration Inter-VLAN Routing LAN-to-LAN Routing	3700 series - Not Available 3660 series – 12.0(7)XK 3640 – 11.3(4)T1 3620 – 11.3(4)T1 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
E1/ISDN-PRI Unbalanced Network Module	Provides a single auto-sensing 10/100BaseTX connection via an RJ-45 connector and a single channelized E1/ISDN PRI unbalanced (75 ohm) connection via a DB-15 connector. <hr/> Modular Router Solutions ISDN Concentration Inter-VLAN Routing LAN-to-LAN Routing	3700 series - Not Available 3660 series – 12.0(7)XK 3640 – 11.3(4)T1 3620 – 11.3(4)T1 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

LAN and T1/E1 Combo Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1FE2CT1 One-port Fast Ethernet 2-Port Channelized T1/ISDN-PRI Network Module	Provides a single auto-sensing 10/100BaseTX connection via an RJ-45 connector and two channelized T1/ISDN PRI connections via DB-15 connectors. Modular Router Solutions ISDN Concentration Inter-VLAN Routing LAN-to-LAN Routing	3700 series - Not Available 3660 series – 12.0(7)XK 3640 – 11.3(4)T1 3620 – 11.3(4)T1 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-1FE2CT1-CSU One-port Fast Ethernet 2-Port Channelized T1/ISDN-PRI with CSU Network Module	Provides a single auto-sensing 10/100BaseTX connection via an RJ-45 connector and two channelized T1/ISDN PRI with integrated DSU/CSU connections via RJ-48 connectors. Modular Router Solutions ISDN Concentration Inter-VLAN Routing LAN-to-LAN Routing	3700 series - Not Available 3660 series – 12.0(7)XK 3640 – 11.3(4)T1 3620 – 11.3(4)T1 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-1FE2CE1B One-port Fast Ethernet Two-port Channelized E1/ISDN-PRI Balanced Network Module	Provides a single auto-sensing 10/100BaseTX connection via an RJ-45 connector and two channelized E1/ISDN PRI balanced (120 ohm) connections via DB-15 connectors. Modular Router Solutions ISDN Concentration Inter-VLAN Routing LAN-to-LAN Routing	3700 series - Not Available 3660 series – 12.0(7)XK 3640 – 11.3(4)T1 3620 – 11.3(4)T1 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-1FE2CE1U One-port Fast Ethernet Two-port Channelized E1/ISDN-PRI Unbalanced Network Module	Provides a single auto-sensing 10/100BaseTX connection via an RJ-45 connector and two channelized E1/ISDN PRI unbalanced (75 ohm) connections via DB-15 connectors. Modular Router Solutions ISDN Concentration Inter-VLAN Routing LAN-to-LAN Routing	3700 series - Not Available 3660 series – 12.0(7)XK 3640 – 11.3(4)T1 3620 – 11.3(4)T1 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Serial Connectivity Network Modules

High Speed Serial Network Modules – up to 52 Mbps

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1HSSI Single Port HSSI Network Module	Provides serial speeds up to 52Mbps via a 50-pin SCSI Type II connector. This network module requires an external T3/E3 DSU/CSU. Modular Router Solutions Serial & Legacy Concentration	3700 series – 12.2(8)T 3660 series – 12.0(5)T 3640 – 11.3(3)T 3620 – 11.3(3)T 2691 – 12.2(8)T 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Synchronous Serial Network Modules – up to 8 Mbps

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-4T Four-port Serial Network Module	Provides four synchronous serial interfaces, and supports a total full-duplex throughput of 8 Mbps, which can be realized over one port (at 8Mb/s) or across all four ports (at 2Mb/s on each port). Each port supports full-duplex and half-duplex operation at T1 and E1 speeds. All ports use identical DB-60 connectors that support five interface types (RS-232, RS-449, RS-530, V.35, X.21) in either DTE or DCE mode. Modular Router Solutions Serial & Legacy Concentration	3700 series – Not Available 3660 series – 12.0(5)T 3640 – 11.2(4)XA 3620 – 11.2(4)XA 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Asynchronous/Synchronous Serial Network Modules – up to 128 Kbps

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-4A/S Four-port Asynchronous / Synchronous Serial Network Module	Provides 4 low-speed serial connections via DB-60 connectors that support five interface types (RS-232, RS-449, RS-530, V.35, X.21) in either DTE or DCE mode. The low-speed serial connections can be configured for up to either 115.2 kbps asynchronous or 128 kbps synchronous serial traffic. Modular Router Solutions Serial & Legacy Concentration	3700 series – 12.2(8)T 3660 series – 12.0(5)T 3640 – 11.1(7)AA 3620 – 11.1(7)AA 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(2)XA 2610 series – 11.3(2)XA	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-8A/S Eight-port Asynchronous / Synchronous Serial Network Module	Provides 8 low-speed serial connections via DB-60 connectors that support five interface types (RS-232, RS-449, RS-530, V.35, X.21) in either DTE or DCE mode. The low-speed serial connections can be configured for up to either 115.2 kbps asynchronous or 128 kbps synchronous serial traffic. Modular Router Solutions Serial & Legacy Concentration	3700 series – 12.2(8)T 3660 series – 12.0(5)T 3640 – 11.1(7)AA 3620 – 11.1(7)AA 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(2)XA 2610 series – 11.3(2)XA	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Asynchronous Serial Network Modules – up to 134 Kbps

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-16A Sixteen-port Asynchronous Network Module	Provides 16 asynchronous serial interfaces at speeds up to 134 kbps. The 16 ports are cabled with two custom “octopus” cables, each terminating in 8 ports, each with an option of physical endpoints, including RJ-45 and DB-25 connectors. Modular Router Solutions Dialup Remote Access Serial & Legacy Concentration	3700 series – Future 3660 series – 12.0(5)T 3640 – 11.2(7a)P 3620 – 11.2(7a)P 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(2)XA 2610 series – 11.3(2)XA	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Asynchronous Serial Network Modules – up to 134 Kbps

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-32A Thirty Two-port Asynchronous Network Module	Provides 32 asynchronous serial interfaces at speeds up to 134 kbps. The 32 ports are cabled with four custom “octopus” cables, each terminating in 8 ports, each with an option of physical endpoints, including RJ-45 and DB-25 connectors. Modular Router Solutions Dialup Remote Access Serial & Legacy Concentration	3700 series - Future 3660 series – 12.0(5)T 3640 – 11.2(7a)P 3620 – 11.2(7a)P 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(2)XA 2610 series – 11.3(2)XA	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Channelized T1/E1 and ISDN Network Modules

Channelized T1/E1 and ISDN Primary Rate Interface Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1CT1 One-port Channelized T1/ISDN-PRI Network Module	Provides a single channelized T1/ISDN PRI connection via a DB-15 connector. Modular Router Solutions Serial & Legacy Concentration ISDN Concentration	3700 series - 12.2(8)T 3660 series – 12.0(7)XK 3640 – 11.1(7)AA 3620 – 11.1(7)AA 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-1CT1-CSU One-port Channelized T1/ISDN-PRI with CSU Network Module	Provides a single channelized T1/ISDN PRI with integrated DSU/CSU connection via an RJ-48 connector. Modular Router Solutions Serial & Legacy Concentration ISDN Concentration	3700 series - 12.2(8)T 3660 series – 12.0(7)XK 3640 – 11.1(7)AA 3620 – 11.1(7)AA 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Channelized T1/E1 and ISDN Primary Rate Interface Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1CE1B One-port Channelized E1/ISDN-PRI Balanced Network Module	Provides a single channelized E1/ISDN PRI balanced (120 Ohm) connection via a DB-15 connector. Modular Router Solutions Serial & Legacy Concentration ISDN Concentration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-1CE1U One-port Channelized E1/ISDN-PRI Unbalanced Network Module	Provides a single channelized E1/ISDN PRI unbalanced (75 Ohm) connection via a DB-15 connector. Modular Router Solutions Serial & Legacy Concentration ISDN Concentration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-2CT1 Two-port Channelized T1/ISDN-PRI Network Module	Provides two channelized T1/ISDN PRI connections via DB-15 connectors. Modular Router Solutions Serial & Legacy Concentration ISDN Concentration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-2CT1-CSU Two-port Channelized T1/ISDN-PRI with CSU Network Module	Provides two channelized T1/ISDN PRI with integrated DSU/CSU connections via RJ-48 connectors. Modular Router Solutions Serial & Legacy Concentration ISDN Concentration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Channelized T1/E1 and ISDN Primary Rate Interface Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-2CE1B Two-port Channelized E1/ISDN-PRI Balanced Network Module	Provides two channelized E1/ISDN PRI balanced (120 Ohm) connections via DB-15 connectors. Modular Router Solutions Serial & Legacy Concentration ISDN Concentration	3700 series - 12.2(8)T 3660 series – 12.0(7)XK 3640 – 11.1(7)AA 3620 – 11.1(7)AA 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-2CE1U Two-port Channelized E1/ISDN-PRI Unbalanced Network Module	Provides two channelized E1/ISDN PRI unbalanced (75 Ohm) connections via DB-15 connectors. Modular Router Solutions Serial & Legacy Concentration ISDN Concentration	3700 series - 12.2(8)T 3660 series – 12.0(7)XK 3640 – 11.1(7)AA 3620 – 11.1(7)AA 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

ISDN Basic Rate Interface Network Module

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-4B-S/T Four-port ISDN-BRI Network Module	Provides four ISDN BRI connections via RJ-45 connectors. This network module requires an external NT-1 device for connection to the WAN. Modular Router Solutions ISDN Concentration	3700 series - 12.2(8)T 3660 series – 12.0(7)XK 3640 – 11.1(7)AA 3620 – 11.1(7)AA 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

ISDN Basic Rate Interface Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-4B-U Four-port ISDN-BRI with NT-1 Network Module	Provides four ISDN BRI connections via RJ-45 connectors. This Network Module has an integrated NT-1 device. Modular Router Solutions ISDN Concentration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-8B-S/T Eight-port ISDN-BRI Network Module	Provides eight ISDN BRI connections via RJ-45 connectors. This network module requires an external NT-1 device for connection to the WAN. Modular Router Solutions ISDN Concentration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-8B-U Eight-port ISDN-BRI with NT-1 Network Module	Provides eight ISDN BRI connections via RJ-45 connectors. This Network Module has an integrated NT-1 device. Modular Router Solutions ISDN Concentration	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(4)T 2610 series - 11.3(4)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

ATM Network Modules

ATM OC3 Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1A-OC3MM Single Port OC-3 ATM Multi-mode Fiber Network Module	Provides UNI mode ATM Adaptation Layer 5 (AAL5) for UBR, VBR-rt, VBR-nrt, UBR+ and ABR Classes of Service. This module will drive a signal to a maximum distance of 2 kilometers. Modular Router Solutions ATM Edge Connectivity	3700 series – Not Available 3660 series – 12.0(5)T 3640 – 12.0(3)T 3620 – 12.0(3)T 2691 – 12.2(8)T 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	Requires an IOS “PLUS” feature set. Maximum of one per 3620 or 3640.
NM-1A-OC3SMI Single Port OC-3 ATM Single-mode Intermediate Reach Fiber Network Module	Provides UNI mode ATM Adaptation Layer 5 (AAL5) for UBR, VBR-rt, VBR-nrt, UBR+ and ABR Classes of Service. This module will drive a signal to a maximum distance of 15 kilometers. Modular Router Solutions ATM Edge Connectivity	3700 series - Not Available 3660 series – 12.0(5)T 3640 – 12.0(3)T 3620 – 12.0(3)T 2691 – 12.2(8)T 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	Requires an IOS “PLUS” feature set. Maximum of one per 3620 or 3640.
NM-1A-OC3SML Single Port OC-3 ATM Single-mode Long Reach Fiber Network Module	Provides UNI mode ATM Adaptation Layer 5 (AAL5) for UBR, VBR-rt, VBR-nrt, UBR+ and ABR Classes of Service. This module will drive a signal to a maximum distance of 45 kilometers. Modular Router Solutions ATM Edge Connectivity	3700 series - Not Available 3660 series – 12.0(5)T 3640 – 12.0(3)T 3620 – 12.0(3)T 2691 – 12.2(8)T 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	Requires an IOS “PLUS” feature set. Maximum of one per 3620 or 3640.

ATM OC3 with T1/E1 CES Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1A-OC3MM-1V One-port OC-3/STM-1 CES multimode ATM Network Module	Provides an OC-3 interface with UNI mode AAL1 and AAL5 for CBR, UBR, VBR-rt, VBR-nrt, UBR+ and ABR Classes of Service and one WAN Interface Card (WIC) expansion slot for Circuit Emulation Services. This module will drive a signal to a maximum distance of 2 kilometers. Modular Router Solutions ATM Edge Connectivity Voice & Fax Integration	3700 series - Not Available 3660 series – 12.1(2)T 3640 – 12.1(2)T 3620 – 12.1(2)T 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	Requires an IOS "PLUS" feature set. Maximum of one per 3620 or 3640. Requires an E1 or T1 VVWIC for PBX connectivity.
NM-1A-OC3SMI-1V One-port OC-3/STM-1 CES Single Mode Intermediate Reach ATM Network Module	Provides an OC-3 interface with UNI mode AAL1 and AAL5 for CBR, UBR, VBR-rt, VBR-nrt, UBR+ and ABR Classes of Service and one WAN Interface Card (WIC) expansion slot for Circuit Emulation Services. This module will drive a signal to a maximum distance of 15 kilometers. Modular Router Solutions ATM Edge Connectivity Voice & Fax Integration	3700 series - Not Available 3660 series – 12.1(2)T 3640 – 12.1(2)T 3620 – 12.1(2)T 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	Requires an IOS "PLUS" feature set. Maximum of one per 3620 or 3640. Requires an E1 or T1 VVWIC for PBX connectivity.
NM-1A-OC3SML-1V One-port OC-3/STM-1 CES Single Mode Long Reach ATM Network Module	Provides an OC-3 interface with UNI mode AAL1 and AAL5 for CBR, UBR, VBR-rt, VBR-nrt, UBR+ and ABR Classes of Service and one WAN Interface Card (WIC) expansion slot for Circuit Emulation Services. This module will drive a signal to a maximum distance of 45 kilometers. Modular Router Solutions ATM Edge Connectivity Voice & Fax Integration	3700 series - Not Available 3660 series – 12.1(2)T 3640 – 12.1(2)T 3620 – 12.1(2)T 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available	Requires an IOS "PLUS" feature set. Maximum of one per 3620 or 3640. Requires an E1 or T1 VVWIC for PBX connectivity.

ATM T3/E3 Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1A-T3 One-port DS3 ATM Network Module	Provides a single ATM connection of 45Mbps for DS3 using 75 Ohm BNC Connectors. The network module supports ATM Forum-compliant AAL5. Modular Router Solutions ATM Edge Connectivity	3700 series - 12.2(8)T 3660 series - 12.1(2)T 3640 - 12.1(2)T 3620 - 12.1(2)T 2691 - 12.2(8)T 2600XM series - 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.1(2)T 2610 series - 12.1(2)T	Requires an IOS "PLUS" feature set. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-1A-E3 One-port E3 ATM Network Module	Provides a single ATM connection of 34Mbps for E3 using 75 Ohm BNC Connectors. The network module supports ATM Forum-compliant AAL5. Modular Router Solutions ATM Edge Connectivity	3700 series - 12.2(8)T 3660 series - 12.1(2)T 3640 - 12.1(2)T 3620 - 12.1(2)T 2691 - 12.2(8)T 2600XM series - 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.1(2)T 2610 series - 12.1(2)T	Requires an IOS "PLUS" feature set. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

ATM 25 Mbps Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1ATM-25 Single Port ATM 25 Network Module	Provides 25Mbps ATM connections to external ADSL modems. The ATM network module is compatible with the ATM Forum 25.6-Mbps physical sublayer (PHY) specification for unshielded twisted-pair (UTP), Category 3 (UTP-3), or shielded twisted-pair (STP) cable plants. Modular Router Solutions ATM Edge Connectivity DSL Access LAN-to-LAN Routing	3700 series - Not Available 3660 series - 12.0(7)XK 3640 - 11.3(3a)T 3620 - 11.3(3a)T 2691 - Not Available 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(3a)T 2610 series - 11.3(3a)T	Requires an IOS "PLUS" feature set. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

ATM T1/E1 IMA Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-4T1-IMA Four-port T1 ATM Network Module with IMA	Provides four physical T1 ports with integrated CSU/DSU and up to four Inverse Multiplexing over ATM (IMA) groups. Each IMA group can aggregate one to all physical ports, providing up to 6 Mbps bandwidth. Modular Router Solutions ATM Edge Connectivity	3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 12.0(5)T 3620 - 12.0(5)T 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.0(5)T 2610 series - 12.0(5)T	Requires an IOS "PLUS" feature set. Maximum of one per Cisco 3620. Maximum of three per Cisco 3640. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-4E1-IMA Four-port E1 ATM Network Module with IMA	Provides four physical E1 ports with integrated DSU and up to four Inverse Multiplexing over ATM (IMA) groups. Each IMA group can aggregate one to all physical ports, providing up to 8 Mbps bandwidth. Modular Router Solutions ATM Edge Connectivity	3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 12.0(5)T 3620 - 12.0(5)T 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.0(5)T 2610 series - 12.0(5)T	Requires an IOS "PLUS" feature set. Maximum of one per Cisco 3620. Maximum of three per Cisco 3640. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-8T1-IMA Eight-port T1 ATM Network Module with IMA	Provides eight physical T1 ports with integrated CSU/DSU and up to four Inverse Multiplexing over ATM (IMA) groups. Each IMA group can aggregate one to all physical ports, providing up to 12 Mbps bandwidth. Modular Router Solutions ATM Edge Connectivity	3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 12.0(5)T 3620 - 12.0(5)T 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.0(5)T 2610 series - 12.0(5)T	Requires an IOS "PLUS" feature set. Maximum of one per Cisco 3620. Maximum of three per Cisco 3640. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-8E1-IMA Eight-port E1 ATM Network Module with IMA	Provides eight physical E1 ports with integrated DSU and up to four Inverse Multiplexing over ATM (IMA) groups. Each IMA group can aggregate one to all physical ports, providing up to 16 Mbps bandwidth. Modular Router Solutions ATM Edge Connectivity	3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 12.0(5)T 3620 - 12.0(5)T 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.0(5)T 2610 series - 12.0(5)T	Requires an IOS "PLUS" feature set. Maximum of one per Cisco 3620. Maximum of three per Cisco 3640. No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Dialup / Remote Access Network Modules

Digital Modem Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-6DM Six-port Digital Modem Network Module	Contains six configurable V.90 compliant digital modems for use with the ISDN PRI and BRI network modules. This module is field upgradeable to a maximum of 30 digital modems. Modular Router Solutions Dialup Remote Access	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2691 - Not Available 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	Requires a channelized or ISDN WAN network module: NM-1FE1CT1, NM-1FE1CT1-CSU, NM-1FE1CE1B, NM-1FE1CE1U, NM-1FE2CT1, NM-1FE2CT1-CSU, NM-1FE2CE1B, NM-1FE2CE1U, NM-1CT1, NM-1CT1-CSU, NM-2CT1, NM-2CT1-CSU, NM-1CE1B, NM-1CE1U, NM-2CE1B, NM-2CE1U, NM-4B-S/T, NM-4B-U, NM-8B-S/T, or NM-8B-U.
NM-12DM Twelve-port Digital Modem Network Module	Contains twelve configurable V.90 compliant digital modems for use with the ISDN PRI and BRI network modules. This module is field upgradeable to a maximum of 30 digital modems. Modular Router Solutions Dialup Remote Access	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2691 - Not Available 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	Requires a channelized or ISDN WAN network module: NM-1FE1CT1, NM-1FE1CT1-CSU, NM-1FE1CE1B, NM-1FE1CE1U, NM-1FE2CT1, NM-1FE2CT1-CSU, NM-1FE2CE1B, NM-1FE2CE1U, NM-1CT1, NM-1CT1-CSU, NM-2CT1, NM-2CT1-CSU, NM-1CE1B, NM-1CE1U, NM-2CE1B, NM-2CE1U, NM-4B-S/T, NM-4B-U, NM-8B-S/T, or NM-8B-U.
NM-18DM Eighteen-port Digital Modem Network Module	Contains 18 configurable V.90 compliant digital modems for use with the ISDN PRI and BRI network modules. This module is field upgradeable to a maximum of 30 digital modems. Modular Router Solutions Dialup Remote Access	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2691 - Not Available 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	Requires a channelized or ISDN WAN network module: NM-1FE1CT1, NM-1FE1CT1-CSU, NM-1FE1CE1B, NM-1FE1CE1U, NM-1FE2CT1, NM-1FE2CT1-CSU, NM-1FE2CE1B, NM-1FE2CE1U, NM-1CT1, NM-1CT1-CSU, NM-2CT1, NM-2CT1-CSU, NM-1CE1B, NM-1CE1U, NM-2CE1B, NM-2CE1U, NM-4B-S/T, NM-4B-U, NM-8B-S/T, or NM-8B-U.

Digital Modem Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-24DM Twenty four-port Digital Modem Network Module	Contains 24 configurable V.90 compliant digital modems for use with the ISDN PRI and BRI network modules. This module is field upgradeable to a maximum of 30 digital modems. Modular Router Solutions Dialup Remote Access	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2691 - Not Available 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	Requires a channelized or ISDN WAN network module: NM-1FE1CT1, NM-1FE1CT1-CSU, NM-1FE1CE1B, NM-1FE1CE1U, NM-1FE2CT1, NM-1FE2CT1-CSU, NM-1FE2CE1B, NM-1FE2CE1U, NM-1CT1, NM-1CT1-CSU, NM-2CT1, NM-2CT1-CSU, NM-1CE1B, NM-1CE1U, NM-2CE1B, NM-2CE1U, NM-4B-S/T, NM-4B-U, NM-8B-S/T, or NM-8B-U.
NM-30DM Thirty-port Digital Modem Network Module	Contains 30 configurable V.90 compliant digital modems for use with the ISDN PRI and BRI network modules. Modular Router Solutions Dialup Remote Access	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2691 - Not Available 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	Requires a channelized or ISDN WAN network module: NM-1FE1CT1, NM-1FE1CT1-CSU, NM-1FE1CE1B, NM-1FE1CE1U, NM-1FE2CT1, NM-1FE2CT1-CSU, NM-1FE2CE1B, NM-1FE2CE1U, NM-1CT1, NM-1CT1-CSU, NM-2CT1, NM-2CT1-CSU, NM-1CE1B, NM-1CE1U, NM-2CE1B, NM-2CE1U, NM-4B-S/T, NM-4B-U, NM-8B-S/T, or NM-8B-U.
MICA-6MOD 6 Digital Modem Upgrade	This digital modem upgrade increases a Cisco digital modem network modules capacity by 6 modems, up to a maximum of 30 modems per digital modem network module. Modular Router Solutions Dialup Remote Access	3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2691 - Not Available 2600XM series - Not Available 2650 series - Not Available 2620 series - Not Available 2610 series - Not Available	Requires a digital modem network module: NM-6DM, NM-12DM, NM-18DM, or NM-24DM.

Analog Modem Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-8AM Eight-port Analog Modem Network Module	Provides support for basic dial service via RJ-11 connectors. It allows up to 8 remote analog modem users to connect via internal V.34 modems at speeds of up to 33.6 Kbps Modular Router Solutions Dialup Remote Access	3700 series - Future 3660 series – 12.0(7)XK 3640 – 11.3(4)T 3620 – 11.3(4)T 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(3)T 2610 series – 11.3(3)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-8AM-J Eight-port Analog Modem Network Module for Singapore, Japan, Malaysia	Provides support for basic dial service via RJ-11 connectors. It allows up to 8 remote analog modem users to connect via internal V.34 modems at speeds of up to 33.6 Kbps Modular Router Solutions Dialup Remote Access	3700 series - Future 3660 series – 12.0(7)XK 3640 – 11.3(4)T 3620 – 11.3(4)T 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(3)T 2610 series – 11.3(3)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-16AM Sixteen-port Analog Modem Network Module	Provides support for basic dial service via RJ-11 connectors. It allows up to 16 remote analog modem users to connect via internal V.34 modems at speeds of up to 33.6 Kbps Modular Router Solutions Dialup Remote Access	3700 series - Future 3660 series – 12.0(7)XK 3640 – 11.3(4)T 3620 – 11.3(4)T 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(3)T 2610 series – 11.3(3)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-16AM-J Sixteen-port Analog Modem Network Module for Singapore, Japan, Malaysia	Provides support for basic dial service via RJ-11 connectors. It allows up to 16 remote analog modem users to connect via internal V.34 modems at speeds of up to 33.6 Kbps Modular Router Solutions Dialup Remote Access	3700 series - Future 3660 series – 12.0(7)XK 3640 – 11.3(4)T 3620 – 11.3(4)T 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(3)T 2610 series – 11.3(3)T	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Voice Network Modules

Analog and ISDN Basic Rate Voice Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-1V One-Slot Voice/Fax Network Module	<p>Provides a one-slot voice / fax network module with an integrated digital signal processor (DSP), enables voice and fax traffic to be routed over data networks. The user-configurable expansion slot accommodates the addition of a Cisco Voice Interface card which allow two analog ports or one BRI port to standard telephony equipment such as PBXs, key systems, phone, and fax machines.</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 11.3(1)T 3620 - 11.3(1)T 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(1)T 2610 series - 11.3(1)T</p>	<p>Requires an IOS "PLUS" feature set.</p> <p>Requires a Voice Interface Card (VIC).</p>
NM-2V Two-Slot Voice/Fax Network Module	<p>Provides a two-slot voice / fax network module with an integrated digital signal processor (DSP), enables voice and fax traffic to be routed over data networks. The user-configurable expansion slot accommodates the addition of a Cisco Voice Interface card which allow up to four analog ports or two BRI ports to standard telephony equipment such as PBXs, key systems, phone, and fax machines.</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 11.3(1)T 3620 - 11.3(1)T 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(1)T 2610 series - 11.3(1)T</p>	<p>Requires an IOS "PLUS" feature set.</p> <p>Requires a Voice Interface Card (VIC).</p>

Analog and ISDN Basic Rate Voice Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
<p>NM-HDA-4FXS High density analog voice/fax network module with 4 FXS</p>	<p>This base board is always required for any configuration of NM-HDA. It comes with four built-in FXS ports. On board DSP resources can service eight voice calls using high-complexity codecs: G.711 a/u; G.726 @ 32k, 24k and 16k; G.728; G.729, A, B, AB; G.723.1 @ 5.3k and 6.3k; clear channel codec, fax relay. Also supports 16 voice calls using medium-complexity codecs: G.711 a/u, G.726 @ 32k, 24k, and 16k; G.729A and AB; clear channel codec, fax relay. Supports two expansion modules and one DSP module.</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.2(4)XT 3640 – 12.2(4)XT 3620 – 12.2(4)XT 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(4)XT 2620 series – 12.2(4)XT 2610 series – 12.2(4)XT</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.</p>
<p>EM-HDA-4FXO 4-port voice/fax expansion module – FXO</p>	<p>Provides four off-premise analog connections to the central office. Country settings are configurable. Includes support for battery polarity reversal detection and Caller ID</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.2(4)XT 3640 – 12.2(4)XT 3620 – 12.2(4)XT 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(4)XT 2620 series – 12.2(4)XT 2610 series – 12.2(4)XT</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>Requires a High-Density Analog Voice/Fax Network Module (NM-HDA-4FXS).</p>
<p>EM-HDA-8FXS 8-port voice/fax expansion module – FXS</p>	<p>Provides an additional eight FXS ports for connections directly to analog phones, fax machines, and key</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.2(4)XT 3640 – 12.2(4)XT 3620 – 12.2(4)XT 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(4)XT 2620 series – 12.2(4)XT 2610 series – 12.2(4)XT</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>Requires a High-Density Analog Voice/Fax Network Module (NM-HDA-4FXS).</p>
<p>DSP-HDA-16 16-channel DSP module for NM-HDA</p>	<p>Enables an additional 8 high-complexity or 16 medium-complexity voice calls on NM-HDA.</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.2(4)XT 3640 – 12.2(4)XT 3620 – 12.2(4)XT 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(4)XT 2620 series – 12.2(4)XT 2610 series – 12.2(4)XT</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>Requires a High-Density Analog Voice/Fax Network Module (NM-HDA-4FXS).</p>

T1/E1/J1 Digital Voice Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-HDV-1T1-12 Single-port 12 Channel Digital T1 Packet Voice Trunk Network Module	Provides a single T1 connection with support for 12 channels of medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711 and fax relay. This module can also be configured to provide 6 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay. Modular Router Solutions Voice & Fax Integration	3700 series – 12.2(8)T 3660 series – 12.0(5)XK 3640 – 12.0(5)XK 3620 – 12.0(5)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XK 2610 series – 12.0(5)XK	Requires an IOS “PLUS” feature set. The NM-HDV-1T1-12 is a bundle of the following components: <ul style="list-style-type: none"> • One network module (NM-HDV) • One one-port T1 Voice/WAN Interface Card (VVIC-1MFT-T1) • One Digital Signal Processor modules (PVDM-12)
NM-HDV-1T1-24 Single-port 24 Channel Digital T1 Packet Voice Trunk Network Module	Provides a single T1 connection with support for 24 channels of medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711 and fax relay. This module can also be configured to provide 12 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay. Modular Router Solutions Voice & Fax Integration	3700 series – 12.2(8)T 3660 series – 12.0(5)XK 3640 – 12.0(5)XK 3620 – 12.0(5)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XK 2610 series – 12.0(5)XK	Requires an IOS “PLUS” feature set. The NM-HDV-1T1-24 is a bundle of the following components: <ul style="list-style-type: none"> • One network module (NM-HDV) • One one-port T1 Voice/WAN Interface Card (VVIC-1MFT-T1) • One Digital Signal Processor modules (PVDM-12)

T1/E1/J1 Digital Voice Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
<p>NM-HDV-1T1-24E</p> <p>Single-port 24 Channel Enhanced Digital T1 Packet Voice Trunk Network Module</p>	<p>Provides a single T1 connection with support for 24 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay.</p> <hr/> <p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.0(5)XX 3640 – 12.0(5)XX 3620 – 12.0(5)XX 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XX 2610 series – 12.0(5)XX</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>The NM-HDV-1T1-24E is a bundle of the following components:</p> <ul style="list-style-type: none"> • One network module (NM-HDV) • One one-port T1 Voice/WAN Interface Card (VVIC-1MFT-T1) • One Digital Signal Processor modules (PVDM-12)
<p>NM-HDV-2T1-48</p> <p>Two-port 30 Channel Enhanced Digital T1 Packet Voice Trunk Network Module</p>	<p>Provides two T1 connections with support for 48 channels of medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711 and fax relay. This module can also be configured to provide 24 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay.</p> <hr/> <p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.0(5)XX 3640 – 12.0(5)XX 3620 – 12.0(5)XX 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XX 2610 series – 12.0(5)XX</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>The NM-HDV-2T1-48 is a bundle of the following components:</p> <ul style="list-style-type: none"> • One network module (NM-HDV) • One two-port T1 Voice/WAN Interface Card (VVIC-2MFT-T1) • Four Digital Signal Processor modules (PVDM-12)
<p>NM-HDV-1E1-12</p> <p>Single-port 12 Channel Digital E1 Packet Voice Trunk Network Module</p>	<p>Provides a single E1 connection with support for 12 channels of medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711 and fax relay. This module can also be configured to provide 6 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay.</p> <hr/> <p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.0(5)XX 3640 – 12.0(5)XX 3620 – 12.0(5)XX 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XX 2610 series – 12.0(5)XX</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>The NM-HDV-2T1-48 is a bundle of the following components:</p> <ul style="list-style-type: none"> • One network module (NM-HDV) • One two-port T1 Voice/WAN Interface Card (VVIC-2MFT-T1) • Four Digital Signal Processor modules (PVDM-12)

T1/E1/J1 Digital Voice Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-HDV-1E1-30 Single-port 30 Channel Digital E1 Packet Voice Trunk Network Module	Provides a single E connection with support for 30 channels of medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711 and fax relay. This module can also be configured to provide 18 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay. Modular Router Solutions Voice & Fax Integration	3700 series – 12.2(8)T 3660 series – 12.0(7)XK 3640 – 12.0(7)XK 3620 – 12.0(7)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(7)XK 2610 series – 12.0(7)XK	Requires an IOS “PLUS” feature set. The NM-HDV-1E1-30 is a bundle of the following components: <ul style="list-style-type: none"> • One network module (NM-HDV) • One one-port E1 Voice/WAN Interface Card (VVIC-1MFT-E1) • Three Digital Signal Processor modules (PVDM-12)
NM-HDV-1E1-30E Single-port 30 Channel Enhanced Digital E1 Packet Voice Trunk Network Module	Provides a single E1 connection with support for 30 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay. Modular Router Solutions Voice & Fax Integration	3700 series – 12.2(8)T 3660 series – 12.0(7)XK 3640 – 12.0(7)XK 3620 – 12.0(7)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(7)XK 2610 series – 12.0(7)XK	Requires an IOS “PLUS” feature set. The NM-HDV-1E1-30E is a bundle of the following components: <ul style="list-style-type: none"> • One network module (NM-HDV) • One one-port E1 Voice/WAN Interface Card (VVIC-1MFT-E1) • Three Digital Signal Processor modules (PVDM-12)
NM-HDV-2E1-60 Two-port 60 Channel Digital E1 Packet Voice Trunk Network Module	Provides two E1 connection with support for 6 channels of medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711 and fax relay. This module can also be configured to provide 30 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay. Modular Router Solutions Voice & Fax Integration	3700 series – 12.2(8)T 3660 series – 12.0(7)XK 3640 – 12.0(7)XK 3620 – 12.0(7)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(7)XK 2610 series – 12.0(7)XK	Requires an IOS “PLUS” feature set. The NM-HDV-2E1-60 is a bundle of the following components: <ul style="list-style-type: none"> • One network module (NM-HDV) • One two-port E1 Voice/WAN Interface Card (VVIC-2MFT-E1) • Five Digital Signal Processor modules (PVDM-12)

T1/E1/J1 Digital Voice Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
<p>NM-HDV-1J1-30 Single-Port 30 Channel J1 Voice/Fax Network Module</p>	<p>Provides a single J1 connection with support for 30 channels of medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711 and fax relay. This module can also be configured to provide 18 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay.</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.2(8)T 3640 – 12.2(8)T 3620 – 12.2(8)T 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(8)T 2620 series – 12.2(8)T 2610 series – 12.2(8)T</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>The NM-HDV-1J1-30 is a bundle of the following components:</p> <ul style="list-style-type: none"> • One network module (NM-HDV) • One one-port E1 Voice/WAN Interface Card (VVIC-1MFT-E1) • Three Digital Signal Processor modules (PVDM-12)
<p>NM-HDV-1J1-30E Single-Port 30 Enhanced Channel J1 Voice/Fax Network Module</p>	<p>Provides a single J1 connection with support for 30 channels of high and/or medium complexity voice compression using any of the following codecs: G.729A, G.729AB, G.726 all versions, G.711, G.729, G.729B, G.723.1 all versions, G.728, GSM, GSMEFR, fax relay.</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.2(8)T 3640 – 12.2(8)T 3620 – 12.2(8)T 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(8)T 2620 series – 12.2(8)T 2610 series – 12.2(8)T</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>The NM-HDV-1J1-30 is a bundle of the following components:</p> <ul style="list-style-type: none"> • One network module (NM-HDV) • One one-port J1 Voice Interface Card (VIC-1J1) • Five Digital Signal Processor modules (PVDM-12)
<p>NM-HDV Digital T1/E1 Packet Voice Trunk Network Module Spare</p>	<p>This network module is the carrier card for the PVDM-12 and VVIC cards. It is the basis for all six NM-HDV voice bundles. Up to 30 unique combinations of network module, DSP modules, and VVICs exist, allowing users to increase voice channel support from 6 up to 60 voice/fax channels.</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.0(5)XK 3640 – 12.0(5)XK 3620 – 12.0(5)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XK 2610 series – 12.0(5)XK</p>	<p>Requires an IOS “PLUS” feature set.</p> <p>Requires at least one Voice/WAN Interface Card (VVIC) or VIC-1J1 and a 12-channel DSP module (PVDM-12).</p>

T1/E1/J1 Digital Voice Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
PVDM-12 12-channel Packet Voice DSP Module Upgrade - Spare	Installable into an NM-HDV. It contains three TI 549 DSPs along with the necessary DSP SRAM to process six high or medium complexity compressed voice channels or 12 medium complexity compressed voice channels. Modular Router Solutions Voice & Fax Integration	3700 series – 12.2(8)T 3660 series – 12.0(5)XK 3640 – 12.0(5)XK 3620 – 12.0(5)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XK 2610 series – 12.0(5)XK	Requires an IOS “PLUS” feature set. Requires at least one High-Density Voice Network Module (NM-HDV) and a Voice/WAN Interface Card (VVIC).

Alarm Monitoring and Control Network Modules and Accessories

Integrated Digital Modem Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-AIC-64 Alarm Monitoring and Control Network Module	Provides ports for 64 discrete alarm points and 16 relay control points. Up to 8 of the 64 alarm points can be configured to accept analog input. Modular Router Solutions Alarm monitoring and Control	3700 series – Not Available 3660 series – 12.2(2)XG 3640 – 12.2(2)XG 3620 – 12.2(2)XG 2691 – Not Available 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XG 2620 series – 12.2(2)XG 2610 series – 12.2(2)XG	Requires a SCSI to Telco patch Panel.
AIC-DBL-PNL Patch Panel	SCSI to Telco Patch Panel for terminating up to 128 alarm points (two NM-AIC-64). Modular Router Solutions Alarm monitoring and Control	3700 series – Not Available 3660 series – 12.2(2)XG 3640 – 12.2(2)XG 3620 – 12.2(2)XG 2691 – Not Available 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XG 2620 series – 12.2(2)XG 2610 series – 12.2(2)XG	Requires an Alarm Monitoring and Control Network Module.

Integrated Digital Modem Network Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
AIC-SGL-PNL Patch Panel with voltage monitoring	<p>SCSI to Telco Patch Panel for terminating up to 64 alarm points and monitoring up to 8 power lines.</p> <p>Modular Router Solutions Alarm monitoring and Control</p>	<p>3700 series – Not Available</p> <p>3660 series – 12.2(2)XG</p> <p>3640 – 12.2(2)XG</p> <p>3620 – 12.2(2)XG</p> <p>2691 – Not Available</p> <p>2600XM series – 12.2(8)T1</p> <p>2650 series – 12.2(2)XG</p> <p>2620 series – 12.2(2)XG</p> <p>2610 series – 12.2(2)XG</p>	Requires an Alarm Monitoring and Control Network Module.

WAN Interface Cards

Serial WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
WIC-1T One-port Serial WAN Interface Card	<p>Provides a single serial connection at up to T1/E1 rates. The DB-60 connector supports any of five interface types (RS-232, RS-449, RS-530, V.35, X.21) in either DTE or DCE mode. This interface card inserts into a Cisco mixed-media network module or directly into a Cisco WAN Interface Card (WIC) expansion slot.</p> <p>Modular Router Solutions Serial & Legacy Concentration</p>	<p>3700 series – Not Available</p> <p>3660 series – 12.0(5)T</p> <p>3640 – 11.1(7)AA</p> <p>3620 – 11.1(7)AA</p> <p>2691 – Not Available</p> <p>2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1</p> <p>2650 series – 12.1(3)T</p> <p>2620 series – 11.3(2)XA</p> <p>2610 series – 11.3(2)XA</p> <p>1760 – 12.2(2)XK</p> <p>1751 – 12.1(5)YB</p> <p>1721 – 12.2(4)YA</p>	When used in a Cisco 3600 series router, requires a Mixed Media network module: NM-2W, NM-1E2W, NM-2E2W, NM-1E1R2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W.

WIC-2T Two-port Serial WAN Interface Card	<p>Provides a two serial connections up to T1/E1 speeds. The DB-60 connector supports any of five interface types (RS-232, RS-449, RS-530, V.35, X.21) in either DTE or DCE mode. This interface card inserts into a Cisco mixed-media network module or directly into a Cisco WAN Interface Card (WIC) expansion slot.</p> <p>Modular Router Solutions Serial & Legacy Concentration</p>	<p>3700 series - 12.2(8)T</p> <p>3660 series – 12.0(7)XK</p> <p>3640 – 12.1(1)T</p> <p>3620 – 12.1(1)T</p> <p>2691 – 12.2(8)T</p> <p>2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1</p> <p>2650 series – 12.1(3)T</p> <p>2620 series – 11.3(2)XA</p> <p>2610 series – 11.3(2)XA</p> <p>1760 – 12.2(2)XK</p> <p>1751 – 12.1(5)YB</p> <p>1721 – 12.2(4)YA</p>	When used in a Cisco 3600 series router, requires one of the following Mixed Media network modules: NM-2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W. 1FE1R2W.
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Serial WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
WIC-1DSU-T1 One-port T1/Fractional T1 DSU/CSU WAN Interface Card	Provides a single serial connection at speeds up to T1 rates. This interface card inserts into a Cisco mixed-media network module or directly into a Cisco WAN Interface Card (WIC) expansion slot. Modular Router Solutions Serial & Legacy Concentration	3700 series - Future 3660 series – 12.0(5)T 3640 – 11.2(12)P 3620 – 11.2(12)P 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(4)T 2610 series – 11.3(4)T 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – 12.2(4)YA	When used in a Cisco 3600 series router, requires a Mixed Media network module: NM-2W, NM-1E2W, NM-2E2W, NM-1E1R2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W.
WIC-1DSU-56K4 One-port 4-Wire 56/64Kbps DSU/CSU WAN Interface Card	Provides a single serial connection at speeds up to 64 Kbps. This interface card inserts into a Cisco mixed-media network module or directly into a Cisco WAN Interface Card (WIC) expansion slot. Modular Router Solutions Serial & Legacy Concentration	3700 series - 12.2(8)T 3660 series – 12.0(5)T 3640 – 11.2(4)XA 3620 – 11.2(4)XA 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(2)XA 2610 series – 11.3(2)XA 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – 12.2(4)YA	When used in a Cisco 3600 series router, requires a Mixed Media network module: NM-2W, NM-1E2W, NM-2E2W, NM-1E1R2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W.
WIC-2A/S Two-port Asynchronous / Synchronous Serial WAN Interface Card	Provides two low-speed serial interfaces at speeds up to 128kbps. This WAN interface card supports asynchronous and synchronous traffic, and plugs directly into a WAN Interface Card (WIC) expansion slot. Modular Router Solutions Serial & Legacy Concentration	3700 series - 12.2(8)T 3660 series – 12.0(7)XK 3640 – 12.1(1)T 3620 – 12.1(1)T 2691 – 12.2(8)T 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(2)XA 2610 series – 11.3(2)XA 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – 12.2(4)YA	When used in a Cisco 3600 series router, requires one of the following Mixed Media network modules: NM-2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W.

ISDN BRI WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
WIC-1B-S/T One-port ISDN WAN Interface Card	Provides a single ISDN BRI connection via an RJ-45 connector. It requires an external NT-1 device for connection to the WAN. This interface card inserts into a Cisco mixed-media network module or directly into a Cisco WAN Interface Card (WIC) expansion slot. Modular Router Solutions ISDN Concentration Dialup Remote Access	3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 11.2(4)XA 3620 - 11.2(4)XA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(2)XA 2610 series - 11.3(2)XA 1760 - 12.2(2)XK 1751 - 12.1(5)YB 1721 - 12.2(4)YA	When used in a Cisco 3600 series router, requires a Mixed Media network module: NM-2W, NM-1E2W, NM-2E2W, NM-1E1R2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W
WIC-1B-U One-port ISDN with NT-1 WAN Interface Card	Provides a single ISDN BRI connection via an RJ-45 connector. This interface card inserts into a Cisco mixed-media network module or directly into a Cisco WAN Interface Card (WIC) expansion slot. Modular Router Solutions ISDN Concentration Dialup Remote Access	3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 11.2(4)XA 3620 - 11.2(4)XA 2691 - 12.2(8)T 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(2)XA 2610 series - 11.3(2)XA 1760 - 12.2(2)XK 1751 - 12.1(5)YB 1721 - 12.2(4)YA	When used in a Cisco 3600 series router, requires a Mixed Media network module: NM-2W, NM-1E2W, NM-2E2W, NM-1E1R2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W

DSL WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
WIC-1ADSL One-port Asymmetric Digital Subscriber Line WAN Interface Card	Provides a single ADSL connection at uplink speeds up to 1 Mbps and downlink speeds up to 8 Mbps. This interface card inserts into a Cisco mixed-media network module or directly into a Cisco WAN Interface Card (WIC) expansion slot. Modular Router Solutions DSL Access	3700 series - 12.2(8)T 3660 series - 12.1.1(5)YB 3640 - 12.1.1(5)YB 3620 - 12.1.1(5)YB 2691 - 12.2(8)T 2600XM series - 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1.1(5)YB 2620 series - 12.1.1(5)YB 2610 series - 12.1.1(5)YB 1760 - 12.2(2)XK 1751 - 12.2(2)XQ1 1721 - 12.2(4)YA	When used in a Cisco 3600 series router, requires one of the following Mixed Media network modules: NM-2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W. When using the 1700 series, requires an IOS IP/DSL module. When using the 2600, 3600, and 3700 series, requires an IOS "PLUS" feature set.

DSL WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
WIC-1SHDSL 1-Port Symmetrical High-Speed Digital Subscriber Line (G.SHDSL) WAN Interface Card	Modular Router Solutions DSL Access	3700 series – Future 3660 series – 12.2(4)XL2 3640 – 12.2(4)XL2 3620 – 12.2(4)XL2 2691 – 12.2(4)XL2 2600XM series – 12.2(8)T1 2650 series – 12.2(4)XL 2620 series – 12.2(4)XL 2610 series – 12.2(4)XL 1760 – 12.2(4)YB 1751 – 12.2(4)XL 1721 – 12.2(4)YA	When used in a Cisco 3600 series router, requires one of the following Mixed Media network modules: NM-2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W. When using the 1700 series, requires an IOS IP/DSL module. When using the 2600, 3600, and 3700 series, requires an IOS “PLUS” feature set.

Analog Modem WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
WIC-1AM One-port Analog Modem WAN Interface Card	Modular Router Solutions Dialup Remote Access	3700 series – 12.2(8)T 3660 series – 12.2(2)XB 3640 – 12.2(2)XB 3620 – 12.2(2)XB 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XB 2620 series – 12.2(2)XB 2610 series – 12.2(2)XB 1760 – 12.2(4)YB 1751 – 12.2(4)YB 1721 – 12.2(4)YB	When used in a Cisco 3600 series router, requires one of the following Mixed Media network modules: NM-2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W.
WIC-2AM Two-port Analog Modem WAN Interface Card	Modular Router Solutions Dialup Remote Access	3700 series – 12.2(8)T 3660 series – 12.2(2)XB 3640 – 12.2(2)XB 3620 – 12.2(2)XB 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XB 2620 series – 12.2(2)XB 2610 series – 12.2(2)XB 1760 – 12.2(4)YB 1751 – 12.2(4)YB 1721 – 12.2(4)YB	When used in a Cisco 3600 series router, requires one of the following Mixed Media network modules: NM-2W, NM-1FE2W, NM-2FE2W or NM-1FE1R2W.

Ethernet WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
WIC-1ENET Single-Port Ethernet WAN Interface Card	Provides one standards-based 10BaseT Ethernet network interface. Operates in half- and full-duplex modes. Supports PPP over Ethernet (PPPoE) to authenticate the router on a service provider's network using PPP. Modular Router Solutions DSL Access VPN & Firewall Solutions	3700 series – Not Available 3660 series – Not Available 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – 12.2(4)YB	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Voice/WAN Interface Cards

T1, E1 and G.703 Multiflex Trunk Voice and WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VWIC-1MFT-T1 Single-port RJ-48 Multiflex Trunk-T1 Voice/WAN Interface Card	This module supports voice, data, and integrated voice/data applications. For data applications, the VWIC provides a single-port WAN Interface Card (WIC) for T1/FT1 with an integrated DSU/CSU. For a packet voice solution, the VWIC provides a single-port Voice Interface Card (VIC) with integrated DSU/CSU, that combines with the Digital T1/E1 Packet Voice Trunk Modules. Modular Router Solutions Serial & Legacy Concentration Voice & Fax	3700 series - 12.2(8)T 3660 series – 12.0(5)XK 3640 – 12.0(5)XK 3620 – 12.0(5)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XK 2610 series – 12.0(5)XK 1760 – 12.2(4)YB 1751 – 12.2(4)YB 1721 – Future	When used in a Cisco 3600 series router, requires one of the following network modules: NM-2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-1A-OC3MM-1V, NM-1A-OC3SML-1V, NM-1A-OC3SML-1V or NM-HDV. Minimum IOS version may vary depending on application.

T1, E1 and G.703 Multiflex Trunk Voice and WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VVIC-2MFT-T1 Two-port RJ-48 Multiflex Trunk-T1 Voice/WAN Interface Card	<p>This module supports voice, data, and integrated voice/data applications. For data applications, the VVIC provides a two-port WAN Interface Card (WIC) for T1/FT1 with an integrated DSU/CSU. For a packet voice solution, the VVIC provides a two-port Voice Interface Card (VIC) with integrated DSU/CSU, that combines with the Digital T1/E1 Packet Voice Trunk Modules</p> <p>.....</p> <p>Modular Router Solutions Serial & Legacy Concentration Voice & Fax</p>	<p>3700 series - 12.2(8)T 3660 series - 12.0(5)XK 3640 - 12.0(5)XK 3620 - 12.0(5)XK 2691 - 12.2(8)T1 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.0(5)XK 2610 series - 12.0(5)XK 1760 - 12.2(4)YB 1751 - 12.2(4)YB 1721 - Future</p>	<p>When used in a Cisco 3600 series router, requires one of the following network modules: NM-2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-1A-OC3MM-1V, NM-1A-OC3SMI-1V, NM-1A-OC3SML-1V or NM-HDV.</p> <p>Minimum IOS version may vary depending on application.</p>
VVIC-2MFT-T1-DI Dual-port RJ-48 Multiflex Trunk-T1 Voice/WAN Interface Card with drop and insert	<p>This module supports voice, data, and integrated voice/data applications. For data applications, the VVIC provides a dual-port WAN Interface Card (WIC) for T1/FT1 with an integrated DSU/CSU. For a packet voice solution, the VVIC provides a dual-port Voice Interface Card (VIC) with integrated DSU/CSU, that combines with the Digital T1/E1 Packet Voice Trunk Modules. For multiplexed voice and data applications, this module provides a dual-port VVIC T1/FT1 with Drop and Insert multiplexer.</p> <p>.....</p> <p>Modular Router Solutions Serial & Legacy Concentration Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series - 12.0(5)XK 3640 - 12.0(5)XK 3620 - 12.0(5)XK 2691 - 12.2(8)T1 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.0(5)XK 2610 series - 12.0(5)XK 1760 - 12.2(4)YB 1751 - 12.2(4)YB 1721 - Future</p>	<p>When used in a Cisco 3600 series router, requires one of the following network modules: NM-2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-1A-OC3MM-1V, NM-1A-OC3SMI-1V, NM-1A-OC3SML-1V or NM-HDV.</p> <p>Minimum IOS version may vary depending on application.</p>

T1, E1 and G.703 Multiflex Trunk Voice and WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VVIC-1MFT-E1 Single-port RJ-48 Multiflex Trunk-E1 Voice/WAN Interface Card	<p>This module supports voice, data, and integrated voice/data applications. For data applications, the VVIC provides a single-port WAN Interface Card (WIC) for E1/FE1 with an integrated DSU. For a packet voice solution, the VVIC provides a single-port Voice Interface Card (VIC) with integrated DSU, that combines with the Digital T1/E1 Packet Voice Trunk Modules.</p> <p>.....</p> <p>Modular Router Solutions Serial & Legacy Concentration Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series – 12.0(5)XK 3640 – 12.0(5)XK 3620 – 12.0(5)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XK 2610 series – 12.0(5)XK 1760 – 12.2(4)YB 1751 – 12.2(4)YB 1721 – Future</p>	<p>When used in a Cisco 3600 series router, requires one of the following network modules: NM-2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-1A-OC3MM-1V, NM-1A-OC3SML-1V, NM-1A-OC3SML-1V or NM-HDV.</p> <p>Minimum IOS version may vary depending on application.</p>
VVIC-2MFT-E1 Two-port RJ-48 Multiflex Trunk-E1 Voice/WAN Interface Card	<p>This module supports voice, data, and integrated voice/data applications. For data applications, the VVIC provides a Two-port WAN Interface Card (WIC) for E1/FE1 with an integrated DSU. For a packet voice solution, the VVIC provides a Two-port Voice Interface Card (VIC) with integrated DSU, that combines with the Digital T1/E1 Packet Voice Trunk Modules.</p> <p>.....</p> <p>Modular Router Solutions Serial & Legacy Concentration Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series – 12.0(5)XK 3640 – 12.0(5)XK 3620 – 12.0(5)XK 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.0(5)XK 2610 series – 12.0(5)XK 1760 – 12.2(4)YB 1751 – 12.2(4)YB 1721 – Future</p>	<p>When used in a Cisco 3600 series router, requires one of the following network modules: NM-2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-1A-OC3MM-1V, NM-1A-OC3SML-1V, NM-1A-OC3SML-1V or NM-HDV.</p> <p>Minimum IOS version may vary depending on application.</p>

T1, E1 and G.703 Multiflex Trunk Voice and WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VVIC-2MFT-E1-DI Dual-port RJ-48 Multiflex Trunk-E1 Voice/WAN Interface Card with drop and insert	<p>This module supports voice, data, and integrated voice/data applications. For data applications, the VVIC provides a dual-port WAN Interface Card (WIC) for E1/FE1 with an integrated DSU. For a packet voice solution, the VVIC provides a dual-port Voice Interface Card (VIC) with integrated DSU, that combines with the Digital T1/E1 Packet Voice Trunk Modules. For multiplexed voice and data applications, this module provides a dual-port VVIC E1/FE1 Drop and Insert multiplexer.</p> <p>.....</p> <p>Modular Router Solutions Serial & Legacy Concentration Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series - 12.0(5)XK 3640 - 12.0(5)XK 3620 - 12.0(5)XK 2691 - 12.2(8)T1 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.0(5)XK 2610 series - 12.0(5)XK 1760 - 12.2(4)YB 1751 - 12.2(4)YB 1721 - Future</p>	<p>When used in a Cisco 3600 series router, requires one of the following network modules: NM-2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-1A-OC3MM-1V, NM-1A-OC3SML-1V, NM-1A-OC3SML-1V or NM-HDV.</p> <p>Minimum IOS version may vary depending on application.</p>
VVIC-1MFT-G703 Single-port RJ-48 Multiflex Trunk-E1 Framed/Unframed Voice/WAN Interface Card	<p>This module supports voice, data, and integrated voice/data applications. For data applications, the VVIC provides a single-port WAN Interface Card (WIC) for E1/FE1 or unframed G.703 with an integrated DSU. For a packet voice solution, the VVIC provides a single-port Voice Interface Card (VIC) with integrated DSU, that combines with the Digital T1/E1 Packet Voice Trunk Modules.</p> <p>.....</p> <p>Modular Router Solutions Serial & Legacy Concentration Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series - 12.1(1)T 3640 - 12.1(1)T 3620 - 12.1(1)T 2691 - 12.2(8)T1 2600XM series - 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.1(1)T 2610 series - 12.1(1)T 1760 - 12.2(4)YB 1751 - 12.2(4)YB 1721 - Future</p>	<p>When used in a Cisco 3600 series router, requires one of the following network modules: NM-2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W or NM-HDV.</p> <p>Minimum IOS version may vary depending on application.</p>

T1, E1 and G.703 Multiflex Trunk Voice and WAN Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VVIC-2MFT-G703 Dual-port RJ-48 Multiflex Trunk-E1 Framed/Unframed Voice/WAN Interface Card with drop and insert	This module supports voice, data, and integrated voice/data applications. For data applications, the VVIC provides a dual-port WAN Interface Card (WIC) for E1/FE1 or unframed G.703with an integrated DSU. For a packet voice solution, the VVIC provides a dual-port Voice Interface Card (VIC) with integrated DSU, that combines with the Digital T1/E1 Packet Voice Trunk Modules. For multiplexed voice and data applications, this module provides a dual-port VVIC E1/FE1 Drop and Insert multiplexer. Modular Router Solutions Serial & Legacy Concentration Voice & Fax Integration	3700 series - 12.2(8)T 3660 series - 12.1(1)T 3640 - 12.1(1)T 3620 - 12.1(1)T 2691 - 12.2(8)T1 2600XM series - 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.1(1)T 2610 series - 12.1(1)T 1760 - 12.2(4)YB 1751 - 12.2(4)YB 1721 - Future	When used in a Cisco 3600 series router, requires one of the following network modules: NM-2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W or NM-HDV. Minimum IOS version may vary depending on application.

Voice Interface Cards

Analog Voice Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VIC-2FXS Two-port - FXS Voice Interface Card	The two-port FXS voice/fax interface card for Cisco voice/fax network modules is used to connect directly to phones and fax machines. This voice interface card works with existing phone and fax equipment to provide voice and fax services over IP, and is compatible with H.323 standard for audio- and videoconferencing. Modular Router Solutions Voice & Fax Integration	3700 series - 12.2(8)T 3660 series - 12.0(5)T 3640 - 11.3(1)T 3620 - 11.3(1)T 2691 - 12.2(8)T1 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 11.3(1)T 2610 series - 11.3(1)T 1760 - 12.2(2)XB 1751 - 12.1(5)YB 1721 - Not Available	When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V. When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS "PLUS" feature set.

Analog Voice Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VIC-2FXO Two-port - FXO Voice Interface Card	The two-port FXO voice/fax interface card for Cisco voice/fax network modules is used to connect to PBX or key system, and to provide off-premise connections. This voice interface card works with existing phone and fax equipment to provide voice and fax services over IP, and is compatible with H.323 standard for audio- and videoconferencing. Modular Router Solutions Voice & Fax Integration	3700 series - 12.2(8)T 3660 series – 12.0(5)T 3640 – 11.3(1)T 3620 – 11.3(1)T 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(2)XA 2610 series – 11.3(2)XA 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – Not Available	When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V. When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS “PLUS” feature set.
VIC-2FXO-EU Two-port - FXO Voice Interface Card- For Europe	The two-port FXO voice/fax interface card for Cisco voice/fax network modules is used to connect to PBX or key system, and to provide off-premise connections for Europe only. This voice interface card works with existing phone and fax equipment to provide voice and fax services over IP, and is compatible with H.323 standard for audio- and videoconferencing. Modular Router Solutions Voice & Fax Integration	3700 series - 12.2(8)T 3660 series – 12.0(5)T 3640 – 11.3(6)T 3620 – 11.3(6)T 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 11.3(6)T 2610 series – 11.3(6)T 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – Not Available	When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V. When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS “PLUS” feature set.
VIC-2FXO-M1 Two-port – FXO Voice Interface Card with Battery Reversal and Caller ID support	The two-port FXO voice/fax interface card for Cisco voice/fax network modules is used to connect to PBX or key system, and to provide off-premise connections. This voice interface card supports all features of VIC-2FXO and in addition Battery Reversal, Power Denial and Caller ID. Modular Router Solutions Voice & Fax Integration	3700 series - 12.2(8)T 3660 series – 12.1(2)XH 3640 – 12.1(2)XH 3620 – 12.1(2)XH 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.1(2)XH 2610 series – 12.1(2)XH 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – Not Available	When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V. When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS “PLUS” feature set.

Analog Voice Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
<p>VIC-2FXO-M2</p> <p>Two-port – FXO Voice Interface Card with Battery Reversal and Caller ID support – for Europe</p>	<p>The two-port FXO voice/fax interface card for Cisco voice/fax network modules is used to connect to PBX or key system, and to provide off-premise connections in Europe only. This voice interface card supports all features of VIC-2FXO and in addition Battery Reversal, Power Denial and Caller ID.</p> <p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series – 12.1(2)XH 3640 – 12.1(2)XH 3620 – 12.1(2)XH 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.1(2)XH 2610 series – 12.1(2)XH 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – Not Available</p>	<p>When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V.</p> <p>When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS “PLUS” feature set.</p>
<p>VIC-2FXO-M3</p> <p>Two-port – FXO Voice Interface Card- for Australia</p>	<p>The two-port FXO voice/fax interface card for Cisco voice/fax network modules is used to connect to PBX or key system, and to provide off-premise connections for Australia only. This voice interface card works with existing phone and fax equipment to provide voice and fax services over IP, and is compatible with H.323 standard for audio-and videoconferencing.</p> <p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series – 12.1(2)XH 3640 – 12.1(2)XH 3620 – 12.1(2)XH 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.1(2)XH 2610 series – 12.1(2)XH 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – Not Available</p>	<p>When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V.</p> <p>When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS “PLUS” feature set.</p>
<p>VIC-2DID</p> <p>Two-port Direct Inward Dial voice/fax interface card</p>	<p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – 12.2(8)T 3660 series – 12.1(5)XM1 3640 – 12.1(5)XM1 3620 – 12.1(5)XM1 2691 – 12.2(8)T1 2600XM series – 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(5)XM1 2620 series – 12.1(5)XM1 2610 series – 12.1(5)XM1 1760 – 12.2(2)XK 1751 – 12.2(2)XJ 1721 – Not Available</p>	<p>When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V.</p> <p>When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS “PLUS” feature set.</p>

Analog Voice Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VIC-2E/M Two-port - E&M Voice Interface Card	<p>The two-port E&M voice interface card for Cisco voice/fax network modules is used to connect to PBX or key system trunk lines. This voice interface card works with existing phone and fax equipment to provide voice and fax services over IP, and is compatible with H.323 standard for audio- and videoconferencing.</p> <p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series - 12.1(2)XH 3640 - 12.1(2)XH 3620 - 12.1(2)XH 2691 - 12.2(8)T1 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.1(2)XH 2610 series - 12.1(2)XH 1760 - 12.2(2)XK 1751 - 12.1(5)YB 1721 - Not Available</p>	<p>When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V.</p> <p>When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS "PLUS" feature set.</p>

ISDN BRI Voice Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VIC-2BRI-NT/TE Two Port BRI ISDN Voice Interface Card Terminal Side or Network Side	<p>This two port ISDN Terminal Side or Network Side Basic Rate Interface (BRI) Voice Interface Card (VIC) connects directly to PSTNs and PBX/PABXs and supports both on-premise and off-premise connections. The VIC-2BRI-NT/TE supports a total of four voice channels in a single interface card via two RJ-45 physical ports, and enables toll-bypass and voice over packet features.</p> <p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series - Future 3660 series - 12.1(3)XI 3640 - 12.1(3)XI 3620 - 12.1(3)XI 2691 - 12.2(8)T1 2600XM series - 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)XI 2620 series - 12.1(3)XI 2610 series - 12.1(3)XI 1760 - 12.2(2)XK 1751 - 12.1(5)YB 1721 - Not Available</p>	<p>When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V.</p> <p>When used in a 1751 or 1760 series router, requires a DSP module. Requires an IOS "PLUS" feature set.</p>
VIC-2BRI-S/T-TE Two Port BRI ISDN Voice Interface Card	<p>This two port ISDN, S/T, Terminal Side, Basic Rate Interface (BRI) Voice Interface Card (VIC) connects directly to PSTNs and supports both on-premise and off-premise connections. The VIC-2BRI-S/T-TE supports a total of four voice channels in a single interface card via two RJ-45 physical ports, and enables toll-bypass and voice over packet features.</p> <p>Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series - 12.2(8)T 3660 series - 12.0(7)XK 3640 - 12.0(3)T 3620 - 12.0(3)T 2691 - 12.2(8)T1 2600XM series - 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series - 12.1(3)T 2620 series - 12.0(3)T 2610 series - 12.0(3)T 1760 - Not Available 1751 - Not Available 1721 - Not Available</p>	<p>When used in a Cisco 2600 or 3600 series router, requires a voice/fax network module: NM-1V or NM-2V.</p> <p>Requires an IOS "PLUS" feature set.</p>

J1 Voice Interface Cards

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
VIC-1J1 Single-Port J1 Voice Interface Card	Provides a single port J1 line interface to Japanese Private Branch Exchanges (PBXs). It is specifically designed to conform with the TTC JJ-20.10-12 standards which define the interface between a PBX and a TDM switch. This network module is currently designed only for voice and fax applications. Modular Router Solutions Voice & Fax Integration	3700 series – 12.2(8)T1 3660 series – 12.1(3)XI 3640 – 12.1(3)XI 3620 – 12.1(3)XI 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.1(3)XI 2620 series – 12.1(3)XI 2610 series – 12.1(3)XI 1760 – Not Available 1751 – Not Available 1721 – Not Available	Requires a high-density digital voice/fax network module NM-HDV. Requires an IOS “PLUS” feature set.

Advanced Integration Modules

Compression Advanced Integration Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
AIM-COMPR4 Cisco 3660 Data Compression Advanced Interface Module	The Data Compression AIM plugs directly into one or both of the Cisco 3660's two internal Advanced Integration Module slots. This AIM provides 8E1 full duplex (8 x 2.048 Mbps Full Duplex) of compressed input/output. Modular Router Solutions Bandwidth Management	3700 series - Future 3660 series – 12.0(5)T 3640 – Not Available 3620 – Not Available 2691 – 12.2(8)T1 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.
NM-COMPR Cisco 3640 and 3620 Compression Network Module	Provides 2E1 full duplex (2 x 2.048 Mbps Full Duplex) of compressed input/output. This compression network module supports all serial and channelized/ISDN network modules and WAN interface cards. The coprocessor design, with no external LAN or WAN ports. Modular Router Solutions Bandwidth Management	3700 series – Not Available 3660 series – Not Available 3640 – 11.2(7)AP 3620 – 11.2(7)AP 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Compression Advanced Integration Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
AIM-COMPR2 Cisco 2600 Data Compression Advanced Interface Module	The Data Compression AIM plugs directly into the Cisco 2600's internal Advanced Integration Module slot. This AIM provides 2E1 full duplex (2 x 2.048 Mbps Full Duplex) of compressed input/output. Modular Router Solutions Bandwidth Management	3700 series - Not Available 3660 series – Not Available 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2600 series – 12.0(1)T 2600 series – 12.0(1)T 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules.

Encryption Advanced Integration Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
AIM-VPN/HP DES/3DES VPN Advanced Integration Module for 3660 and 3745 - High Performance	Provides up to 10 times the performance over software-only encryption by offloading the encryption processing from the router central processing unit. Plugs directly into one of the Cisco 3660's two internal Advanced Integration Module slots. Modular Router Solutions VPN & Firewall Solutions	3700 series – 12.2(8)T 3660 series – 12.1(3)T 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Requires IOS IPSEC feature set
AIM-VPN/EP DES/3DES VPN Advanced Integration Module for 2600 and 3725 - Enhanced Performance	Provides up to 10 times the performance over software-only encryption by offloading the encryption processing from the router central processing unit. Plugs directly into the Cisco 2600's internal Advanced Integration Module slot Modular Router Solutions VPN & Firewall Solutions	3700 series - 12.2(8)T 3660 series – Not Available 3640 – Not Available 3620 – Not Available 2691 – 12.2(8)T1 2600XM series – 12.1(14) mainline, 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.1(3)T 2610 series – 12.1(3)T 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Requires IOS IPSEC feature set

Encryption Advanced Integration Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
NM-VPN/MP DES/3DES VPN Network Module for 3620 and 3640 - Mid Performance	Provides up to 10 times the performance over software-only encryption by offloading the encryption processing from the router central processing unit. <hr/> Modular Router Solutions VPN & Firewall Solutions	3700 series – Not Available 3660 series – Not Available 3640 – 12.1(3)T 3620 – 12.1(3)T 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Requires IOS IPSEC feature set
AIM-VPN/BP DES/3DES VPN Advanced Integration Module for 2600 - Base Performance	Provides up to 10 times the performance over software-only encryption by offloading the encryption processing from the router central processing unit. Plugs directly into the Cisco 2600's internal Advanced Integration Module slot. <hr/> Modular Router Solutions VPN & Firewall Solutions	3700 series - Not Available 3660 series – Not Available 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – 12.2(x) mainline (future), 12.2(8)T1 2650 series – 12.1(3)T 2620 series – 12.1(3)T 2610 series – 12.1(3)T 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Requires IOS IPSEC feature set
MOD1700-VPN Cisco 1700 VPN Module	Provides up to 10 times the performance over software-only encryption by offloading the encryption processing from the router central processing unit. Plugs directly into the Cisco1700's internal Module slot. <hr/> Modular Router Solutions VPN & Firewall Solutions	3700 series - Not Available 3660 series – Not Available 3640 – Not Available 3620 – Not Available 2691 – Not Available 2600XM series – Not Available 2650 series – Not Available 2620 series – Not Available 2610 series – Not Available 1760 – 12.2(2)XK 1751 – 12.1(5)YB 1721 – 12.1(3)	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Requires IOS IPSEC feature set

ATM Advanced Integration Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
AIM-ATM High Performance ATM Segmentation and Reassembly (SAR) Advanced Integration Module	Provides ATM hardware SAR for AAL2 and AAL5 low-density T1/E1 ATM applications. Modular Router Solutions ATM Edge Connectivity	3700 series – Future 3660 series – 12.2(2)XA 3640 – Not Available 3620 – Not Available 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XA 2620 series – 12.2(2)XA 2610 series – 12.2(2)XA 1760 – Not Available 1751 – Not Available 1721 – Not Available	Requires at least one Voice/WAN Interface Card (VVIC). Requires an IOS “PLUS” feature set.
AIM-ATM-1E1 High Performance E1 ATM Bundle	Provides ATM hardware SAR for AAL2 and AAL5 low-density T1/E1 ATM applications, includes one E1 interface. Modular Router Solutions ATM Edge Connectivity	3700 series – Future 3660 series – Not Available 3640 – Not Available 3620 – Not Available 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XA 2620 series – 12.2(2)XA 2610 series – 12.2(2)XA 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Requires an IOS “PLUS” feature set. This is a bundle of one AIM-ATM and one VVIC-1MFT-E1
AIM-ATM-1T1 High Performance T1 ATM Bundle	Provides ATM hardware SAR for AAL2 and AAL5 low-density T1/E1 ATM applications, includes one E1 interface. Modular Router Solutions ATM Edge Connectivity	3700 series – Future 3660 series – Not Available 3640 – Not Available 3620 – Not Available 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XA 2620 series – 12.2(2)XA 2610 series – 12.2(2)XA 1760 – Not Available 1751 – Not Available 1721 – Not Available	No reliance on other Network Modules, WAN Interface Cards, Voice Interface Cards, or Advanced Integration Modules. Requires an IOS “PLUS” feature set. This is a bundle of one AIM-ATM and one VVIC-1MFT-E1

ATM and Voice Advanced Integration Modules

Product	Description	Supported Platforms and Minimum IOS Versions	Comments
<p>AIM-ATM-VOICE-30 ATM SAR and 30 Channel Voice/Fax DSP Advanced Integration Module</p>	<p>Provides DSP resources for up to 30 voice channels and ATM hardware SAR for AAL2 and AAL5 low-density T1/E1 ATM voice/data applications</p> <p>..... Modular Router Solutions ATM Edge Connectivity Voice & Fax Integration</p>	<p>3700 series – Future 3660 series – 12.2(2)XB 3640 – Not Available 3620 – Not Available 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XB 2620 series – 12.2(2)XB 2610 series – 12.2(2)XB 1760 – Not Available 1751 – Not Available 1721 – Not Available</p>	<p>Requires at least one Voice/WAN Interface Card (VVIC). Requires an IOS “PLUS” feature set.</p>
<p>AIM-VOICE-30 30 Channel Voice/Fax DSP Advanced Integration Module</p>	<p>Provides DSP resources for up to 30 voice channels in T1/E1 voice/data applications. This AIM is an alternative to NM-HDV based voice solutions.</p> <p>..... Modular Router Solutions Voice & Fax Integration</p>	<p>3700 series – Future 3660 series – 12.2(2)XB 3640 – Not Available 3620 – Not Available 2691 – 12.2(8)T1 2600XM series – 12.2(8)T1 2650 series – 12.2(2)XB 2620 series – 12.2(2)XB 2610 series – 12.2(2)XB 1760 – Not Available 1751 – Not Available 1721 – Not Available</p>	<p>Requires at least one Voice/WAN Interface Card (VVIC). Requires an IOS “PLUS” feature set.</p>

Product Transition Matrix

Cisco 1720/1721 Product Comparison

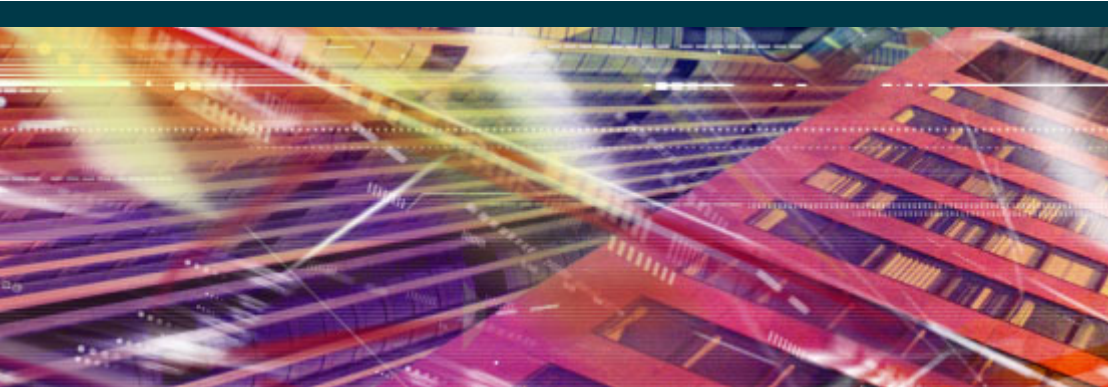
The new Cisco 1721 routers should be deployed in scenarios that previously called for Cisco 1720 routers. This new model provides additional functionality at no additional cost.

	Cisco 1720	Cisco 1721
Routing Performance	8,400pps	12,000 pps
(Based on 64-byte Packet)		
DRAM (default MB)	32	32
DRAM (max MB)	48	96
Flash (default MB)	8	16
Flash (max MB)	16	16
IEEE 802.1Q VLAN Routing	No	Yes
Encryption Module LED Indicator	No	Yes

Cisco 2600 Series Product Comparison

The new 2600 Series XM models offer improved performance and increased memory at no additional cost.

	2610/11	2610/11XM	2620/21	2620/21XM	2650/51	2650/51XM
Fixed LAN Ports	1E/2E	1FE/2FE	1FE/2FE	1FE/2FE	1FE/2FE	1FE/2FE
Routing Performance (Kpps)	15	20	25	30	37	40
DRAM (default MB)	32	32	32	32	32	64
DRAM (max MB)	64	128	64	128	128	128
Flash (default MB)	8	16	8	16	8	16
Flash (max MB)	16	48	32	48	21	48



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