

Managed Service Business Unit



# Multi Service Access Solutions

Cisco 3600 Series and Cisco 2600 Series

FOR CUSTOMERS BUILDING HIGH PERFORMANCE SECURE NETWORKS  
INCORPORATING DATA, VOICE AND VIDEO  
WITHIN SMALL/MEDIUM BUSINESSES AND ENTERPRISE BRANCH OFFICES







# Cisco Quick Reference Guide

■ <b>Cisco 3600 Series Quick Look</b> .....	5
• <b>Feature Reference Guide for 3660, 3640 and 3620 Multi Service Modular Access Solutions</b>	
■ <b>Cisco 2600 Series Modular Access Routers Quick Look</b> .....	11
• <b>Feature Reference Guide for 2621, 2620, 2613, 2612, 2611 and 2610 Multi Service Modular Access Solutions</b>	
■ <b>Cisco 3600 &amp; 2600 Series Module description and interoperability</b> .....	17
Find out which modules are interoperable with 3600 and 2600 routers, their functionality and features, in addition to the IOS release needed	
• <b>Section A</b> .....	18
Network Modules for 3600 and 2600	
• <b>Section B</b> .....	24
Network Modules for 3600 only	
• <b>Section C</b> .....	31
Network Modules for 2600 only	
• <b>Section D</b> .....	32
Voice Modules and Voice Cards for 3600 and 2600	
■ <b>Interoperability Table</b> .....	35
Quick reference matrix for module interoperability between 3660, 3640, 3620 and 2600 Series Multi Service Access Routers	



**Author:** Jonathon Saunders  
jsaunder@cisco.com  
Multi Service Product Manager  
3600/2600 Series and MC3810

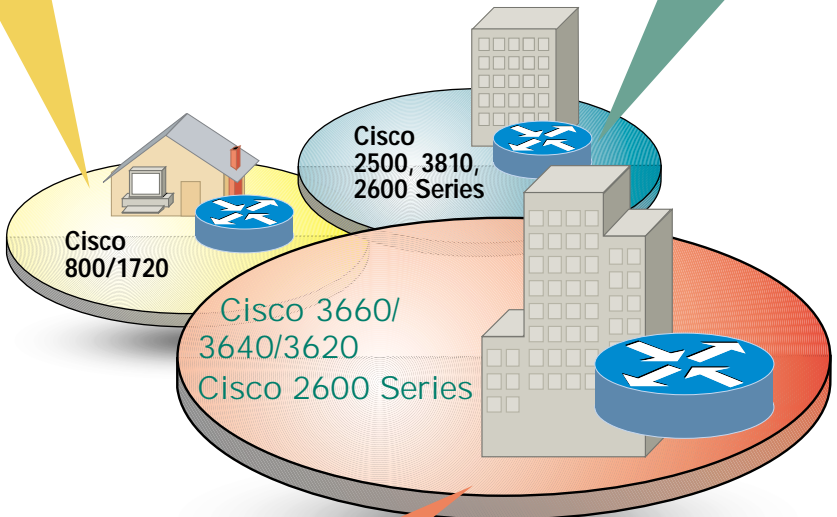
# Positioning the Evolving Multi-Service Branch

## Small or Professional Office

- Up to 20 Users
- Static environment
- E-mail, Internet Access
- Looks for lowest purchase price

## Traditional Branch Office

- Up to 100 Users
- Client/Server, Intranet access
- Low growth or change
- Standardized on Cisco 2500 Series
- Looks for lowest Solution Cost



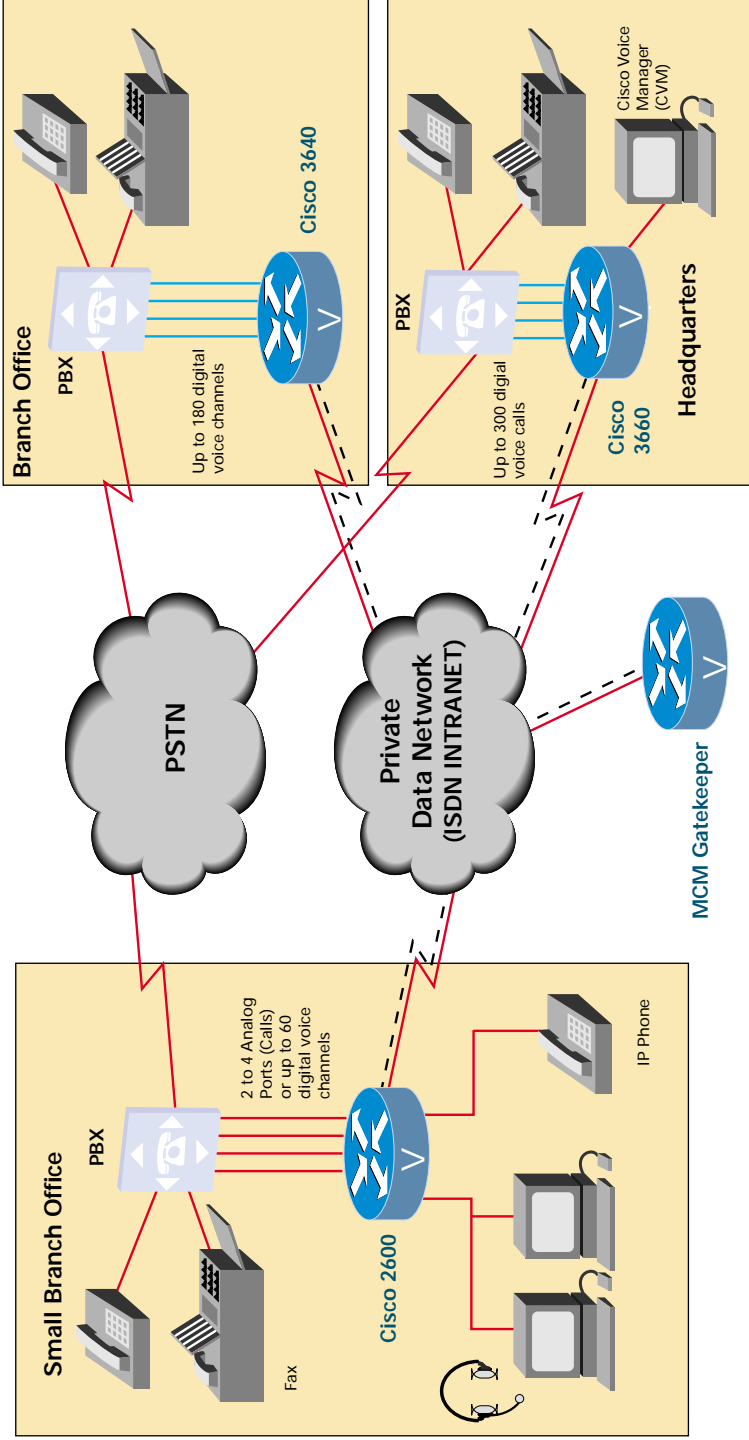
## Multi Service Power Branch Office

- Up to 350 Users
- Client/Server, Intranet, Extranet access
- High rate of growth or change
- Looks for lowest life-cycle cost
- Uses technology for competitive advantage

# 3600 Series Quick Reference



# Multiservice Data/Voice Integration



# Cisco 3600 Series Routers

The Cisco Systems 3600 series is the multiservice solution for branch offices designed with flexibility, modularity, high performance, and cost-effectiveness in mind.



Cisco 3660

## Compare the Features

Cisco 3600 Series Features	Cisco 3660	Cisco 3640	Cisco 3620
Processor Type	225-MHz RISC QED RM5271	100-MHz IDT R4700 RISC	80-MHz IDT R4700 RISC
Flash Memory	8 MB upgradable to 64, 128, 256 SDRAM	8 MB, upgradable to 32 MB	8 MB, upgradable to 32 MB
System Memory	32 MB DRAM, upgradable to 64, 128, 256 SDRAM	16 MB DRAM, upgradable to 128 MB DRAM	16 MB DRAM, upgradable to 64 MB DRAM
Network Module Slots	Six slots	Four slots	Two slots
Built-in Ethernet	Yes (one or two Ethernet 10/100)	No (use module)	No (use module)
Power	250w power supplies with dual AC or DC or single AC or DC	AC or DC	AC or DC
Redundant Power Supplies	Yes, internal	Yes, external	Yes, external
Dimensions (H x W x D)	8.7 x 17.5 x 11.8 in.	3.44 x 17.5 x 15.75 in.	1.69 x 17.5 x 14.25 in.
Performance	120 kpps Fast Switching and 12 kpps Process Switching	50-70 kpps	20-40 kpps
Console and Auxiliary Ports	Yes (up to 115.2 kbps)	Yes (up to 115.2 kbps)	Yes (up to 115.2 kbps)
Hot Swap Network Modules and Power Supplies	Yes	No	No

## Key Benefits

- Combines the capabilities of dial access, advanced LAN-to-LAN routing services, and multiservice integration of voice, video, data into one single platform.
- Modular and flexible design supports a wide array of network modules, making the Cisco 3600 platform highly configurable and scalable.
- Advanced, standards based support for Voice over IP and Voice over Frame Relay
- Offers industry-leading Integrated Services Digital Network (ISDN) price per port and price/performance in high-end branch and regional offices
- Investment protection with regular introductions of network modules addressing additional media and capabilities
- Single platform integrated solution substantially reduces lifecycle costs compared to a multiple-device solution
- Integrated Cisco IOS<sup>®</sup> software for extensive security features, reduced WAN service costs, enhanced multimedia support with robust QoS, and guaranteed interoperability across all Cisco routers
- Simple Network Management Protocol (SNMP), Telnet, and a console port for remote management and monitoring
- Choice of software feature packs to meet specific customer needs

## When to Deploy a 3620 or a 3640/3660

- Cisco 3600 Series** – When the business need is for a flexible, branch office multiservice router with high density and performance to meet changing current and future requirements. In particular this flexibility includes the capability to integrate dial access and voice with traditional LAN to LAN routing while supporting an extremely broad range of LAN, ATM and WAN media and protocols. With 2 slots in a Cisco 3620 with performance of 20-40 kpps, 4 slots in a Cisco 3640 with performance of 50-70 kpps, and 6 slots within a 3660 with performance of 120 kpps, customers can tailor the performance and density to each specific site while leveraging the common configuration interface, training, and spares for maximum investment protection:
- A cost-effective solution for the long term that adapts to evolving network requirements. The 3600 Series provide a solid foundation for rolling out increasingly sophisticated multiservice and multimedia applications because their performance exceeds the levels required by most branch office networks today.
  - A single-box solution for easier management that yields much lower lifecycle costs than multi-vendor/multi-box solutions. From basic hardware integration including integrated CSU/DSU and analog and digital modems to the applications integration of Voice/Fax/Video/Data the 3600 Series brings advanced functionality to branch offices without overtaxing the limited technical support available at remote sites.
  - A solution with the rich Quality of Service (QoS) features of the 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.
  - A great solution for Virtual Private Networking (VPN) through advanced tunneling features including L2F and L2TP, standards based IPSEC encryptions, IOS Firewall Feature Set, and diverse WAN and dial interfaces to yield a choice great for both VPN entry points and home gateways.
  - A platform ideally suited for branch office dial-up applications with flexible LAN media support (Ethernet, Fast Ethernet, Token Ring) and high density ISDN, async, and analog and digital modem support:
    - Up to 4 ISDN PRI in a 1 RU (Rack Unit) 3620 and 8 PRI in a 2 RU 3640
    - Up to 32 async ports in a 3620 and 96 ports in a 3640 for supporting external modem banks
    - Up to 16 analog (POTS) modems in a 3620 and 48 in a 3640
    - Up to 30 digital modems in a 3620 and 60 in a 3640 running K56 Flex and shortly V.90 for 56 kbps speeds
  - A fully modular, multiservice platform that provides the investment protection against technology lockout with frequent extensions such as the brand new HSSI and ATM 25 Mbps Network Modules for high speed WAN and connections to xDSL modems respectively.

# How the Cisco 3600 Series Stacks Up

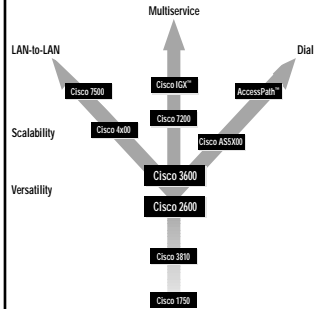
## Competitive Advantages

- Extensive WAN protocol options: The Cisco 3600 series offers support for today's most widely used network protocols, including IP, Novell IPX, AppleTalk, DECnet, and a wide range of routing protocols.
- Unparalleled bandwidth optimization: The Cisco 3600 series offers more features than any other vendor's routers to keep WAN service cost down. Data compression and multiple traffic prioritization techniques ensure that mission-critical data is accommodated, while features such as protocol spoofing, snapshot routing, bandwidth on demand and dial on demand guarantee that the cost of usage-based services such as ISDN is minimized.
- Enhanced multimedia and virtual LAN (VLAN) support: Internal Group Management Protocol (IGMP), RSVP, Protocol Independent Multicast (PIM), WFQ, Simple Multicast Routing Protocol (SMRP), and Inter-Switch Link (ISL) enable the Cisco 3600 series to support today's most exciting audio and video service applications as well as virtual LANs. Competitive solutions offer few of these features.
- Unmatched Security: User authentication and the IOS Firewall Feature Set allow only approved traffic onto the network. Event logging and audit trails, encryption, and VPN tunneling provide increased network security. In addition, TACACS+ and RADIUS are also supported. No other vendor solution offers this range of security features.

## Product Positioning

The Cisco Systems 3600 series is part of a consistent, integrated family of product lines all running the same Cisco IOS software. Relative positioning:

- Cisco 2600 series–
  - Modular and flexible design, lower cost, performance and density, dial and multiservice support
- Cisco 3810 series–
  - Specific to E1, Ethernet, 15 kbps, branch level solution targeted at Voice over Frame Relay, Voice over ATM, data, and video integration at entry level price
- Cisco AS5XXX series–
  - Extensive modem management capabilities for Internet Service Providers (ISPs) and enterprise dial solutions, specifically targeted at dial access applications, multiservice support
- Cisco 7200 series–
  - Highest fast switching performance, density, availability, leading price/performance at the higher cost end



	Cisco 3620 Series	Cisco 3640 Series	Cisco 3660 Series
<b>Base Configuration</b>	Fully modular chassis	Fully modular chassis	Fully Hot Swappable modular chassis
<b>Expansion Slots</b>	2	4	6 + 2AIM Slots
<b>Integrated CSU/DSU</b>	Yes	Yes	Yes
<b>Integrated Digital Modems</b>	Up to 30	Up to 60	120
<b>Integrated Analog Modems</b>	16	48	96
<b>Max. No. of Sync/Async Ports</b>	32	96	Async = 192 / Sync = 48
<b>Max. No. of ISDN BRI Ports</b>	10	24	48
<b>Max. No. of ISDN PRI Ports</b>	4	8	12
<b>Max. No. of Ethernet Ports</b>	8	16	26
<b>Max. No. of Fast Ethernet Ports</b>	2	4	14
<b>Max. No. of Token Ring Ports</b>	2	4	6
<b>High Speed Serial Interface (HSSI)</b>	1	2	6
<b>ATM-25/DSL</b>	1	2	4
<b>Multichassis MultiLink PPP</b>	Yes	Yes	Yes
<b>Compression</b>	Yes (HW & SW)	Yes (HW & SW)	Yes (HW & SW)
<b>Encryption</b>	Yes	Yes	Yes
<b>Redundant Power Supply</b>	Yes	Yes	Yes (Hot Swappable Internal)
<b>Analog Voice Ports</b>	4	12	24
<b>Digital Voice Ports</b>	60	180	300



# How the Cisco 3660 Series Stacks Up

Competitive Advantages	Product Positioning
<ul style="list-style-type: none"> <li>The Cisco 3660 allows customers to support the widest breadth of applications on a single platform, including data, voice, video, and dial integration. Aggregation of applications on a single platform significantly streamlines operations and networking costs by simplifying support and manageability of branch-office networking requirements.</li> <li>Redundant AC and DC power supply options on the Cisco 3660 deliver a robust platform for mission-critical applications. Furthermore, hot swap of like to like network modules (NMs) and power supplies, facilitates greater uptime in a high-availability environment.</li> <li>High densities of analog and digital voice ports in its category.</li> <li><b>Extensive WAN protocol options:</b> The Cisco 3660 series offers support for today's most widely used network protocols, including IP, Novell IPX, AppleTalk, DECnet, and a wide range of routing protocols.</li> <li><b>Unparalleled bandwidth optimization:</b> The Cisco 3660 series offers more features than any other vendor's multiservice.</li> <li><b>Unmatched Security:</b> User authentication and the IOS Firewall Feature Set allow only approved traffic onto the network. Event logging and audit trails, encryption, and VPN tunneling provide increased network security. In addition, TACACS+ and RADIUS are also supported. No other vendor solution offers this range of security features.</li> <li><b>Enhanced multimedia and virtual LAN (VLAN) support:</b> Internal Group Management Protocol (IGMP), RSVP, Protocol Independent Multicast (PIM), WFQ, Simple Multicast Routing Protocol (SMRP), and Inter-Switch Link (ISL) enable the Cisco 3660 series to support today's most exciting audio and video service applications as well as virtual LANs. Competitive solutions often lack of these features.</li> </ul>	<p>The Cisco Systems 3660 series is part of a consistent, integrated family of product lines all running the same Cisco IOS software. Relative positioning:</p> <ul style="list-style-type: none"> <li>Cisco 3660 series – Flexible branch-office platform with high density of voice/low-speed interfaces for large branch-office multiservice networking applications.</li> <li>Cisco 5300 series – Extensive modem management capabilities for Internet Service Providers (ISPs) and enterprise dial solutions, specifically targeted at dial access and multiservice with voice applications.</li> <li>Cisco 7200 series – Highest fast-switching performance and density, specifically targeted for regional office and headquarter location offices' edge device/backbone applications, and multi-service voice applications.</li> </ul>

## Cisco 3660 Series Benefits

Key Benefits	When to Deploy a 3660
<ul style="list-style-type: none"> <li>Single platform, integrated solution substantially reduces life-cycle costs compared to a multiple-device solution</li> <li>Unprecedented capabilities combine higher digital voice, higher-speed ATM T1/E1 IMA and OC-3 access, advanced LAN-to-LAN routing services, higher-density dial-access, and multiservice integration of voice, video, and data into one platform</li> <li>Hot-swappable network modules and integrated redundant power provides high availability for mission critical applications</li> <li>Field-upgradable network modules to accommodate future technologies while providing solutions for today</li> <li>Shared WAN Interface Cards (WIC), Voice Interface Cards (VIC), and Network Modules (NM) with the Cisco 1600, 1700, 2600 and 3600 series platforms reduces cost of maintaining inventory of Cisco 1600, 1700, 2600 and 3600 Series modular components and lowers training costs for support personnel</li> <li>Integrated Cisco IOS® software provides extensive security features, reduces WAN service costs, enhances multimedia support with robust quality of service (QoS), and guarantees interoperability across all Cisco platforms</li> <li>Simple Network Management Protocol (SNMP), Telnet, and a console port are used for management and monitoring; CiscoWorks and CiscoView simplify management of all integrated and stackable components; Cisco Voice Manager (CVM) reduces deployment time and management cost of integrated voice/data solutions</li> </ul>	<p><b>Cisco 3600 Series</b> – When the business need is for a versatile branch-office or enterprise multiservice platform with the high performance to meet their rapidly changing needs. In particular this versatility includes the capability to support the requirements for data, voice, video, and hybrid dial access applications. With 6-slots in a Cisco 3660 and performance increased to 100-120 kpps (fast switched), customers can tailor the performance and density to their large branch sites while leveraging the common configuration interface, training, and spares on their existing 1600, 1700, 2600 and 3600 platforms for maximum investment protection:</p> <ul style="list-style-type: none"> <li>Unprecedented scalability and versatility with up to two integrated 10/100 fast Ethernet LAN ports, two AIM slots for hardware-based compression and encryption, and the option of integrated redundant power supplies.</li> <li>Integration of more services into a single chassis while maintaining high-performance running high bandwidth-intensive applications such as Client/Server, Intranet access, and Web access.</li> <li>A fully modular and multiservice platform that provides investment protection against technology lockout, room for future expansion, and adaptability for evolving network requirements for new world applications previously unavailable at the branch office. Examples include high-density packet voice aggregation, or high-speed connectivity between the branch office and the corporate office using ATM T1/E1 IMA to ATM OC-3.</li> </ul>

## Power Branch Solutions for small to medium sized businesses/branch offices

### SMB and/or Branch Offices

- Requiring Power+Performance
- Technology is the competitive advantage
- Solution that protects investment
- Data/Voice/Video Ready
- Secure and Reliable Access to Internet/Intranet/Extranet



### Cisco 2600 (SMB or Enterprise Branch Office)

- All capabilities of Cisco 2500 plus:
- Voice/Data integration (Analog and Digital)
  - Built in Multiple Fast Ethernet LAN and/or Token Ring
  - Completely modular solution
  - Hardware compression
  - Software and hardware compression
  - Support for multiple LAN/WAN media by way of network modules and WICS
  - Enterprise/Managed service for service providers (CPE-Class)



### Cisco 3620 and 3640 (Enterprise Branch Office)

- All capabilities of Cisco 2600 plus:
- Two or four network module slots
  - Higher performance processor
  - Voice/Data integration (Analog and Digital)
  - Completely modular solution
  - Supports Ethernet 10/100/TR via modules
  - Hardware compression
  - Software and hardware compression
  - Support for multiple LAN/WAN media by way of network modules and WICS
  - Enterprise/managed service for service providers (CPE-Class)



### Cisco 3660 (Enterprise Branch Office)

- All capabilities of Cisco 3640 plus:
- Higher performance processor
  - Six network module slots
  - Built in one/two Ethernet 10/100
  - Voice/Data integration (Analog and Digital)
  - Completely modular solution
  - Hot swappable
  - Hardware compression
  - Software and hardware 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 Products

Product Number	Product Description	LAN-to-LAN	Dial	Legacy	Multiservice
<b>Cisco 3660 Series Products</b>					
CISCO3661-AC	10/100E Cisco 3660, 6-slot Multiservice Platform with IP SW, 8 MB Flash, 32 MB SDRAM, one AC power supply	x	x	x	x
CISCO3661-DC	10/100E Cisco 3660, 6-slot Multiservice Platform with IP SW, 8 MB Flash, 32 MB SDRAM, one DC power supply	x	x	x	x
CISCO3662-AC	Dual 10/100E Cisco 3660, 6-slot Multiservice Platform with IP SW, 8 MB Flash, 32 MB SDRAM, one AC power supply	x	x	x	x
CISCO3662-DC	Dual 10/100E Cisco 3660, 6-slot Multiservice Platform with IP SW, 8 MB Flash, 32 MB SDRAM, one DC power supply	x	x	x	x
CISCO3662-AC-CO	Dual 10/100E Cisco 3660, 6-slot Multiservice Platform with Telco SW, 16 MB Flash, 32 MB SDRAM, one AC power supply, NEBS/ETSI Kit	x	x	x	x
CISCO3662-DC-CO	Dual 10/100E Cisco 3660, 6-slot Multiservice Platform with Telco SW, 16 MB Flash, 32 MB SDRAM, two DC power supplies, NEBS/ETSI Kit	x	x	x	x
<b>Cisco 3640 and 3620 Series Products</b>					
CISCO3640	Cisco 3600 4-slot Modular Router-AC with IP Software	x	x	x	x
CISCO3640-DC	Cisco 3600 4-slot Modular Router-DC with IP Software	x	x	x	x
CISCO3640-RPS	Cisco 3600 4-slot Modular Router, use w/ AC RPS with IP	x	x	x	x
CISCO3620	Cisco 3600 2-slot Modular Router-AC with IP Software	x	x	x	x
CISCO3620-DC	Cisco 3600 2-slot Modular Router-DC with IP Software	x	x	x	x
CISCO3620-RPS	Cisco 3600 2-slot Modular Router, use w/ AC RPS with IP Soft	x	x	x	x

**For information on network modules and Wide Area Network Cards (WICS) please refer to pages 18 and 26 in section A and B.**

# 2600 Series Quick Reference



# Cisco 2600 Series Modular Access Routers



Cisco Systems extends enterprise-class versatility, integration, and power to branch offices and small to medium sized businesses for Power branches (SMB) with the Cisco 2600 series modular router family. It offers network managers and service providers new levels of flexibility and investment protection in a compact single box solution. By deploying a Power Branch Solution which is modular, the customer has peace of mind knowing that if his business circumstances change, the Cisco solution needs a minor component change.

## Features Overview for all Cisco 2600 Series Features

Processor	Power PC RISC CPU	WAN Interface Card Slots (WICS)	2 WICS
Flash Memory	8 MB, upgradable to 16 MB SIMM	Network Module Slot	1
System DRAM Memory	24 MB DRAM, upgradable to 64 MB DRAM DIMM	Advanced Integration Module (AIM) Slot	1
		Internal Power Supply	AC or DC or RPS adapter
LAN Ports	<b>Cisco 2621:</b> 2 10/100 Ethernets	Dimensions (H x W x D)	1.69 x 17.5 x 11.8 in.
	<b>Cisco 2620:</b> 1 10/100 Ethernet	Performance	15 - 25 Kpps
	<b>Cisco 2613:</b> 1 Token Ring	Console and Auxiliary Ports	115.2 Kbps with Dial on Demand Routing (aux)
	<b>Cisco 2612:</b> 1 Ethernet + 1 Token Ring		
	<b>Cisco 2611:</b> 2 Ethernets		
	<b>Cisco 2610:</b> 1 Ethernet		

## Key Benefits

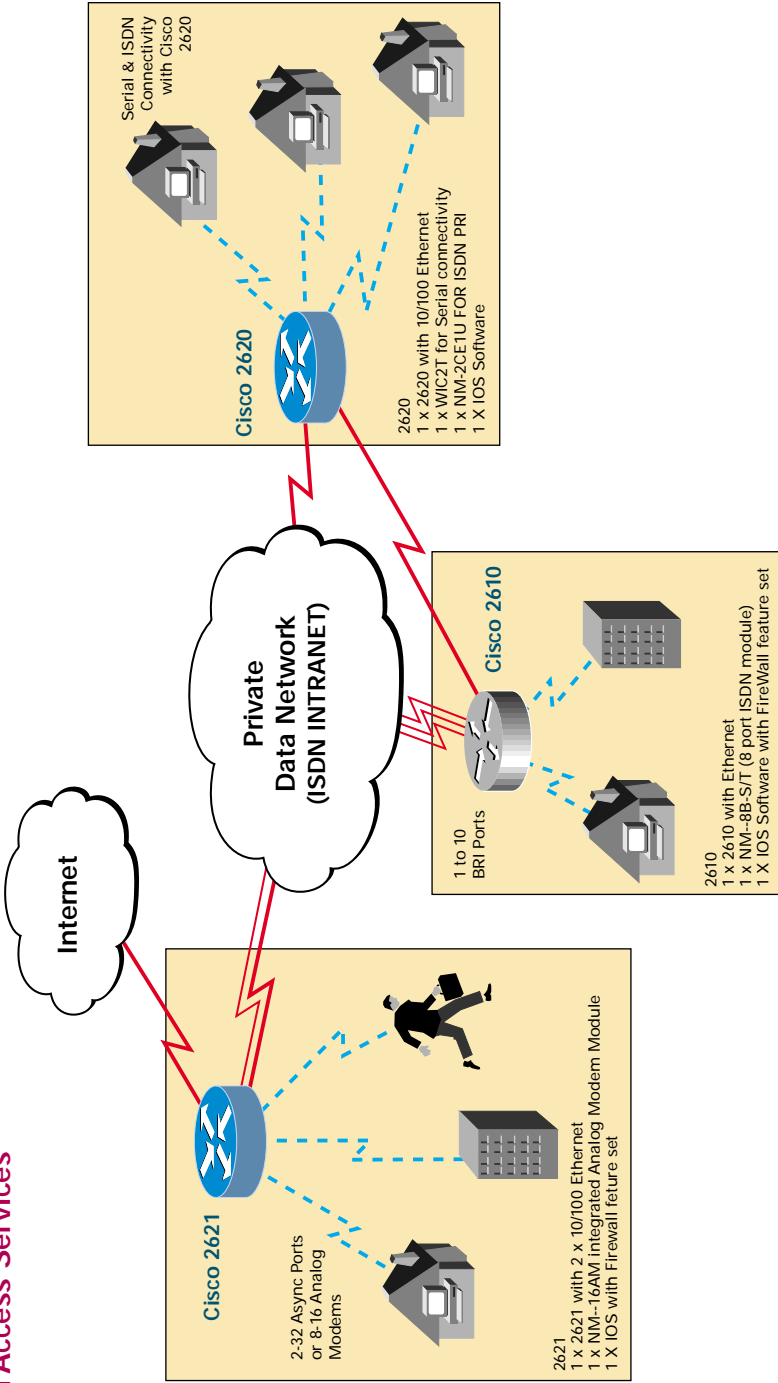
- **Integration/Manageability** – Lowers cost of ownership and improves ease of remote management, providing integrated “branch-in-a-box” networking that combines CSU/DSUs, multiplexors, modems, ISDN NT-1s, compression, encryption devices, VPN/firewalls and voice/data gateways in a single device.
- **Versatility/Investment Protection** – Thousands of field-upgradable customized solutions offer easy migration to future network requirements. More than 60 WAN interface cards (WICS), and Network Modules are shared with the Cisco 3600 series products, modules can be interchanged between small, midsized, and regional branch offices. The advanced integration module (AIM) slot supports hardware-assisted data compression and other advanced services such as encryption in the future.
- **Multiservice Voice/Data Networks** – Reduce or eliminate toll charges between offices. Using Cisco IOS® quality of service (QoS) features, such as WFQ, CAR, and RSVP, 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.
- **Power** – Full Cisco IOS support. Delivers five times the performance of other brand-office router solutions, supporting wire-speed LAN-to-LAN routing (packet-forwarding rates of up to 25,000 pps) and high-performance hardware-based data compression, or software-based data encryption and compression.
- **Interoperability/Multiprotocol support** – Offers a comprehensive set of protocols and services, including virtual private networking, firewall, encryption, WAN optimization, and enhanced multimedia support features.
- **Remote Management/Monitoring** – Simple Network Management Protocol (SNMP), telnet, and local console port work with several Cisco management and configuration tools including Fast Step™, Cisco Voice Manager, Configmaker, CiscoView, CiscoWorks, and Cisco Resource Manager.
- **Stackable End-to-End Solutions** – Using CiscoView or CiscoWorks enables a Cisco stack solution including Catalyst 1900, 2820 or the 2900 XL series to be managed as a single object.

## When to Deploy

- **Cisco 2600 Series** – When the business need is for a high performance modular router, access server or voice gateway and:
  - A cost-effective solution for the long term that adapts to evolving network requirements;
  - Virtual Private Network (VPN)/Extranet access with Firewall to reduce costs and increase security for partners and employees;
  - Dial concentration with Async, ISDN, or analog modems;
  - Voice/Fax/Data multiservice integration;
  - Internet access;
  - Serial device concentration of point-of-sale devices, ATMs, SDLC controllers with legacy terminals and LAN devices sharing a single WAN connection;
  - Higher performance applications such as DLSW, L2TP encryption, compression, QoS, and bandwidth management.
- **Cisco 2621–2** Autosensing 10/100 Ethernet with VLAN Support
- **Cisco 2620–1** Autosensing 10/100 Ethernet with VLAN Support
- **Cisco 2613–1** Token Ring port
- **Cisco 2612–1** Ethernet port and 1 Token Ring port for mixed LAN requirements and the ability to migrate from Token Ring to Ethernet
- **Cisco 2611–2** Ethernet ports for LAN segmentation or to isolate an internal secure LAN from a perimeter LAN (exposed to the Internet)
- **Cisco 2610–1** Ethernet port
- **WAN Interface Cards, Network and Advanced Integration Modules**
  - Serial connections–(async/sync), ISDN BRI and PRI connectivity, integrated CSU/DSUs, Integrated analog modems, voice/fax/data integration, ADSL CPE connectivity via ATM-25, Ethernet, high density asynchronous and synchronous connections, and data compression
- **Software Feature Packs** – When a customer needs:
  - IP routing with NAT (IP Feature Pack)
  - IP, IPX, AppleTalk, and DEC routing for desktop (IP/IPX/AT/DEC Feature Pack)
  - IBM, VPDN/L2F, ISL, RMON, MMP, ATM and Voice features (Plus Feature Pack)
  - The broadest set of routing features (Enterprise Plus Feature Pack)
  - Advanced IBM services (Enterprise/APPN Plus Feature Pack)
  - Full remote access services, including protocol translation (RAS Feature Pack)
  - 40-bit 56-bit DES IPsec and 3DES network layer encryption (all Plus encryption feature packs)
  - Firewall-added security against network intrusion especially when connecting to the Internet (all Firewall feature packs)

# Cisco Product Positioning

## Dial Access Services



Cisco 2600 Advantages	Category	Cisco 2600 Series
<ul style="list-style-type: none"> <li>Unparalleled flexibility and depth provided with large range of shared modules</li> <li>Provides much higher density of interfaces for LAN-to-LAN, dial, serial, and WAN concentration</li> <li>Cisco IOS provides unmatched breadth and depth of protocols and capabilities (QoS, RSVP, WFQ, and more) to efficiently manage bandwidth and deliver cost effective network solutions</li> <li>The Cisco router-based VoIP and VoFR solution results in less delay, which results in higher voice quality</li> <li>Ease of management provided through Cisco Voice Manager, CiscoWorks and CiscoView</li> <li>Cisco is the market leader, with more than a 70 per cent share of the low-end router market</li> </ul>	Base Configuration	Fixed single, dual, mixed (Ethernet, 10/100 Ethernet, Token Ring) ports with 4 modular slots
	Maximum Number of Ethernet Ports	6
	Maximum Number of 10/100 Ethernet Ports	2
	Maximum Number of Token Ring Ports	1
	Max. High-Speed Serial (up to 2Mbps)	4
	Max. Low-Speed Serial (up to 128kbps)	12 sync, 37 async
	Voice/Data Support	Yes
	Integrated Modems	16
	Maximum Number of ISDN BRI Ports	10
	Maximum Number of ISDN PRI Ports	2
	Integrated CSU/DSU(T1/Fractional T1 and 56k/64k)	Yes
	Compression H/W or S/W	H/W-8Mbps and S/W
Encryption	S/W + H/W	
Redundant Power Supply	Yes	

## 2600 Series Specification

Ordering Information	Product	Description	Application					
			LAN-to-LAN	Dial	Legacy	Multi-Service		
<p>The Cisco 2600 is ordered from components: You must order:</p> <ul style="list-style-type: none"> <li>A chassis (Cisco 2610, Cisco 2611, Cisco 2612, Cisco 2613, Cisco 2620, Cisco 2621</li> <li>A CD software feature pack</li> <li>A power cord</li> </ul> <p><b>Optional items are:</b></p> <ul style="list-style-type: none"> <li>A Cisco IOS feature set upgrade or revision (the IP feature set is the default and included with the chassis)</li> <li>One or two WAN interface cards (WICS)</li> <li>One network module</li> <li>One Advanced Integration Module</li> <li>One or two voice interface cards for a voice/fax network module</li> <li>Memory upgrades</li> <li>Cables</li> <li>DC or redundant power supply (RPS) adapter</li> <li>NEBS/ETSI compliance kit</li> </ul> <p>All Cisco 2600 chassis come standard with the minimum required memory for the default IP feature set, documentation, console, auxiliary and LAN cables, rack mount brackets, RJ45 to DB-9 and DB-25 converters, and blank panels that cover any unused WAN interface card and/or network module slots</p>	<b>Cisco 2600 Series</b>							
	Cisco 2610	Ethernet Modular Router w/ Cisco IOS IP Software	x	x	x	x		
	Cisco 2611	Dual Ethernet Modular Router w/ Cisco IOS IP Software	x	x	x	x		
	Cisco 2612	Ethernet/Token Ring Modular Router w/ Cisco IOS IP Software	x	x	x	x		
	Cisco 2613	Token Ring Modular Router w/ Cisco IOS IP Software	x	x	x	x		
	Cisco 2620	10/100 Ethernet Modular Router w/ Cisco IOS IP Software	x	x	x	x		
	Cisco 2621	Dual 10/100 Ethernet Modular Router w/ Cisco IOS IP Software	x	x	x	x		
	<b>WAN/WIC interface cards shared with the Cisco 1600, 1720, and Cisco 3600 series</b>							
	WIC-1T=	1-port sync serial	x	x	x	x		
	WIC-2T=	2-port serial WAN Interface Card for Cisco 2600	x	x	x	x		
	WIC-2A/S=	2-port async/sync serial WAN Interface Card for Cisco 2600	x	x	x	x		
	WIC-IDSU-56K4=	1-port 4-wire 56-64 kbps with integrated CSU/DSU	x	x	x	x		
	WIC-1DSU-T1=	1-port T1/fractional T1 with CSU/DSU	x	x	x	x		
	WIC-1B-S/T=	1-port ISDN BRI	x	x	x	x		
	WIC-1B-U=	1-port ISDN BRI with NT1	x	x	x	x		
<b>Advanced Integration Modules (does not occupy an external WIC or NM slot)</b>								
AIM-COMPR2	Data Compression AIM for the Cisco 2600 series	x	x	x	x			

Please refer to module guide within Section A and B on pages 18 to 23 for availability of modules

# Cisco IOS Feature Set with Memory Requirements

A software feature set or CD feature pack must be ordered with each Cisco 2600; if none is selected the IP feature set will be shipped as a default. All other feature sets may be ordered as upgrades. Note: All Cisco 2600 routers include the **minimum** memory required to support the IP feature set; however, some feature sets require additional memory.

Product Description	DRAM/Flash Requirements
<b>Cisco 2600 Software Feature Packs for IOS version 12.07XK/12.1T. Memory requirements will vary depending upon IOS image and version.</b>	
Cisco IOS IP feature pack	24/8
Cisco IOS IP & Firewall feature pack	32/8
Cisco IOS IP Plus feature pack	40/16
Cisco IOS IP Plus IPSec 3DES feature pack	40/16
Cisco IOS IP Plus IPSec 3DES / Firewall feature pack	48/16
Cisco IOS IP PLUS IPSec 56 feature pack	40/16
Cisco IOS IP Plus IPSec & Firewall feature pack	48/16
Cisco IOSIP/IPX/AT/DEC feature pack	32/8
Cisco IOS IP/IPX/AT/DEC Plus feature pack	40/16
Cisco IOS IP/IPX/AT/DEC Plus & Firewall feature pack	48/16
Cisco IOS Enterprise Plus feature pack	48/16
Cisco IOS Enterprise Plus IPSec 3DES	48/16
Cisco IOS Enterprise Plus Ipsec 3DES & Firewall feature pack	48/16
Cisco IOS Enterprise Plus IPSec 56 feature pack	48/16
Cisco IOS Enterprise Plus Ipsec 56/ & Firewall feature pack	48/16
Cisco IOS Enterprise Plus w/ APPN feature pack	48/16
Cisco IOS Enterprise Plus w/ APPN IPSec 3Des feature pack	48/16
Cisco IOS Enterprise Plus w/ APPN IPSec 56 feature pack	48/16
Gatekeeper	32/8
Cisco RAS feature pack	24/8
Service Provider / Telco	36/8

**Please consult your Cisco Partner or Cisco Systems Engineer for the latest memory requirements for more releases of Cisco IOS**








# Cisco 3600 & Cisco 2600 Series Modules







DESCRIPTIONS  
AND INTEROPERABILITY









# SECTION A: THE MODULES BELOW ARE

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<b>Network Modules for 3600 &amp; 2600</b>			
<p><b>NM-1E:One-port Ethernet Network Module</b></p> <p>The 1-port Ethernet network module offers a single Ethernet LAN connection via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.2(4)XA 3620 - 11.2(4)XA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-4E: Four-port Ethernet Network Module</b></p> <p>The 4-port Ethernet network module offers 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.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.2(6)P 3620 - 11.2(6)P 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1ATM-25: Single Port ATM 25 Network Module</b></p> <p>The 1-port ATM-25 network module supports 25-MB ATM connections to external ADSL modems. This network module has one ATM UNI port with a standard throughput rate of 26.5 Mbps full duplex. 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.</p>	<p>DSL Access</p> 	<p>3660 - 12.0(5)T 3640 - 11.3(3a)T / Plus 3620 - 11.3(3a)T / Plus 2600 series - 11.3(4)T / Plus</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-2W: 2 WAN card slot Network Module (no LAN)</b></p> <p>The NM-2W enables WICs and VWICs to operate in the 3600 Series Multi Service Access routers without using the LAN combo Card. In addition the WIC2T dual serial card and the WIC2-ST dual ISDN BRI card are now supported within the 3600 Series platform. The NM-2W WIC network module is also compatible with the 2600 Series offering increased serial and ISDN density.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall solutions</p> 	<p>3660 - 12.07XX 3640 - 12.07XX 3620 - 2.07XX 2600 - 12.07XX</p>	<p>No reliance on any other network module, however the NM-2W requires WICs, VWICs or WIC2 cards to operate.</p>




# INTEROPERABLE BETWEEN 3600 / 2600

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<b>Basic Rate Interface (BRI) for 3600 &amp; 2600</b>			
<p><b>NM-4B-U: Four-port ISDN-BRI with NT-1 Network Module</b></p> <p>The 4-port ISDN BRI with integrated NT-1 network module provides four ISDN BRI connections via RJ-45 connectors.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-4B-S/T: Four-port ISDN-BRI Network Module</b></p> <p>The 4-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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-8B-S/T: Eight-port ISDN-BRI Network Module</b></p> <p>The 8-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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-8B-U: Eight-port ISDN-BRI with NT-1 Network Module</b></p> <p>The 8-port ISDN BRI with integrated NT-1 network module provides eight ISDN BRI connections via RJ-45 connectors.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<b>Primary Rate Interface (PRI) for 3600 &amp; 2600</b>			
<p><b>NM-1CE1B: One-port Channelized E1/ISDN-PRI Balanced Network Module</b></p> <p>The 1 -port channelized E1/ISDN network module supports a single channelized E1/ISDN PRI balanced (120-ohm) connection via a DB-15 connector.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1CE1U: One-port Channelized E1/ISDN-PRI Unbalanced</b></p> <p>The 1-port channelized E1/ISDN network module supports a single channelized E1/ISDN PRI unbalanced (75-ohm) connection via a DB-15 connector.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>





# SECTION A: THE MODULES BELOW ARE

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>NM-2CE1U: Two-port Channelized E1/ISDN-PRI Unbalanced Network Module</b></p> <p>The 2-port channelized E1/ISDN network module supports two channelized E1/ISDN PRI unbalanced (75-ohm) connections via DB-15 connectors.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-2CE1B: Two-port Channelized E1/ISDN-PRI Balanced</b></p> <p>The 2-port channelized E1/ISDN network module supports two channelized E1/ISDN PRI balanced (120-ohm) connections via DB-15 connectors.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1CT1: One-port Channelized T1/ISDN-PRI Network Module</b></p> <p>The 1-port channelized T1/ISDN-PRI network module supports a single channelized T1/ISDN PRI connection via a DB-15 connector.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1CT1-CSU: One-port Channelized T1/ISDN-PRI with CSU Network Module</b></p> <p>The 1-port channelized T1/ISDN network module supports a single channelized T1/ISDN PRI with integrated DSU/CSU connection via an RJ-48 connector.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-2CT1-CSU: Two-port Channelized T1/ISDN-PRI with CSU Network Module</b></p> <p>The 2-port channelized T1/ISDN-PRI network module supports two channelized T1/ISDN PRI with integrated DSU/CSU connections via RJ-48 connectors.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(4)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-2CT1: Two-port Channelized T1/ISDN-PRI Network Module</b></p> <p>The 2-port channelized T1/ISDN-PRI network module supports two channelized T1/ISDN PRI connections via DB-15 connectors</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.1(7)AA 3620 - 11.1(7)AA</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>






# INTEROPERABLE BETWEEN 3600 / 2600

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<b>WAN ATM (IMA) Modules for 3600 &amp; 2600</b>			
<p><b>NM-4E1-IMA: Four-port E1 ATM Network Module with IMA</b></p> <p>This 4-port multi port E1 ATM module, supports "Inverse Multiplexing Over ATM". Each E1 link provides 2.048Mbps combined with IMA delivering an increase in bandwidth to one 8Mbps pipe.</p>		<p>3660 - 12.0(5)T            3640 - 12.0(5)T            3620 - 12.0(5)T            2600 Series - 12.0(5)T</p>	<p>Requires a Cisco 3660, 3640, 3620 or 2600 access router</p>
<p><b>NM-8E1-IMA: Eight-port E1 ATM Network Module with IMA</b></p> <p>This 8-port multi port E1 ATM module, supports "Inverse Multiplexing of ATM". Each E1 link provides 2.048Mbps combined with IMA delivering an increase in bandwidth to one pipe of 16.384Mbps.</p>		<p>3660 - 12.0(5)T            3640 - 12.0(5)T            3620 - 12.0(5)T            2600 Series - 12.0(5)T</p>	<p>Requires a Cisco 3660, 3640, 3620 or 2600 access router</p>
<b>Async Modules for 3600 &amp; 2600</b>			
<p><b>NM-16A: Sixteen-port Asynchronous Network Module</b></p> <p>The 16-port asynchronous serial network module supports 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.</p>	<p>Dialup Remote Access Serial &amp; Legacy Concentration</p> 	<p>3660 - 12.0(5)T            3640 - 11.2(7a)P            3620 - 11.2(7a)P            2600 series - 11.3(2)XA</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-32A: Thirty Two-port Asynchronous Network Module</b></p> <p>The 32-port asynchronous serial network module supports 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.</p>	<p>Dialup Remote Access Serial &amp; Legacy Concentration</p> 	<p>3660 - 12.0(5)T            3640 - 11.2(7a)P            3620 - 11.2(7a)P            2600 series - 11.3(2)XA</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>



# SECTION A: THE MODULES BELOW ARE

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<b>Async / Sync Modules for 3600 &amp; 2600 (low speed)</b>			
<p><b>NM-4A/S: Four-port Asynchronous and Synchronous Serial Network Module</b></p> <p>The 4-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.</p>	<p>Serial &amp; Legacy Concentration</p> 	<p>3660 - 12.0(5)T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(2)XA</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-8A/S: Eight-port Asynchronous / Synchronous Serial Network Module</b></p> <p>The 8-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.</p>	<p>Serial &amp; Legacy Concentration</p> 	<p>3660 - 12.0(5)T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(2)XA</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<b>Integrated Analog Modem Module for 3600 &amp; 2600</b>			
<p><b>NM-8AM: Eight-port Analog Modem Network Module</b></p> <p>The 8-port integrated 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.</p>	<p>Dialup Remote Access</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T 3620 - 11.3(4)T 2600 series - 11.3(3)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-16AM: Sixteen-port Analog Modem Network Module</b></p> <p>The 16-port integrated 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.</p>	<p>Dialup Remote Access</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T 3620 - 11.3(4)T 2600 series - 11.3(3)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>

# INTEROPERABLE BETWEEN 3600 / 2600


Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<b>Wide Area Interface Card (WIC) support for 3600 series and 2600 series</b>			
<b>WICS supported by 3600 and 2600 series</b>			
<p><b>WIC-1B-U: One-port ISDN with NT-1 WAN Interface Card</b></p> <p>The 1-port ISDN BRI WAN interface card with integrated NT-1 offers 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.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.2(4)XA 3620 - 11.2(4)XA 2600 series - 11.3(2)XA</p>	<p>Requires a Cisco 2600 router or for use in a Cisco 3600 router, requires a LAN / WAN network module NM-1E2W, NM-2E2W, or NM-1E1R2W.</p>
<p><b>WIC-1B-S/T: One-port ISDN WAN Interface Card</b></p> <p>The 1-port ISDN BRI WAN interface card offers 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.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.2(4)XA 3620 - 11.2(4)XA 2600 series - 11.3(2)XA</p>	<p>Requires a Cisco 2600 router or for use in a Cisco 3600 router, requires a LAN / WAN network module NM-1E2W, NM-2E2W, or NM-1E1R2W.</p>
<p><b>WIC-1DSU-T1: One-port T1/Fractional T1 DSU/CSU WAN Interface Card</b></p> <p>The 1-port integrated T1/FT1 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.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.2(12)P 3620 - 11.2(12)P 2600 series - 11.3(4)T</p>	<p>Requires a Cisco 2600 router or for use in a Cisco 3600 router, requires a LAN / WAN network module NM-1E2W, NM-2E2W, or NM-1E1R2W.</p>
<p><b>WIC-1T: One-port Serial WAN Interface Card</b></p> <p>The 1-port serial WAN interface card supports 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>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - 11.3(2)XA</p>	<p>Requires a Cisco 2600 router or for use in a Cisco 3600 router, requires a LAN / WAN network module NM-1E2W, NM-2E2W, or NM-1E1R2W.</p>
<p><b>WIC-2T: Two-port Serial WAN Interface Card</b></p> <p>This 2-port serial WAN Interface Card supports two serial connections at up to T1/E1 rates. This WAN interface card supports asynchronous and synchronous traffic, and plugs directly into a WAN Interface Card (WIC) expansion slot.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.07XK 3640 - 12.07XK 3620 - 12.07XK 2600 series - 11.3(2)XA</p>	<p>With 3600 Series, can function with WIC Carrier module or NM1FE2W, NM2FE2W or NM1FE1R2W. Use WIC slot in 2600 or WIC carrier module</p>

# SECTION A: THE MODULES BELOW ARE INTEROPERABLE BETWEEN 3600 / 2600

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>WIC-2A/S: Two-port Asynchronous / Asynchronous Serial WAN Interface Card</b></p> <p>This 2-port asynchronous/synchronous serial WAN Interface Card supports 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.</p>	<p>LAN-to-LAN Routing Serial &amp; Legacy Concentration VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.07XX 3640 - 12.07XX 3620 - 12.07XX 2600 series - 11.3(2)XA</p>	<p>With 3600 Series, can function with WIC Carrier module or NM1FE2W, NM2FE2W or NM1FE1R2W. Use WIC slot in 2600 or WIC carrier module</p>
<p><b>WIC-1DSU-56K4: One-port 4-Wire 56/64Kbps DSU/CSU WAN Interface Card</b></p> <p>The 1-port integrated 56/64K 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.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.2(4)XA 3620 - 11.2(4)XA 2600 series - 11.3(2)XA</p>	<p>Requires a Cisco 2600 router or for use in a Cisco 3600 router, requires a LAN / WAN network module NM-1E2W, NM-2E2W, or NM-1E1R2W.</p>

# SECTION B Network Modules for 3600 only









The modules detailed in Section B function only within the 3600 platform. Please refer to Section A for further module choice.

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<b>Mixed Media Modules (LAN/WAN) Supported by the Cisco 3600 Series only (with WIC Slots)</b>			
<p><b>NM-1E2W: 1 Ethernet 2 WAN Card Slot Network Module</b></p> <p>This mixed-media network module has one Ethernet port and two user-configurable WAN Interface Card (WIC) expansion slots. The Ethernet connection is via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. The supported WICs include the 1-port serial (WIC-1T), 1-port ISDN BRI with ST and U interfaces (WIC-1B-S/T, WIC-1B-U), 1-port 56 kbps DSU/CSU (WIC-1DSU-56K4), and 1-port T1/FT1 DSU/CSU (WIC-1DSU-T1).</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>

Please refer to Section A for further network module choice for the 3600 Series




# Section B



Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>NM-2E2W: 2 Ethernet 2 WAN Card Slot Network Module</b></p> <p>This mixed-media network module has two Ethernet ports and two user-configurable WAN Interface Card (WIC) expansion slots. One Ethernet connection is via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. The second Ethernet connection is via an RJ-45 connector. The supported WICs include the 1-port serial (WIC-1T), 1-port ISDN BRI with ST and U interfaces (WIC-1B-S/T, WIC-1B-U), 1-port 56 kbps DSU/CSU (WIC-1DSU-56K4), and 1-port T1/FT1 DSU/CSU (WIC-1DSU-T1).</p> 	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.1(7)AA 3620 - 11.1(7)AA 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1E1R2W: 1 Ethernet 1 Token Ring 2 WAN Card Slot Network Module</b></p> <p>This mixed-media network module has one Ethernet port, one Token Ring and two user-configurable 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. The supported WICs include the 1-port serial (WIC-1T), 1-port ISDN BRI with ST and U interfaces (WIC-1B-S/T, WIC-1B-U), 1-port 56 kbps DSU/CSU (WIC-1DSU-56K4), and 1-port T1/FT1 DSU/CSU (WIC-1DSU-T1).</p> 	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.1(8)AA 3620 - 11.1(8)AA 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1FE2W: 1 x 10/100 Ethernet, 2 WAN Card Slot Module</b></p> <p>This mixed-media network module has one 10/100 Ethernet port and two user-configurable WAN Interface Card (WIC) expansion slots. The Ethernet connection is via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. The supported WICs include the WIC2T, 2Port VWIC and the 2 A/S WICs.</p> 	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3620 - 12.07XK 3620 - 12.07XK 3620 - 12.07XK 2600 series - Not Supported</p>	<p>No reliance on any other network modules, WAN interface cards, voice cards or advanced integration modules.</p>
<p><b>NM-2FE2W: 2 x 10/100 Ethernet, 2 WAN Card Slot Module</b></p> <p>This mixed-media network module has two 10/100 Ethernet port and two user-configurable WAN Interface Card (WIC) expansion slots. The Ethernet connection is via an Ethernet AUI DB-15 connector or 10BaseT RJ-45 connector. The supported WICs include the WIC2T, 2Port VWIC and the 2 A/S WICs.</p> 	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3620 - 12.07XK 3620 - 12.07XK 3620 - 12.07XK 2600 series - Not Supported</p>	<p>No reliance on any other network modules, WAN interface cards, voice cards or advanced integration modules.</p>

Please refer to Section A for further network module choice for the 3600 Series

# Section B



Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>NM-1FE1R2W: 1 x 10/100 Ethernet, 1 4/16 Token Ring, 2 WAN Card Slot Module</b></p> <p>This mixed-media network module has one Ethernet port, one Token Ring and two user-configurable 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. The supported WICs include the WIC2T, 2Port WWIC and the 2 A/S WICs.</p>	<p>LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3620 - 12.07XX 3620 - 12.07XX 3620 - 12.07XX 2600 series - Not Supported</p>	<p>No reliance on any other network modules, WAN interface cards, voice cards or advanced integration modules.</p>

## Fast Ethernet Modules supported by the 3600 series only

<p><b>NM-1FE-TX: One-port Fast Ethernet, TX Only Network Module</b></p> <p>The 1-port Fast Ethernet network module offers a single auto-sensing 10/100BaseFX connection via an RJ-45 connector.</p>	<p>Inter-VLAN Routing LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.2(6)P 3620 - 11.2(6)P 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1FE-FX: One-port Fast Ethernet, FX Only Network Module</b></p> <p>The 1-port Fast Ethernet network module offers a single auto-sensing 10/100BaseFX connection via a fiber connector.</p>	<p>Inter-VLAN Routing LAN-to-LAN Routing VPN &amp; Firewall Solutions</p> 	<p>3660 - 12.0(5)T 3640 - 11.3(1)T 3620 - 11.3(1)T 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>


For addition modules, please refer to Section A

## ATM Modules supported by the 3600 only


<p><b>NM-1A-OC3MM: Single Port OC-3 ATM Multi-mode Fiber Network</b></p> <p>The 155Mbps single port ATM OC-3 Multi-mode Network Module supports 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.</p>	<p>ATM Edge Connectivity LAN-to-LAN Routing</p> 	<p>3660 - 12.0(5)T 3640 - 12.0(3)T 3620 - 12.0(3)T 2600 series - Not Available</p>	<p>Requires an IOS "PLUS" feature set. No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules. Maximum of one per 3620 or 3640.</p>
<p><b>NM-1A-OC3SMI: Single Port OC-3 ATM Single-mode Intermediate Reach FiberNetwork Module</b></p> <p>The 155Mbps single port ATM OC-3 Single-mode Network Module supports 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.</p>	<p>ATM Edge Connectivity LAN-to-LAN Routing</p> 	<p>3660 - 12.0(5)T 3640 - 12.0(3)T 3620 - 12.0(3)T 2600 series - Not Available</p>	<p>Requires an IOS "PLUS" feature set. No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules. Maximum of one per 3620 or 3640.</p>

Please refer to Section A for further network module choice for the 3600 Series


# Section B

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>NM-1A-OC3SML: Single Port OC-3 ATM Single-mode Long Reach Fiber Network Module</b></p> <p>The 155Mbps single port ATM OC-3 Single-mode Network Module supports 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.</p>	<p>ATM Edge Connectivity LAN-to-LAN Routing</p> 	<p>3660 - 12.0(5)T 3640 - 12.0(3)T 3620 - 12.0(3)T 2600 series - Not Available</p>	<p>Requires an IOS "PLUS" feature set. No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules. Maximum of one per 3620 or 3640.</p>


## Serial Modules supported by the 3600 series only

<p><b>NM-4T: Four-port Serial Network Module</b></p> <p>This network module has four synchronous serial interfaces, and supports a total full-duplex throughput of 8 megabits per second (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.</p>	<p>LAN-to-LAN Routing Serial &amp; Legacy Concentration</p> 	<p>3660 - 12.0(5)T 3640 - 11.2(4)XA 3620 - 11.2(4)XA 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
--	---	--	---

## High Speed Serial Interface for 3600




<p><b>NM-1HSSI: Single Port HSSI Network Module</b></p> <p>The 1-port high-speed serial interface (HSSI) network supports serial speeds up to 52Mbps via a 50-pin SCSI Type II connector. This network module requires an external T3/E3 DSU/CSU.</p>	<p>LAN-to-LAN Routing Serial &amp; Legacy Concentration</p> 	<p>3660 - 12.0(5)T 3640 - 11.3(3)T 3620 - 11.3(3)T 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
---	--	--	---

## ISDN Primary Rate Interface Modules supported by the 3600 series only (E1 PRI) with Fast Ethernet Module


<p><b>NM-1FE1CE1B: One-port Fast Ethernet 1-Port Channelized E1/ISDN-PRI Balanced Network Module</b></p> <p>This 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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XX or 12.1.1T 3640 - 11.3(4)T1 3620 - 11.3(4)T1 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
---	---	---	---

Please refer to Section A for further network module choice for the 3600 Series

# SECTION B




Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>NM-1FE1CE1U: One-port Fast Ethernet 1-Port Channelized E1/ISDN-PRI Unbalanced Network Module</b></p> <p>This 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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T1 3620 - 11.3(4)T1 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1FE2CE1B: One-port Fast Ethernet 2-Port Channelized E1/ISDN-PRI Balanced Network Module</b></p> <p>This 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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T1 3620 - 11.3(4)T1 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1FE2CE1U: One-port Fast Ethernet 2-Port Channelized E1/ISDN-PRI Unbalanced Network Module</b></p> <p>This 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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T1 3620 - 11.3(4)T1 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>

## ISDN Primary Rate Interface Modules supported by the 3600 series only (T1 PRI)


<p><b>NM-1FE1CT1: One-port Fast Ethernet 1-Port Channelized T1/ISDN-PRI Network Module</b></p> <p>This module provides a single auto-sensing 10/100BaseTX connection via an RJ-45 connector and a single channelized T1/ISDN PRI connection via a DB-15 connector.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T1 3620 - 11.3(4)T1 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
--	---	---	---

Please refer to Section A for further network module choice for the 3600 Series

# Section B





Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>NM-1FE1CT1-CSU: One-port Fast Ethernet 1-Port Channelized T1/ISDN-PRI with CSU Network Module</b></p> <p>This 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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T1 3620 - 11.3(4)T1 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1FE2CT1-CSU: One-port Fast Ethernet 2-Port Channelized T1/ISDN-PRI with CSU Network Module</b></p> <p>This 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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T1 3620 - 11.3(4)T1 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>NM-1FE2CT1: One-port Fast Ethernet 2-Port Channelized T1/ISDN-PRI Network Module</b></p> <p>This 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.</p>	<p>ISDN Concentration</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.3(4)T1 3620 - 11.3(4)T1 2600 series - Not Available</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>

## Digital Modem Modules for 3600 series only

<p><b>NM-6DM: Six-port Digital Modem Network Module</b></p> <p>The 6-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 upgradable to a maximum of 30 digital modems.</p>	<p>Dialup Remote Access</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2600 series - Not Available</p>	<p>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.</p>
--	---	---	---




Please refer to Section A for further network module choice for the 3600 Series

# SECTION B

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>NM-12DM: Twelve-port Digital Modem Network Module</b></p> <p>The 12-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 upgradable to a maximum of 30 digital modems.</p>	<p>Dialup Remote Access</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2600 series - Not Available</p>	<p>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.</p>
<p><b>NM-18DM: Eighteen-port Digital Modem Network Module</b></p> <p>The 18-port digital modem network module contains eighteen configurable V.90 compliant digital modems for use with the ISDN PRI and BRI network modules. This module is field upgradable to a maximum of 30 digital modems.</p>	<p>Dialup Remote Access</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2600 series - Not Available</p>	<p>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.</p>
<p><b>NM-24DM: Twenty four-port Digital Modem</b></p> <p>The 24-port digital modem network module contains twenty-four configurable V.90 compliant digital modems for use with the ISDN PRI and BRI network modules. This module is field upgradable to a maximum of 30 digital modems.</p>	<p>Dialup Remote Access</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2600 series - Not Available</p>	<p>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.</p>
<p><b>NM-30DM: Thirty-port Digital Modem</b></p> <p>The 30-port digital modem network module contains thirty configurable V.90 compliant digital modems for use with the ISDN PRI and BRI network modules.</p>	<p>Dialup Remote Access</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2600 series - Not Available</p>	<p>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.</p>

Please refer to Section A for further network module choice for the 3600 Series

# Section B


Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>MICA-6MOD: 6 Digital Modem Upgrade</b></p> <p>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.</p>	<p>--</p> 	<p>3660 series - 12.07XK or 12.1.1T 3640 - 11.2(9)XA 3620 - 11.2(9)XA 2600 series - Not Available</p>	<p>Requires a digital modem network module NM-6DM, NM-12DM, NM-18DM, or NM-24DM.</p>
<b>Compression Modules for 3600 only</b>			
<p><b>NM-COMPR: Compression Network Module</b></p> <p>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, provides 2E1 full duplex (2 x 2.048 Mbps Full Duplex) of compressed input/output.</p>	<p>Bandwidth Management</p> 	<p>3660 - for 3660 use compression AIM 3640 - 11.2(7a)P 3620 - 11.2(7a)P 2600 series - Not Available (Section C)</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>
<p><b>AIM-COMPR4</b></p> <p>This compression AIM supports all serial and channelized/ISDN network modules and WAN interface cards. The AIM provides 2E1 full duplex (2 x 2.48 Mbps Full Duplex) compressed input/output</p>		<p>3660 - 12.05 T</p>	<p>No reliance on other network modules, WAN cards or other advanced integration modules</p>

Please refer to Section A for further network module choice for the 3600 Series

# SECTION C

## Network Modules for 2600 only

The modules detailed in Section C function only within the 2600 platform. Please refer to Section A for further module choice.

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<b>Interface Modules for the 2600 series routers only</b>			
<p><b>AIM-COMPR2: Data Compression Advanced Interface Module</b></p> <p>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.</p>	<p>Bandwidth Management LAN-to-LAN Routing Serial &amp; Legacy Concentration VPN &amp; Firewall Solutions</p> 	<p>3640 3620 2600 series - 12.0(1)T</p>	<p>No reliance on other network modules, WAN interface cards, voice interface cards, or advanced integration modules.</p>




- All 2600 Series arrive configured with LAN media interface(s) Ethernet and/or Token ring

Please refer to Section A for further choice of Network Modules compatible between the 3600 Series and the 2600 Series








# SECTION D




## Voice Modules and Voice Cards for 3600 & 2600

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<b>Voice Modules and Voice Cards for 3600 &amp; 2600</b>			
<b>Voice Modules for 3600 &amp; 2600</b>			
<p><b>NM-1V: One-Slot Voice/Fax Network Module</b></p> <p>This one-slot voice / fax network module with an integrated digital signal processor (DSP), enables voice and fax traffic to be routed over IP networks. The user-configurable expansion slot accommodates the addition of a Cisco voice interface card which allow connections to standard telephony equipment such as PBXs, key systems, phone, and fax machines.</p>	<p>Voice &amp; Fax Integration</p> 	<p>3660 - 12.0(5)T 3640 - 11.3(1)T / Plus 3620 - 11.3(1)T / Plus 2600 series - 11.3(2) XA / Plus</p>	<p>Requires a voice interface card VIC-2E/M, VIC-2FXO, VIC-2FXS, VIC-2FXO-M3, or VIC-2FXO-EU.</p>
<p><b>NM-2V: Two-Slot Voice/Fax Network Module</b></p> <p>This two-slot voice / fax network module with an integrated digital signal processor (DSP), enables voice and fax traffic to be routed over IP networks. The user-configurable expansion slots accommodate the addition of Cisco voice interface cards which allow connections to standard telephony equipment such as PBXs, key systems, phone, and fax machines.</p>	<p>Voice &amp; Fax Integration</p> 	<p>3660 - 12.0(5)T 3640 - 11.3(1)T / Plus 3620 - 11.3(1)T / Plus 2600 series - 11.3(2) XA / Plus</p>	<p>Requires a voice interface card VIC-2E/M, VIC-2FXO, VIC-2FXS, VIC-2FXO-M3, or VIC-2FXO-EU.</p>
<b>Voice Interface Cards (VICS) for the Voice Modules for 3600 &amp; 2600 ("VICS" for 3600 &amp; 2600 require Voice Module as shown in this section)</b>			
<p><b>VIC-2FXS: Two-port - FXS Voice Interface Card</b></p> <p>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.</p>	<p>Voice &amp; Fax Integration</p> 	<p>3660 - 12.0(5)T 3640 - 11.3(1)T / Plus 3620 - 11.3(1)T / Plus 2600 series - 11.3(2) XA / Plus</p>	<p>Requires a voice/fax network module NM-1V or NM-2V.</p>



# Section D

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<p><b>VIC-2FXO: Two-port - FXO Voice Interface Card</b></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. 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>Voice &amp; Fax Integration</p> 	<p>3660 - 12.0(5)T            3640 - 11.3(1)T / Plus            3620 - 11.3(1)T / Plus            2600 series - 11.3(2) XA / Plus</p>	<p>Requires a voice/fax network module NM-1V or NM-2V.</p>
<p><b>VIC-2E/M: Two-port - EM Voice Interface Card</b></p> <p>The two-port EM 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>Voice &amp; Fax Integration</p> 	<p>3660 - 12.0(5)T            3640 - 11.3(1)T / Plus            3620 - 11.3(1)T / Plus            2600 series - 11.3(2) XA / Plus</p>	<p>Requires a voice/fax network module NM-1V or NM-2V.</p>
<p><b>VIC-2FXO-EU: Two-port - FXO Voice Interface Card- For Europe</b></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 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.</p>	<p>Voice &amp; Fax Integration</p> 	<p>3660 - 12.0(5)T            3640 - 11.3(6)T            3620 - 11.3(6)T            2600 series - 11.3(6)T</p>	<p>Requires a voice/fax network module NM-1V or NM-2V.</p>
<p><b>VIC-2BRI-S/T-TE: Two Port BRI ISDN Voice Interface Card</b></p> <p>This two port ISDN, S/T, Terminal 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-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>Voice &amp; Fax Integration</p> 	<p>3660 - 12.0(5)T            3640 - 12.0(3)T            3620 - 12.0(3)T            2600 series - 12.0(3)T</p>	<p>Requires a voice/fax network module NM-1V or NM-2V.</p>
<p><b>VIC-2FXO-M3: Two-port - FXO Voice Interface Card - For Australia</b></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>Voice &amp; Fax Integration</p> 	<p>3660 - 12.0(5)T            3640 - 11.3(6)T            3620 - 11.3(6)T            2600 series - 11.3(6)T</p>	<p>Requires a voice/fax network module NM-1V or NM-2V.</p>

Product	Modular Router Solutions	Supported Platforms & Minimum IOS Versions	Comments
<h2>Digital Voice Solutions</h2>			
<p><b>NM-HDV-1E1-30</b>  <b>Single-port 30 Channel E1 Packet Voice Trunk Network Module</b></p> <p>This voice/fax network module provides a single E1 connection and support for 30 channels of medium complexity voice compression using any of the following VoCoders: G.711, G.729a/b, G.726 and fax. This module can also be used to provide 12 channels of high and/or medium complexity voice compression using any of the following VoCoders: G.711, G.729, G.729a/b, G.726, G.728, G.723.1, and fax. The NM-HDV-1E1-30 consists of a network module, voice interface card, and digital signal processors.</p>	<p>Voice &amp; Fax Integration            VPN &amp; Firewall Solutions</p> 	<p>3660 series - 12.07XX or 12.1.1T            3640 series - 12.07XX or 12.1.1T            3620 series - 12.07XX or 12.1.1T            2600 series - 12.07XX or 12.1.1T</p>	<p>Requires a Cisco IOS "PLUS" feature set</p>
<p><b>NM-HDV-1E1-30E</b>  <b>Single-port Enhanced 30 Channel Digital E1 Packet Voice Trunk Network Module</b></p> <p>This voice/fax network module supports a single E1 connection and 30 channels of high and/or medium complexity voice compression using any of the following VoCoders: G.711, G.729, G.729a/b, G.726, G.728, G.723.1, and fax. This module also provides enhanced compression capabilities. The NM-HDV-1E1-30E consists of a network module, voice interface card, and digital signal processors.</p>	<p>Voice &amp; Fax Integration            VPN &amp; Firewall Solutions</p> 	<p>3660 series - 12.07XX or 12.1.1T            3640 series - 12.07XX or 12.1.1T            3620 series - 12.07XX or 12.1.1T            2600 series - 12.07XX or 12.1.1T</p>	<p>Requires a Cisco IOS "PLUS" feature set</p>
<p><b>NM-HDV-2E1-60</b>  <b>Dual-port 60 Channel Digital E1 Packet Voice Trunk Network Module</b></p> <p>This voice/fax module provides two E1 connections with drop and insert and support for 60 channels of medium complexity voice compression using any of the following VoCoders: G.711, G.729a/b, G.726, and fax. This module can also be used to provide 60 channels of high and/or medium complexity voice compression split between the two E1 ports using any of all of the following VoCoders: G.711, G.729, G.729a/b, G.726, G.728, G.723.1, and fax. The NM-HDV-2E1-60 consists of a network module, voice interface card, and digital signal processors.</p>	<p>Voice &amp; Fax Integration            VPN &amp; Firewall Solutions</p> 	<p>3660 series - 12.07XX or 12.1.1T            3640 series - 12.07XX or 12.1.1T            3620 series - 12.07XX or 12.1.1T            2600 series - 12.07XX or 12.1.1T</p>	<p>Requires a Cisco IOS "PLUS" feature set</p>

# Quick Reference Matrix

QUICK REFERENCE MATRIX  
BETWEEN 3600 AND 2600 SERIES



Product	Compatibility		
	3660	3640/3620	2600
<b>Network Modules for 3600 &amp; 2600</b>			
NM-1E: One-port Ethernet Network Module	✓	✓	✓
NM-4E: Four-port Ethernet Network Module	✓	✓	✓
NM-1ATM-25: Single Port ATM 25 Network Module	✓	✓	✓
NM-2W - WAN Card Slot Module	✓	✓	✓
<b>Basic Rate Interface (BRI) for 3600 &amp; 2600</b>			
NM-4B-U: Four-port ISDN-BRI with NT-1 Network Module	✓	✓	✓
NM-4B-S/T: Four-port ISDN-BRI Network Module	✓	✓	✓
NM-8B-S/T: Eight-port ISDN-BRI Network Module	✓	✓	✓
NM-8B-U: Eight-port ISDN-BRI with NT-1 Network Module	✓	✓	✓
<b>Primary Rate Interface (PRI) for 3600 &amp; 2600</b>			
NM-1CE1B: One-port Channelized E1/ISDN-PRI Balanced Network Module	✓	✓	✓
NM-1CE1U: One-port Channelized E1/ISDN-PRI Unbalanced	✓	✓	✓
NM-2CE1U: Two-port Channelized E1/ISDN-PRI Unbalanced Network Module	✓	✓	✓
NM-2CE1B: Two-port Channelized E1/ISDN-PRI Balanced	✓	✓	✓
NM-1CT1: One-port Channelized T1/ISDN-PRI Network Module	✓	✓	✓
NM-1CT1-CSU: One-port Channelized T1/ISDN-PRI with CSU Network Module	✓	✓	✓
NM-2CT1-CSU: Two-port Channelized T1/ISDN-PRI with CSU Network Module	✓	✓	✓
NM-2CT1: Two-port Channelized T1/ISDN-PRI Network Module	✓	✓	✓

Product	Compatibility		
	3660	3640/3620	2600
<b>WAN ATM (IMA) Modules for 3600 &amp; 2600</b>			
NM-4E1-IMA: Four-port E1 ATM Network Module with IMA	✓	✓	✓
NM-8E1-IMA: Eight-port E1 ATM Network Module with IMA	✓	✓	✓
<b>Async Modules for 3600 &amp; 2600</b>			
NM-16A: Sixteen-port Asynchronous Network Module	✓	✓	✓
NM-32A: Thirty Two-port Asynchronous Network Module	✓	✓	✓
<b>Async / Sync Modules for 3600 &amp; 2600</b>			
NM-4A/S: Four-port Asynchronous / Synchronous Serial Network Module	✓	✓	✓
NM-8A/S: Eight-port Asynchronous / Synchronous Serial Network Module	✓	✓	✓
<b>Integrated analog Modem</b>			
NM-8AM: Eight-port Analog Modem Network Module	✓	✓	✓
NM-16AM: Sixteen-port Analog Modem Network Module	✓	✓	✓
<b>VOICE MODULES AND VOICE CARDS FOR 3600 &amp; 2600</b>			
<b>Voice Modules for 3600 &amp; 2600</b>			
NM-1V: One-Slot Voice/Fax Network Module	✓	✓	✓

Product	Compatibility		
	3660	3640/3620	2600
NM-2V: Two-Slot Voice/Fax Network Module	✓	✓	✓
<b>Voice Cards for the Voice Modules for 3600 &amp; 2600</b>			
VIC-2FXS: Two-port - FXS Voice Interface Card	✓	✓	✓
VIC-2FXO: Two-port - FXO Voice Interface Card	✓	✓	✓
VIC-2E/M: Two-port - EM Voice Interface Card	✓	✓	✓
VIC-2FXO-EU: Two-port - FXO Voice Interface Card - For Europe	✓	✓	✓
VIC-2FXO-M3: Two-port - FXO Voice Interface Card - For Australia	✓	✓	✓
VIC-2BRI-S/T-TE: Two Port BRI ISDN Voice Interface Card	✓	✓	✓
<b>DIGITAL VOICE MODULES FOR 3600 AND 2600</b>			
NM-HDV-1E1-30: Digital Voice Module - 30 medium complexity voice channels	✓	✓	✓
NM-HDV-1E1-30E: Digital Voice Module - 30 high/medium complexity voice channels	✓	✓	✓
NM-HDV-2E1-60: Digital Voice Module - 60 high/medium complexity voice channels	✓	✓	✓
<b>NETWORK MODULES FOR 3600 ONLY</b>			
<b>Mixed Media Modules (LAN/WAN) Supported by the Cisco 3600 Series only (WIC Interface)</b>			
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	✓	✓	---

Product	Compatibility		
	3660	3640/3620	2600
<b>Fast Ethernet Modules supported by the 3600 series only</b>			
NM-1FE-TX: One-port Fast Ethernet, TX Only Network Module	✓	✓	---
NM-1FE-FX: One-port Fast Ethernet, FX Only Network Module	✓	✓	---
NM-1FE2W - 1 x 10/100 with 2 WIC slots	✓	✓	---
NM-2FE2W - 2 x 10/100 with 2 WIC slots	✓	✓	---
NM-1FE1R2W - 1 x 10/100, 1 Token Ring with 2 WIC slots	✓	✓	---
<b>ATM Modules supported by the 3600 only</b>			
NM-1A-OC3MM: Single Port OC-3 ATM Multi-mode Fiber Network Module	✓	✓	---
NM-1A-OC3SMI: Single Port OC-3 ATM Single-mode Intermediate Reach Fiber Network Module	✓	✓	---
NM-1A-OC3SML: Single Port OC-3 ATM Single-mode Long Reach Fiber Network Module	✓	✓	---
<b>Serial Modules supported by the 3600 series only</b>			
NM-4T: Four-port Serial Network Module	✓	✓	---
<b>High Speed Serial Interface for 3600</b>			
NM-1HSSI: Single Port HSSI Network Module	✓	✓	---

Product	Compatibility		
	3660	3640/3620	2600
<b>ISDN Primary Rate Interface Modules supported by the 3600 series only (E1 PRI)</b>			
NM-1FE1CE1B: One-port Fast Ethernet 1-Port Channelized E1/ISDN-PRI Balanced Network Module	✓	✓	---
NM-1FE1CE1U: One-port Fast Ethernet 1-Port Channelized E1/ISDN-PRI Unbalanced Network Module	✓	✓	---
NM-1FE2CE1B: One-port Fast Ethernet 2-Port Channelized E1/ISDN-PRI Balanced Network Module	✓	✓	---
NM-1FE2CE1U: One-port Fast Ethernet 2-Port Channelized E1/ISDN-PRI Unbalanced Network Module	✓	✓	---
<b>ISDN Primary Rate Interface Modules supported by the 3600 series only (T1 PRI)</b>			
NM-1FE1CT1: One-port Fast Ethernet 1-Port Channelized T1/ISDN-PRI Network Module	✓	✓	---
NM-1FE1CT1-CSU: One-port Fast Ethernet 1-Port Channelized T1/ISDN-PRI with CSU Network Module	✓	✓	---
NM-1FE2CT1-CSU: One-port Fast Ethernet 2-Port Channelized T1/ISDN-PRI with CSU Network Module	✓	✓	---
NM-1FE2CT1: One-port Fast Ethernet 2-Port Channelized T1/ISDN-PRI Network Module	✓	✓	---
<b>DIGITAL MODEM MODULES FOR 3600 SERIES ONLY</b>			
NM-6DM: Six-port Digital Modem Network Module	✓	✓	---
NM-12DM: Twelve-port Digital Modem Network Module	✓	✓	---
NM-18DM: Eighteen-port Digital Modem Network Module	✓	✓	---

Product	Compatibility		
	3660	3640/3620	2600
NM-24DM: Twenty four-port Digital Modem	✓	✓	---
NM-30DM: Thirty-port Digital Modem	✓	✓	---
MICA-6MOD: 6 Digital Modem Upgrade	✓	✓	---
<b>WIC modules supported by the 3600 and 2600</b>			
WIC-1B-U: One-port ISDN with NT-1 WAN Interface Card	✓	✓	✓
WIC-1B-S/T: One-port ISDN WAN Interface Card	✓	✓	✓
WIC-1DSU-T1: One-port T1/Fractional T1 DSU/CSU WAN Interface Card	✓	✓	✓
WIC-1T: One-port Serial WAN Interface Card	✓	✓	✓
WIC-1DSU-56K4: One-port 4-Wire 56/64Kbps DSU/CSU WAN Interface Card	✓	✓	✓
WIC-2T: Two-port Serial WAN Interface Card	✓	✓	✓
WIC-2A/S: Two-port Asynchronous / Asynchronous Serial WAN Interface Card	✓	✓	✓
<b>Integration Modules for the 2600 series routers only</b>			
2600 Compression AIM (advanced integration module)	---	---	✓
<b>Compression Modules for 3600</b>			
NM-COMPR: Compression Network Module	---	✓	---
NM-COMPR4 (AIM)	✓		



Cisco SYSTEMS



**Corporate Headquarters**

Cisco Systems Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA

World Wide Web URL:  
<http://www.cisco.com>  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 526-4100

**European Headquarters**

Cisco Systems Europe s.a.r.l.  
11, rue Camille Desmoulins  
92 782 Issy Les Moulineaux  
Cedex 9  
France

Tel: 33 1 58 04 60 00  
Fax: 33 1 58 04 61 00

**Americas Headquarters**

Cisco Systems Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA

Tel: 408 526-7660  
Fax: 408 526-4646

**Asia Headquarters**

Nihon Cisco Systems K.K.  
Fuji Building  
3-2-3 Marunouchi  
Chiyoda-ku, Tokyo 100  
Tel: 81 3 5219 6000  
Fax: 81 3 5219 6010

**Cisco Systems has more than 190 offices in the following countries. Addresses, phone numbers, and fax numbers are listed on the**

**Cisco Connection Online Web site at <http://www.cisco.com>**

Argentina · Australia · Austria · Belgium · Brazil · Bulgaria · Canada · Chile · China (PRC) · Colombia · Costa Rica · Croatia · Czech Republic  
Denmark · Finland · France · Germany · Hong Kong · Hungary · India · Indonesia · Ireland · Israel · Italy · Japan · Korea · Malaysia · Mexico  
The Netherlands · New Zealand · Norway · Philippines · Poland · Portugal · Romania · Russia · Singapore · Slovenia · South Africa · Spain · Sweden  
Switzerland · Taiwan, ROC · Thailand · Ukraine · United Arab Emirates · United Kingdom · Venezuela



Copyright Cisco Systems, Inc. All rights reserved. Printed in the United Kingdom. Cisco Systems is a trademark; Lightstream, MultiNet, MultiWare, OptiClass, Personal Ethernet, Phase/IP, RPS, StrataCom, TGV, the TGV logo, and UniverCD are registered trademarks of Cisco Systems, Inc. All other trademarks, registered trademarks, or registered service marks mentioned in this document are the property of their respective owners.