MC3810 Datasheet

The Cisco MC3810 is a compact, low-cost multiservice access concentrator for integration of data, voice, and video onto public or private Frame Relay, Asynchronous Transfer Mode (ATM) or leased line networks.

Cisco MC3810 Multiservice Access Concentrator

As part of an enterprise backbone or as customer premises equipment (CPE) to service provider-managed network services, the MC3810 reduces operating costs and complexity and increases network throughput and performance. Interoperable with the broad Cisco networking portfolio, the MC3810 is a practical investment in today's networking requirements and a strategic investment in converging data, voice, and video applications.

Highlights

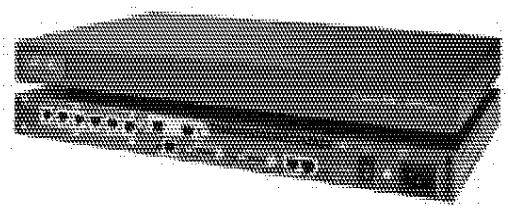
- Seamlessly integrates data, voice, and video
- Leased line, Frame Relay, and ATM service compatible
- Cisco IOS™ based-multiprotocol routing, bridging and SNA
- Two serial ports for packet data protocols, System Network Architecture (SNA)
- Six analog or 24/30 digital voice ports
- Quality voice compression at 8 kbps (G.729, G.729a) or 32 kbps (adaptive differential pulse code modulation [ADPCM])
- Per-call voice switching
- Fax Relay to 9.6 kbps
- Circuit emulation over ATM for video
- Digital Access and Crossconnect System (DACS)-compatible drop/insert structured trunk option
- Seamless interoperability and management

Data, Voice, Video Integration

The integration of data, voice, and video onto packet- or cell-based multiservice networks is a key direction for both enterprise and service provider infrastructures. In enterprise environments, emerging applications, such as LAN telephony, and the attraction of combined voice/data budgets are driving a new wave of data, voice, and video convergence. In service provider environments, new competitive pressures and the opportunities of new enterprise service demands make the flexibility and efficiency of multiservice infrastructures a compelling proposition.

The Cisco MC3810 is the latest in compact, low-cost, multiservice access concentration. As the "smart" entry point to any network, the MC3810 combines data, voice, and video in the most efficient, flexible, standards-based way possible, at a fraction of the cost of previous-generation, simple multiplexors. And based on Cisco IOS network-wide software, used in Cisco products from campus ATM switches to Internet backbone routers, the MC3810 is a natural, intuitive, interoperable extension to any Cisco network environment.

Cisco MC3810



Cisco Systems

From a data, voice, video integration perspective, the MC3810 is a member of a broad, interoperable portfolio of Cisco products used in other parts of networks, yet they share the same or equivalent capabilities. The Cisco IGX™ system provides Frame Relay and ATM backbone support in the enterprise much the same as the Cisco BPX® switch does in the service provider core.

Extensive LAN, Data Capabilities

The MC3810 includes the extensive Ethernet LAN and data capabilities familiar to users of other Cisco IOS software-based devices, including a rich IP and SNA suite. The MC3810 is attractively priced as a wire-speed E1/T1 router and serial data device having voice, video, and ATM capability. MC3810 serial data ports can also be used for peer connectivity to other Cisco IOS internetworking devices, or one can be used as a subrate trunk.

Efficient, Quality Voice Communications

The Cisco MC3810 connects onto any standard PBX switch, key system, or telephone, and provides up to 30 channels of voice, with compression down to 8 kbps using the standard G.729 CS-ACELP algorithm. The MC3810 provides echo cancellation for all voice channels and achieves further cost savings using voice activity detection (VAD), which halts voice traffic during the silence between words and sentences in speech. Depending on intracompany calling costs, the voice cost savings achieved using the MC3810 can lead to implementation cost payback in as little as three months, and help service providers migrate their managed voice virtual private network (VPN) services onto a more-efficient packet-/cell-based infrastructure.

The MC3810 supports an extensive array of call-handling capabilities for voice connections. The MC3810 can support tie-line and ring-down modes. It can also support dual tone multifrequency (DTMF) digit-based per-call switching, using dialed digits to select destination sites and network calls without having to go through tandem voice switching. At small sites, telephones and trunks can be connected to the MC3810 and it acts as a voice switch locally, obviating the need for Centrex, key, or private branch exchange (PBX) switching.

Video on Demand

The MC3810 supports both circuit and packet mode video. Circuit video is transported bit-by-bit through circuit emulation over a constant bit rate (CBR) ATM connection. Packet video can be supported over a variable bit rate (VBR) ATM connection or over the LAN, through the router engine, and over an unspecified bit rate (UBR) connection.

Frame Relay and ATM, Today

Using a capability called Multiflex trunking, the MC3810 trunk can be configured via software at both the physical and protocol levels. Regardless of whether the service is private or public; E1 or T1 based; ATM, frame relay, or TDM the MC3810 trunk module can be reprovisioned without a change to the hardware. Multiflex also provides DACS-compatible, structured trunking over T1, such that some time slots can be used for on-net traffic and services such as frame relay, while the rest can be used for drop/insert pass-through of unprocessed Public Switched Telephone Network (PSTN) traffic; this capability is compatible with any service provider standard DACS infrastructure.

Starting at 56 kbps the Multiflex trunk can operate up to 2.048 Mbps and can therefore be used to take advantage of attractive tariffs at any point in the network, resulting in huge cost savings in access line costs. Combine these savings with the operational benefits of deploying a single access product for multiple applications with the investment protection for ATM migration, and Multiflex trunking represents a tremendous value to MC3810 users.

Fully Standards Based

Designed to be used as simple access in enterprise networks, or as "smart" CPE in service provider multiservice infrastructures, the MC3810 is almost exclusively based on accepted industry standards from ITU, ANSI, European Telecommunication Standards Institute (ETSI), and Internet Engineering Task Force (IETF). In areas of pre-standard implementation, approximations to the emerging standards are implemented, and should simply require a software upgrade for eventual compliance. Standards-based products in this context minimize technology risk and maximize interoperability with similar standards-based systems.

Cisco IOS Software and Management

The Cisco IOS software has emerged as the industry's accepted standard for internetworking at all points from the desktop to the Internet backbone. As a Cisco IOS-based device, the MC3810 shares the same management interface as other Cisco systems, requiring only minor command extension for voice and video connections; therefore, support personnel trained on Cisco IOS software for data can be leveraged further into the voice and video arena. The MC3810 is also manageable by the CiscoView network management system, the Netsys Technologies™ tools suite, and emerging Cisco carrier-class service management solutions, for maximum management integration and minimum incremental support costs.

Cisco MC3810 Specifications

Feature	Description
System	
Flash Memory	Four or eight MB of Flash memory
DRAM Memory	16 MB of DRAM
Processor Type	Motorola PowerQUICC (MPC860)
Dimensions (H x W x D)	1.75 x 17.5 x 10.56 in. (4.44 x 44.45 x 26.82 cm)
Standard Components	Power supply and cord, console cable kit, RJ-45-to-DB-9 adapter, 19-in. (48.3-cm) rack-mount/wall-mount kit
Interfaces	
T1	ANSI T1.403 (1989), Bellcore TR-54016
E1	ITU G.703
Analog Voice	Six ports—FXS, FXO, E & M
Digital Voice	Single T1/E1 with crossconnect drop and insert and CAS signaling
Ethernet	Single 10BaseT
Serial	Two five-in-one synchronous serial—ANSI EIA/TA-530, EIA/TA-232, EIA/TA-449; ITU V.35, X.21
Protocols and Services	
LAN Support	IP, transparent bridging, concurrent routing and bridging, Novell IPX
WAN Services	T1/E1 ATM, Frame Relay, HDLC, PPP
WAN Optimization	Header, link and payload compression, custom and priority queuing, IPXWAN 2.0
IBM Support	RSRB, DLSw+, SDLC-to-LAN conversion (SDLC Logical Link Control [SDLLC]), SDLC transport (serial tunnel [STUN]), Frame Relay, SNA support (RFC 1490)

Feature	Description	
ATM Support	ATM Forum af-phy 0016.000	physical layer specification
	ATM Forum af-phy 0064.000	E1 physical layer specification
	ATM Forum af-saa 0032.000	Circuit emulation
	ATM Forum af-uni 0010.002	UNI signaling 3.1
	IETF RFC1483	Multiprotocol over ATM
	IETF RFC1577	IP over ATM
	IETF RFC1695	ATM MIB
	ANSI T1.630, ITU I.363, I.363.1	ATM AAL1 (constant bit rate)
	ANSI T1.635, ITU I.363.5	ATM AAL5 (variable bit rate)
Frame Relay	Frame Relay Forum FRF.1	User-Network Interface
	Frame Relay Forum FRF 3.1	Multiprotocol encapsulation
	Frame Relay Forum FRF.5	Frame Relay/ATM interworking
	Frame Relay Forum FRF.9	Data compression of Frame Relay
	ANSI T1.606 and ITU-T I.233.1	Frame Relay service
	ANSI T1.618 and ITU-T Q.922	Data transfer protocol
	ANSI T1.606 and ITU-T I.370	Congestion management
	ANSI T1.617 AnnexD and ITU-T 1.933 AnnexA	Signaling includes standard handling of DE, FECN, and BECN bits
	IETF RFC1293	Inverse ARP
	IETF RFC1315	Frame Relay DTE MIB
	IETF RFC1406	T1/E1 MIB
	IETF RFC1490	Multiprotocol encapsulation over Frame Relay
Voice, Fax, and Video Support		
Voice Compression	ITU G.729, G.729a	Up to 24 channels of CS-ACELP (8 kbps compression)
Voice over Network Support	Voice over Frame Relay	—
	Voice over ATM	rtVBR with silence suppression
Voice over HDLC	Proprietary	—
Voice Call Handling	Local, on-net, off-net, on-net/off-net rerouting, direct inward dialing, automatic ring-down, PBX tie-line replacement	
Fax Support	T.30	2.4- to 9.6-kbps session negotiation
	Group 3 fax	—
Video Support	ATM Circuit Emulation	CBR Video over ATM VBR with dynamic bandwidth recovery
	N x 64k clear channel	Integrated access over circuit-recovery-based networks

For more information about the Cisco MC3810 multiservice concentrator contact your local Cisco account representative today, or visit Cisco's Web site at http://www.cisco.com.

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
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.
Parc Evolic, Batiment L1/L2
16 Avenue du Quebec
Villebon, BP 706
91961 Courtaboeuf Cedex
France
http://www-europe.cisco.com
Tel: 33 1 6918 61 00
Fax: 33 1 6928 83 26

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Headquarters
Nihon Cisco Systems K.K.
Fuji Building, 9th Floor
3-2-3 Marunouchi
Chiyoda-ku, Tokyo 100
Japan
http://www.cisco.com
Tel: 81 3 5219 6250
Fax: 81 3 5219 6001

Cisco Systems has more than 200 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 • Canada • Chile • China (PRC) • Colombia • Costa Rica • Czech Republic • Denmark England • France • Germany • Greece • Hungary • India • Indonesia • Ireland • Israel • Italy • Japan • Korea • Luxembourg • Malaysia Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland • Portugal • Russia • Saudi Arabia • Scotland • Singapore South Africa • Spain • Sweden • Switzerland • Taiwan, ROC • Thailand • Turkey • United Arab Emirates • United States • Venezuela