

Refurbished CISCO NM-1FE2W-V2 Datasheet

CISCO > ROUTERS

Cisco WAN Interface Cards

G.SHDSL WICs with Cisco Access Routers Features and Benefits

Integrated Voice and Data Networking

Voice and Data Integration	Reduces long-distance toll charges by allowing the data network to carry interoffice voice and fax traffic Works with existing handsets, key units, and private branch exchanges (PBXs), eliminating the need for a costly phone-equipment upgrade Supports critical IP QoS features in Cisco IOS Software Provides traffic management with ATM CoS
Digital Voice Interfaces	Provides toll-quality, award-winning derived VoIP; software-support VoIP/AAL5 and voice over ATM (VoATM)/AAL2 (Cisco 2800, 3800, 2600, and 3700 only); and AAL5
Analog Voice Interfaces	Supports analog voice for VoATM/VoIP over AAL5
Standards-Based H.323 Signaling	Allows an ecosystem of third-party vendors to develop applications for a complete solution; allows rapid low-cost deployment of VoIP
Digital Signal Processors (DSPs) and Voice-Compression Codecs G.711, G.729a, G.723.1, and G.726	Provide hardware-based compressed voice to fit significantly more voice lines over a single copper pair without breaking the end-to-end delay budget

Modular Architecture

Variety of WICs, Voice Interface Cards (VICs), and Network Modules	Offers added flexibility and investment protection Provides easy migration from Frame Relay or asymmetric DSL (ADSL) to SHDSL
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Security with VPN and Integrated Firewall

Hardware-Based Encryption	Helps enable creation of VPNs by providing industry-standard data privacy, integrity, and authenticity as data traverses the Internet or a shared public network Offers hardware-based VPN encryption through onboard processor or Advanced Integration Module (AIM) VPN card
Triple Digital Encryption Standard (3DES) IP Security (IPSec), Advanced Encryption Standard (AES), Generic Routing Encapsulation (GRE), Layer 2 Tunneling Protocol (L2TP), and Layer 2 Forwarding (L2F)	Offers choice of standards-based tunneling methods to create VPNs for IP and non-IP traffic Offers full interoperability with public certificate authorities and IPSec standards-based products Constitutes part of the scalable Cisco end-to-end VPN solution portfolio
Cisco IOS Firewall	Cisco IOS Firewall includes context-based access control for dynamic firewall filtering, denial-of-service (DoS) detection and prevention, Java blocking, and real-time alerts Allows internal users to access the Internet with secure, per-application-based, dynamic access control while preventing unauthorized Internet users from accessing the internal LAN
Network Address Translation and Port Address Translation (NAT/PAT)	Hides internal IP addresses from external networks Prevents certain DoS attacks from outside networks Allows multiple users access with a single IP address
Password Authentication Protocol/Challenge Handshake Authentication Protocol (PAP/CHAP), Microsoft CHAP (MS-CHAP), RADIUS, and TACACS+	Supports all leading user identity verification schemes
Route and Router Authentication	Accepts routing table updates from only known routers, helping ensure that no corrupt information from unknown sources is received

ATM Features

ATM Traffic Unspecified Bit Rate (UBR), Non-Real-Time Variable Bit Rate (VBR-nrt), Real-Time Variable Bit Rate (VBR-rt), and Constant Bit Rate (CBR)	Helps ensure QoS guarantees for real-time traffic, with ability to send traffic over the appropriate virtual circuit to provide ATM-level shaping and ensure that no head-of-line blocking occurs between circuits of different or equal traffic classes
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with Traffic Shaping

Up to 23 Virtual Circuits per WIC	Helps enable more sessions at a time; is relevant for small and medium-sized businesses and small branch offices with 50 to 200 employees Supports per-virtual circuit queuing in Cisco IOS Software releases 12.2(2)XK, 12.2(4)XL, 12.2(13)T, 12.2(8)YN, and subsequent releases (per-virtual circuit queuing not supported in Cisco IOS Software releases 12.2(4)T, 12.2(8)T1, or 12.2(11)T)
Point-to-Point Protocol (PPP) over ATM	Helps ensure compatibility with existing network
F5 OAM Continuity Check (F5OAMCC) and Loopback	Supported in Cisco IOS Software releases 12.2(4)XL, 12.2(11)T2, 12.2(8)YN, and subsequent releases
Interim Local Management Interface (ILMI)	Supported in Cisco IOS Software releases 12.2(4)XL, 12.2(13)T, 12.2(8)YN, and subsequent releases
PPP over Ethernet Client	Meets service provider requirements and eliminates the need for additional network software on LAN-connected client PCs
RFC 2684 Routing	Supports RFC 2684 Routing
ATM Oversubscription for DSL	Allows bandwidth oversubscription to be configured for VBR and UBR+ service classes Supported in Cisco IOS Software releases starting with 12.4(2)XA; also available in Release 12.4(3rd)T and above

Device Integration

Integrated Router, Voice Gateway, Firewall, and VPN in a Single Device	Reduces costs and simplifies management
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Supported IP QoS Features

Classification and Marking	Class-based marking with differentiated services code point (DSCP) (data only) Committed access rate (CAR) with DSCP (Ingress-Ethernet/Fast Ethernet; Egress-G.SHDSL) Dial-peer DSCP/IP Precedence marking
Queuing and Scheduling	Class-Based Weighted Fair Queuing (CBWFQ) Low Latency Queuing (LLQ) Driver per-virtual circuit queuing
Congestion Avoidance	Class-Based Weighted Random Early Detection (WRED) with DSCP (egress)
Policing and Traffic Shaping	Class-based policing Per-ATM virtual circuit shaping for VBR-nrt ATM cell loss priority (CLP) bit marking*
Link Efficiency	Tunable Tx ring buffer for values 2 through 601 Multilink PPP (MLPPP) link fragmentation and interleaving (LFI) MLPPP with LLQ, CBWFQ, and other QoS features* Compressed Real-Time Transport Protocol (cRTP)*
Other (IP QoS)	Local policy routing (LPR) Policy-based routing (PBR) IP QoS map to ATM CoS

Maximum Number of G.SHDSL WICs per Platform

Platform	Maximum Number of G.SHDSL WICs
Cisco 1721, 1751, and 1760	2
Cisco 1841	2
Cisco 2600XM	4
Cisco 2801	3
Cisco 2811 through Cisco 2851	4
Cisco 2691	5
Cisco 3725	7
Cisco 3745	11
Cisco 3825	8
Cisco 3845	12

Hardware Specifications

G.SHDSL Chipset	Conexant Chipset
Dimensions (H x W x D)	0.75 x 3.08 x 4.38 in. (1.91 x 6.93 x 9.86 cm)
Weight	2.4 oz (68g)
LEDs	CD (carrier detect) LP (loopback) OK (DSL SAR download complete)
Ports	Single RJ-11/RJ-14C connector
Cabling	RJ-11 line cord
Network Equipment Building Standards (NEBS) Compliance	Level 3 compliant (Type 2/4)

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