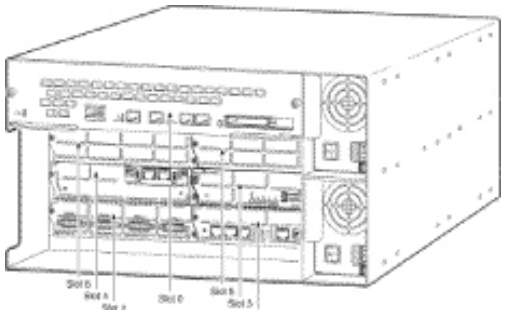
Cisco 3662-AC/DC-CO Multiservice Access Platform for Service Provider Network Operations Connectivity

The Cisco 3662-AC/DC-CO is a robust NEBS Level 3/ETSI compliant networking platform, specifically designed to optimize the network management operations of service provider networks; also known as Data Communication Networks.

As part of the scalable Cisco Data Communication Network (DCN) solution, which includes the Cisco Catalyst® 1924-DC switch, Catalyst 2924M-XL switch, Catalyst 4003-DC switch, Cisco 3640, Cisco 3631-CO, Cisco 2600 Series multiservice access platform, and the Telco DCN feature set of Cisco IOS® software, the Cisco 3662-AC/DC-CO supports central office SONET/SDH operations management interfaces, as well as async and X.25 interfaces on the same platform. The DCN provides connectivity for Network Elements (NEs) in Service Provider, Inter-Exchange Carrier (IXCs), and Post, Telephone and Telegraph (PTT) networks for alarm monitoring, remote provisioning, and software downloads. Other operations systems network applications include local number portability and billing data collection. In addition, competitive local exchange carriers (CLECs) can use the Cisco 3662-AC/DC-CO in their numerous points of presence (POPs) or central office (CO) co-locations for digital subscriber line access multiplexers (DSLAMs), voice switches, and transmission operations networking.

Figure 1 Cisco 3662-AC/DC-CO



The Cisco 3662-AC/DC-CO is a versatile multiservice access platform designed for CO environments, which significantly reduces the complexity and costs of managing DCN operations. By integrating multiple network elements onto one DCN infrastructure, the Cisco 3662-AC/DC-CO allows Service Providers to streamline their operations. The Cisco 3662-AC/DC-CO provides flexible connectivity to legacy X.25 and async devices as well as Ethernet devices, facilitating a graceful migration from proprietary-based to standards-based network elements.

The Cisco 3662-AC/DC-CO is 5 rack units (RU) high and easily fits alongside transmission equipment in standard 12-inch (300 mm) deep relay rack lineups. Support for redundant AC or DC power supplies and “hotswapping” capability

of network modules ensures high availability. Rear access cabling allows easy connectivity, and a modular design allows fast servicing of field-replaceable units (FRUs). Common language equipment identification (CLEI) coding is provided for easy identification and tracking of central office equipment. Robust network management capability for the Cisco DCN solution is achieved using the CiscoWorks, CiscoView and CiscoView Stack Management Interface applications. These same applications are used to manage a large number of Cisco products that have already been deployed in existing networks, presenting network support personnel a familiar look-and-feel. The Cisco 3662-AC/DC-CO is equipped with two integrated autosensing 10/100 Mbps Ethernet ports and six modular expansion slots. There are more then 70 different modular interface that can be used in these slots, providing unmatched versatility. For example, service providers can populate the six slots with 32-port asynchronous modules and achieve a density of up to 192 async ports in a compact form factor.

Key Features and Benefits

Optimized for Service Provider Networks

- Significantly reduces complexity by consolidating DCNs into a cost-effective network solution
- Provides a graceful migration path from proprietary based to standards based network elements
- Reduces lifecycle costs of DCN operations
- Remote monitoring and control of network elements

Customized Operating Software

Cisco IOS software is a key differentiator in the Cisco DCN solution. Not only is it deployed in most IP networks around the world, but it is now packaged for service provider specific DCN applications. The Cisco IOS Telco images support the following network management requirements:

- Full IP/open system interconnections (OSI) routing services including OSPF, EIGRP, IGRP, RIP, multiprotocol BGP, multi-area integrated ISIS and DNS
- TL1 support including transport via IP, X.25, TCP, or OSI. TARP (TID Address Resolution Protocol) support and TARP Storm Avoidance support
- PPP services and WAN interface support for ISDN, Frame Relay, ATM, and X.25
- X.25 support services including X.25 switching, X.3 asynchronous PAD, DNS for X.25 address resolution, hunt groups, and SVC/PVC conversion
- IP to X.25 protocol translation
- BX.25 transport over X.25 or TCP (XOT)
- Multi area OSI support, 12 OSI areas per chassis, essentially providing the same capabilities as 12 separate OSI routers

Feature Richness

The Cisco 3662-AC/DC-CO is not limited to providing support for just the DCN features listed above. It supports a large variety of other capabilities as well, including voice over IP or frame relay, dial support for analog and digital modems, DSL aggregation, and virtual private networking to name a few.

Platform Manageability

- Support for CiscoWorks, CiscoWorks2000, and CiscoView allows simplified management of all integrated and stackable components.
- CLEI codes enable easy identification and tracking of CO equipment.
- An enhanced setup feature provides context-sensitive questions that guide the user through the router configuration process, allowing faster deployment.
- AutoInstall configures remote routers automatically across a WAN connection to save the cost of sending technical staff to remote sites.
- Support for the Cisco Discovery Protocol (CDP), which enables a CiscoWorks network management station to automatically discover the Cisco 3662-AC/DC-CO in a network topology.

Versatility

- A modular architecture offers a huge selection of LAN and WAN interfaces and provides easy customization for individual needs and the flexibility for network modules to be added on a “pay-as-you-grow” basis.
- The 3662-AC/DC-CO and 3662-AC-CO are a key component of the Cisco 3600 series which include chassis options for both the service provider and enterprise market. Table 1below highlights the differences between the two types of chassis.

Table 1 Cisco 3660 Series chassis comparison

Feature	Telco	Enterprise
Chassis Model Numbers	3662-AC-CO, 3662-AC/DC-CO	3661-AC, 3661-DC, 3662-AC, 3662-DC
Flash	16 MB	8 MB
SDRAM	64 MB	32 MB
Compliance	Nebs Level 3 and ETSI compliant	Does not meet Nebs Level 3 or ETSI compliant
Dimensions	Meets 12 inch or 300mm depth requirement for Telco environments	Exceeds 12 inch or 300mm depth requirement for Telco environments
Software	Telco or Telco Plus SW only images supported. Ships with Telco. Telco is basically IP with Telco features Telco Plus is basically enterprise plus with Telco features	Typical IOS images supported. Ships with IP
Plastic Bezel	Not shipped with chassis to meet fire test requirements	Ships with chassis

- Consolidates high density of low-speed serial links and high densities of IP ports at a cost-effective price point. For example, 48 synchronous ports or 192 asynchronous ports can be supported on the platform
- All parts are field-upgradable, allowing quick, easy, and low-cost maintenance.
- An analog phone can be connected to the Cisco 3662-AC/DC-CO using the voice network module, allowing ease of communication between a service technician and the operations center. This provides great savings by eliminating the need to run a phone line to the rack, and for controlled equipment vaults where recurring phone line charges can add up.
- WAN interface cards and network modules are shared with the Cisco 2600-DC series Multiservice Access platform, allowing reduced cost of maintaining inventory of modular components and requiring lower training costs for support personnel.

Performance

The Cisco 3660 improves on the density and performance of a Cisco 3640 while providing a chassis design that is more suited for the Telco environment. The following table provides a comparison of the two products

Table 2 Cisco 3660 and Cisco 3640 comparison for Telco environment

Feature	Cisco 3660	Cisco 3640
Performance	100-120 Kpps	50-70 Kpps
LAN Ports (Integrated)	1 or 2 10/100 Ethernet	None
Network Module Slots	Six	Four
Advanced Integration Modules	Two	None
Async Ports	192	96
Sync Ports	96	48
Ethernet ports	26	16
Field Serviceable	All components	Power supply only
Hot swap capability	Like to like network modules Power supplies	Not available
Power supply redundancy	Redundancy integrated in chassis (AC or DC)	External redundant power supply unit (AC only)
Dimension (WxHxD)	Meets 12 inch / 300 mm depth requirement 8.7 x 17.5 x 11.8 (in) 221 x 445 x 300 (mm)	3.44 x 17.5 x 15.75 (in) 87.4 x 445 x 400 (mm)

- A high-performance RISC architecture provides 120K packets per second of fast switching capability. Support for ATM OC-3 or 4/8 port T1/E1 Inverse Multiplexing over ATM (IMA) interfaces provide's higher bandwidth for remote software downloads, statistics collection, and billing records collection.
- Support for two advanced integration module (AIM) slots, which can be used today to provide hardware acceleration for different applications.
- Security features, such as data encryption, tunneling, Radius, TACACS+, and AAA, are enabled to protect data assets.

Connectivity Options

- Cisco IOS software support provides connectivity to legacy X.25 and async devices, as well as supports full-featured IP and OSI routing on a single platform.
- A large variety of interfaces with a full selection of feeds and speeds provide connectivity to IP, ATM, Frame Relay, and TDM networks and will support the needs of any central office environment. A full description of these interfaces is provided in Table 3.

Reliability

- Redundant DC power supplies provide continuous operation for mission critical environments.
- Hot swap of like-like network modules (NMs) is provided for higher availability.
- Full diagnostics and error reporting on all major components of the chassis including power supply, main board, back plane, and fans is provided.
- Dual bank flash memory allows a backup copy of Cisco IOS software to be stored in flash memory for reduced downtime.
- LED status indicators provide at-a-glance activity status.

Serviceable Design

All network interfaces are located on the rear of the unit for simplified installation and cable management. Easy-to-open chassis design allows fast and easy access for installation or upgrading of a variety of system components (field-replaceable component design).

The NEBS Level 3 / ETSI platform is 5 RU high, and can fit right alongside transmission equipment in standard 12-inch/300 mm deep relay rack lineups.

Summary

As New World computing capabilities change the landscape of the CO operations network, support for a variety of network interfaces and greater requirements for bandwidth are straining current DCN capabilities. The Cisco 3662-AC/DC-CO system rounds out the Cisco DCN solution by enabling Telco Service Providers to consolidate both legacy as well as standards-based network management traffic over a single infrastructure for connectivity to their operational support systems. The Cisco 3662-AC/DC-CO enables a service provider to deploy an ultra-reliable, scalable, and versatile platform, which allows graceful migration from current proprietary-based to New World, standards-based infrastructure in an extremely cost-effective manner.

Adding the capabilities of Cisco IOS software, which runs most of the Internet traffic around the world today, Cisco not only provides a full-featured DCN solution, but also enables a variety of additional features on the Cisco 3662-AC/DC-CO. Features such as virtual private networks (VPNs) and voice can enhance a Telco operations network. These capabilities make the Cisco DCN solution the industry's best, with greater robustness and feature richness than any other solution available in the marketplace.

Support

Cisco support solutions are designed for one purpose—to put customers quickly in touch with appropriate resources. The Cisco support network consists of technical assistance center (TAC) engineers, development engineers, field engineers, parts warehouses, delivery services, and service partners. By including Cisco support with Cisco equipment purchases, customers immediately gain access to a wealth of support resources.

Table 3 Cisco 3660 System Specifications

Feature	Specifications
Processor Type	225-MHz RISC QED RM5271
Flash Memory	16 MB, upgradable to 64MB
System Memory	64MB SDRAM, upgradable to 128, or 256 MB SDRAM
Network Module Slots	Six slots
Advanced Integration Module Slots	Two slots
Onboard LAN Ports	Two autosensing 10/100 Mbps ports
Power	250W power supplies with dual DC, dual AC, or single DC/single AC configuration
Dimensions (HxWxD)	8.7 x 17.5 x 11.8 in. (221 x 445 x 300 mm)
Performance	100 to 120-Kpps fast switching and 10 to 12 Kpps process switching
Console and Auxiliary Ports (up to 115.2 kbps)	Yes
Rack-Mounting	Yes, 19 in. and 23 in. widths, center mount
Dual Type II PCMCIA Card Slots	Yes

Alarm Interface Controller Network Module

The Alarm Interface Controller (AIC) is a network module that greatly expands the network monitoring and control capabilities of the Cisco 2600 and 3600 Series routers. The AIC functions as an integrated entity residing within the Cisco 2600 Router to provide network alarm monitoring and remote control of network elements. The AIC reduces service provider and enterprise operating expenses by facilitating a single “box solution,” doing away with the need for a dedicated external alarm monitoring device. This greatly simplifies network layout, monitoring, and control resulting in lower operations, administration, maintenance, and provisioning (OAM&P) costs. The AIC is supported in Cisco IOS® 12.2 (2) XG and 12.2(7)T. The AIC network module supports 64 discrete alarm inputs, of which 8 of the last 64 alarm points are software- configurable to accept either analog or discrete inputs. The AIC further supports 16 control relays to facilitate the remote control of network elements.

Table 4 Alarm Interface Controller Network Module

Module	Description	Cisco IOS Version
NM-AIC-64	Alarm monitoring and control network module; 64 contact points and 16 control points	12.2(2)XG and 12.2(7)T

Table 5 Cisco 3660 Series Network Modules, Product Numbers, and Descriptions

Network Modules	Description	Minimum IOS Rel
Serial Network Modules		
NM-16A	16-port high-density async network module	12.0.5XK and 12.0.5T
NM-32A	32-port high-density async network module	12.0.5XK and 12.0.5T
NM-4T	4-port serial network module	12.0.5XK and 12.0.5T
NM-4A/S	4-port async/sync serial network module	12.0.5XK and 12.0.5T
NM-8A/S	8-port async/sync serial network module	12.0.5XK and 12.0.5T
NM-1HSSI	1-port high speed serial interface module	12.0.5XK and 12.0.5T
LAN Network Modules and Mixed-Media LAN and WAN Network Modules		
NM-1FE2W	1 10/100 Ethernet 2 WAN Card Slot Network Module	12007XK or 12101T
NM-2FE2W	2 10/100 Ethernet 2 WAN Card Slot Network Module	12007XK or 12101T
NM-1E1FE2W	1 10/100 Ethernet 1 4/16 Token Ring 2 WAN Card Slot NM	12007XK or 12101T
NM-2W	2 WAN Card Slot Network Module (no LAN)	12007XK or 12101T
NM-1FE-TX	1-port Fast Ethernet network module (10/100BaseTX only)	12.0.5XK and 12.0.5T
NM-1FE-FX	1-port Fast Ethernet network module (10/100Base Fiber only)	12.0.5XK and 12.0.5T
NM-4E	4-port Ethernet network module	12.0.5XK and 12.0.5T
NM-1E	1-port Ethernet network module	12.0.5XK and 12.0.5T
NM-1E2W	1-port Ethernet, two-WAN-card-slot network module	12.0.5XK and 12.0.5T
NM-2E2W	2-port Ethernet, two-WAN-card-slot network module	12.0.5XK and 12.0.5T
NM-1E1R2W	1-port Ethernet, one-port Token Ring, two-WAN-card-slot network module	12.0.5XK and 12.0.5T
Digital Packet Voice and Fax Trunk Network Modules		
NM-HDV-1T1-24	Single-port, 24-channel T1 voice/fax Network Module (supports 24 channels of medium complexity VoCoders: G.729a/b, G.726, G.711 and fax or 12 channels of G.726, G.729, G.723.1, G.728, G.729a/b, G.711 and fax)	12.0.5XK and 12.0.5T
NM-HDV-1T1-24E	Single-port, enhanced 24-channel T1 voice/fax Network Module (supports 24 channels of high and medium complexity VoCoders: G.729a/b, G.726, G.729, G.728, G.723.1, G.711 and fax)	12.0.5XK and 12.0.5T
NM-HDV-2T1-48	Dual-port, 48-channel T1 voice/fax Network Module (supports 48 channels of medium complexity VoCoders: G.729a/b, G.726,G.711and fax or 24 channels of G726, G729, G723.1, G.728, G729a/b, G711 and fax) Supports add/drop multiplexing (drop and insert)	12.0.5XK and 12.0.5T
NM-HDV-1E1-30	Single-port, 30-channel E1 voice/fax Network Module (supports 30 channels of medium complexity VoCoders: G.729a/b, G.726, G.711 and fax or 12 channels of G.726, G.729, G.723.1, G.728, G.729a/b, G.711 and fax)	12007XK or 12101T

Table 5 Cisco 3660 Series Network Modules, Product Numbers, and Descriptions (Continued)

Network Modules	Description	Minimum IOS Rel
NM-HDV-1E1-30E	Single-port, enhanced 30-channel E1 voice/fax Network Module (supports 30 channels of high and medium complexity VoCoders: G.729a/b, G.726, G.729, G.728, G.723.1, G.711 and fax)	12007XK or 12101T
NM-HDV-2E1-60	Dual-port, 60-channel E1 voice/fax Network Module (supports 60 channels of medium complexity VoCoders: G.729a/b, G.726,G.711and fax or 30 channels of G726, G729, G723.1, G.728, G729a/b, G711 and fax) Supports add/drop multiplexing (drop and insert)	12007XK or 12101T
NM-HDV=	High-density voice/fax Network Module spare	12.0.5XK and 12.0.5T
PVDM-12=	12-channel packet voice DSP module upgrade spare	12.0.5XK and 12.0.5T
Analog Packet Voice and Fax Trunk Network Modules		
NM-1V	1-slot voice and fax network module	12.0.5XK and 12.0.5T
NM-2V	2-slot voice and fax network module	12.0.5XK and 12.0.5T
Voice Interface Cards		
VIC-2FXS	2-port voice interface card—FXS	12.0.5XK and 12.0.5T
VIC-2FXO	2-port voice interface card—FXO	12.0.5XK and 12.0.5T
VIC-2E/M	2-port voice interface card—E&M	12.0.5XK and 12.0.5T
VIC-2FXO-M3	2-port voice interface card—FXO (for Australia)	12.0.5XK and 12.0.5T
VIC-2FXO-EU	2-port voice interface card—FXO (for Europe)	12.0.5XK and 12.0.5T
VIC-2BRI-S/T-TE	2-port voice interface card—BRI (terminal)	12007XK or 12101T
Note: Voice interface cards plug into the VIC slots on the one-and two-port voice/fax network modules. Up to two voice interface cards can be installed on a single voice/fax network module. The voice interface cards are not included in the price of the mixed-media network modules.		
ATM Network Modules		
NM-1ATM-25	1-port 25-Mbps ATM network module	12007XK or 12101T
NM-1A-OC3MM	1-port 155-Mbps OC-3 ATM multimode network modules	12.0.5XK and 12.0.5T
NM-1A-OC3SMI	1-port 155-Mbps OC-3 ATM single-mode, intermediate-reach network modules	12.0.5XK and 12.0.5T
NM-1A-OC3SML	1-port 155-Mbps OC-3 ATM single-mode, long-reach network modules	12.0.5XK and 12.0.5T
NM-4T1-IMA	4-port T1 ATM network module with Inverse Multiplexing over ATM (IMA)	12.0.5XK and 12.0.5T
NM-4E1-IMA	4-port E1 ATM network module with IMA	12.0.5XK and 12.0.5T
NM-8T1-IMA	8-port T1 ATM network module with IMA	12.0.5XK and 12.0.5T
NM-8E1-IMA	8-port E1 ATM network module with IMA	12.0.5XK and 12.0.5T

Table 5 Cisco 3660 Series Network Modules, Product Numbers, and Descriptions (Continued)

Network Modules	Description	Minimum IOS Rel
Serial WAN Interface Cards		
WIC-2T	2-port High Speed Serial	12007XK or 12101T
WIC-2-A/S	2-port Async/Sync Serial	12007XK or 12101T
WIC-1DSU-T1	1-port T1/fractional T1 with CSU/DSU	12.0.5XK and 12.0.5T
WIC-1T	1-port high-speed serial	12.0.5XK and 12.0.5T
WIC-1DSU-56K4	1-port, four-wire 56/64-Kbps with CSU/DSU	12.0.5XK and 12.0.5T
Digital Voice/WAN Interface Cards		
VWIC-1MFT-T1	1-port RJ-48 MultiFlex Trunk—T1	12.0.5XK and 12.0.5T
VWIC-2MFT-T1	2-port RJ-48 MultiFlex Trunk—T1	12.0.5XK and 12.0.5T
VWIC-2MFT-T1-DI	2-port RJ-48 MultiFlex Trunk—T1 with Drop and Insert	12.0.5XK and 12.0.5T
VWIC-1MFT-E1	1-port RJ-48 MultiFlex Trunk—E1	12007XK or 12101T
VWIC-2MFT-E1	2-port RJ-48 MultiFlex Trunk—E1	12007XK or 12101T
VWIC-2MFT-E1-DI	2-port RJ-48 MultiFlex Trunk—E1 with Drop and Insert Add not for VWICs Vic slots and WIC slots	12007XK or 12101T
Note: Voice/WAN (VWIC) interface cards plug into the Voice slots in the High Density Voice Network Module or the WAN slots on the new Fast Ethernet mixed-media LAN/WAN network modules. Up to two VWIC interface cards can be installed on these network modules. The VWIC interface cards are not included in the price of the Fast Ethernet mixed-media network modules.		
ISDN WAN Interface Cards		
WIC-1B-S/T	1-port ISDN BRI	12.0.5XK and 12.0.5T
WIC-1B-U	1-port ISDN BRI with NT1	12.0.5XK and 12.0.5T
Note: WAN interface cards plug into the mixed-media LAN/WAN network modules. Up to two WAN interface cards can be installed on a single, mixed-media LAN/WAN network module. The WAN interface cards are not included in the price of the mixed-media network modules		
ISDN and Channelized Serial Network Modules		
NM-1CT1	1-port channelized T1/ISDN PRI network module	12007XK or 12101T
NM-1CT1-CSU	1-port channelized T1/ISDN PRI with CSU network module	12007XK or 12101T
NM-2CT1	2-port channelized T1/ISDN PRI network module	12007XK or 12101T
NM-2CT1-CSU	2-port channelized T1/ISDN PRI with CSU network module	12007XK or 12101T
NM-1CE1B	1-port channelized E1/ISDN PRI balanced network module	12007XK or 12101T
NM-1CE1U	1-port channelized E1/ISDN PRI unbalanced network module	12007XK or 12101T
NM-2CE1B	2-port channelized E1/ISDN PRI balanced network module	12007XK or 12101T
NM-2CE1U	2-port channelized E1/ISDN PRI unbalanced network module	12007XK or 12101T

Table 5 Cisco 3660 Series Network Modules, Product Numbers, and Descriptions (Continued)

Network Modules	Description	Minimum IOS Rel
NM-1FE1CT1	1-port Fast Ethernet and 1-port channelized T1/ISDN-PRI network module	12007XK or 12101T
NM-1FE1CT1-CSU	1-port Fast Ethernet and 1-port channelized T1/ISDN-PRI network module with integrated CSU	12007XK or 12101T
NM-1FE2CT1	1-port Fast Ethernet and 2-port channelized T1/ISDN-PRI network module	12007XK or 12101T
NM-1FE2CT1-CSU	1-port Fast Ethernet and 2-port channelized T1/ISDN-PRI network module with integrated CSUs	12007XK or 12101T
NM-1FE1CE1U	1-port Fast Ethernet and 1-port channelized E1/ISDN-PRI unbalanced network module	12007XK or 12101T
NM-1FE1CE1B	1-port Fast Ethernet and 1-port channelized E1/ISDN-PRI unbalanced network module	12007XK or 12101T
NM-1FE2CE1U	1-port Fast Ethernet and 2-port channelized E1/ISDN-PRI unbalanced network module	12007XK or 12101T
NM-1FE2CE1B	1-port Fast Ethernet and 2-port channelized E1/ISDN-PRI balanced network module	12007XK or 12101T
NM-4B-S/T	4-port ISDN BRI network module	12007XK or 12101T
NM-4B-U	4-port ISDN BRI with NT1 network module	12007XK or 12101T
NM-8B-S/T	8-port ISDN BRI network module (S/T interface)	12007XK or 12101T
NM-8B-U	8-port ISDN BRI with NT1 network module (U interface)	12007XK or 12101T
Modem Modules		
NM-8AM	8-port analog modem network module	12007XK or 12101T
NM-8AM-J	8-port analog modem network module for Japan	12007XK or 12101T
NM-16AM	16-port analog modem network module	12007XK or 12101T
NM-16AM-J	16-port analog modem network module for Japan	12007XK or 12101T
NM-6DM	6-port digital modem network module	12007XK or 12101T
NM-12DM	12-port digital modem network module	12007XK or 12101T
NM-18DM	18-port digital modem network module	12007XK or 12101T
NM-24DM	24-port digital modem network module	12007XK or 12101T
NM-30DM	30-port digital modem network module	12007XK or 12101T
MICA-6MOD=	6-port digital modem upgrade card	12007XK or 12101T

Table 5 Cisco 3660 Series Network Modules, Product Numbers, and Descriptions (Continued)

Network Modules	Description	Minimum IOS Rel
Other		
AIM-COMPR4	4 E1 data compression AIM	12.0.5XK and 12.0.5T
NM-COMPR	Compression network module for 3620 and 3640	Not Supported
AIM-COMPR2	2 E1 data compression AIM for Cisco 2600	Not Supported
AIM-VPN/HP	8 E1 hardware based AIM encryption module for Cisco 3662	12.1.3XI
PWR600-AC-RPS-xxx	600 watt redundant power supply option	Not Supported

Table 6 Cables for Network Modules VICs and WICs

Interface Type	Electrical Interface	Product Number	Length	Connector Gender
NM-4A/S NM-8A/S (Up to 115.2 Async or 128 Kbps Async) NM-4T WIC-IT	V.35 DTE	CAB-V35MT	10 ft	Male
	V.35 DCE	CAB-V35FC	10 ft	Female
	RS-232 DTE	CAB-232MT	10 ft	Male
	RS-232 DCE	CAB-232FC	10 ft	Female
	RS-449 DTE	CAB-449MT	10 ft	Male
	RS-449 DCE	CAB-449FC	10 ft	Female
	X.21 DTE	CAB-X21MT	10 ft	Male
	X.21 DCE	CAB-X21FC	10 ft	Female
	RS-530	DTE CAB-530MT	10 ft	Male
CT1/CE1 PRI	MIP-CT1 DSX1 to DB15 cable	CAB-7KCT1DB15	—	—
CT1/PRI	RJ-45-RJ-45	CAB-T1-RJ-45	10 ft	Male
CE1/PRI	E1-ISDN PRI	CAB-E1-PRI	10 ft	—
	E1 twinax 120-ohm balanced	CAB-E1-TWINAX	3 m	—
	E1 DB15 120-ohm balanced	CAB-E1-DB15	5 m	—
	FSIP and MIP-CE1 BNC 75-ohm unbalanced	CAB-E1-BNC	5m	—
16/32 Async	8-port with RJ-45 ends	CAB-OCTAL-ASYNC	3.5 ft	Male RJ-45
	8-port with 25 pin ends	CAB-OCTAL-MODEM	3.5 ft	Male RS-232
	8-port RJ-45 + eight xMMOD	CAB-OCTAL-KIT	3.5 ft	Male RS-232
CAB-OCTAL-ASYNC	Adapter cable	CAB-25AS-MMOD	—	RJ-45 –RS-232M
	Adapter cable	CAB-25AS-FDTE	—	Female RJ-45 -RS-232F
Voice WAN Interface Card Cable	E1 Cable RJ45 to Dual BNC (Unbalanced)	CAB-E1-RJ45BNC	—	RJ-45 - Dual BNC
	E1 Cable RJ45 to Twinax (Balanced)	CAB-E1-RJ45TWIN	—	RJ-45 - Twinax

Table 6 Cables for Network Modules (Continued)VICs and WICs (Continued)

Interface Type	Electrical Interface	Product Number	Length	Connector Gender
Smart Serial Cable (or 12 in 1) Cables	DTE and DCE versions of the following physical Interfaces: EISa/ TIA-232, V.35, X.21, RS-449, RS-530, and RS-530A	CAB-SS-V35MT(=)	—	Male
		CAB-SS-V35FC(=)	—	Female
		CAB-SS-232MT(=)	—	Male
		CAB-SS-232FC(=)	—	Female
		CAB-SS-449MT(=)	—	Male
		CAB-SS-449FC(=)	—	Female
		CAB-SS-X21MT(=)	—	Male
		CAB-SS-X21FC(=)	—	Female
		CAB-SS-530MT(=)	—	Male
		CAB-SS-530FC(=)	—	Female
		CAB-SS-530AMT(=)	—	Male
		CAB-SS-530AFC(=)	—	Female

Table 7 Dimensions and Weight Specifications

Height	8.7 in. (221 mm) - 5 RU
Width	17.5 in. (445 mm)
Depth	11.8 in. (300 mm)
Weight (minimum)	32 lb (14.55 kg)
Weight (maximum)	43 lb (19.55 kg)

Table 8 Power Requirements

Output, Watts	250W Max per Power Supply
AC Input Voltage	100 to 240
Frequency	50 to 60 Hz
AC Input Current	4 Amps at 100V or 2 Amps at 200V
DC Input Voltage	-38V to -75V
DC Input Current	8 Amps at -48V

Table 9 Environmental Specifications

Operating Temperature	32 to 104 F (0 to 40 C)
Nonoperating Temperature	-13 to 158 F (-25 to 70 C)
Relative Humidity	5 to 95%
Noise Level (Maximum)	48 dbA

Regulatory Compliance

The Cisco 3662-AC/DC-CO multiservice access platform conforms to a number of different safety, EMI, immunity, and network homologation standards.

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