ADIT 600

Customer Media Gateway (CMG) Service Card

Enables seamless migration from TDM to VoIP service delivery while preserving existing capital investment

Supports high-capacity line termination — up to 40 channels

WAN capabilities include T1, E1 and 10/100Base-TX

Integrates full non-blocking DSO cross-connect capability

Carrier-class Converged IP Services and Migration from Traditional Services

The Adit® 600 CMG (Customer Media Gateway) carrier-grade VoIP gateway enables high-capacity, converged IP service delivery with multi-T1/E1 access while supporting a TDM to IP migration strategy for service providers and end user customers. Configured with the CMG Service Card, the Adit 600 delivers carrier-class hosted PBX and IP Centrex and data services.The Adit 600's unique ability to simultaneously support traditional TDM and IP services enables a planned and seamless migration to IP voice, video, and data services, while preserving investments in existing infrastructure. Field proven with extensive interoperability experience, Force10 Networks and our industry-leading gateway and softswitch partners work together to deliver a seamless migration to advanced IP services.

Manageable, Cost-effective and Efficient VoIP

The Adit 600 CMG solution provides TDM to IP voice conversion, combined with a routing engine, for delivery of integrated IP services. Layer 3 QoS features provide traffic prioritization to ensure carrier-class voice quality over an IP infrastructure. MGCP call control is supported with proven interoperability with leading softswitch and application server vendors.

In addition to enabling converged IP services with multiple T1/E1 network access, the Adit 600's ability to support TDM and IP on a single platform allows it to support analog-based phones, soft-phones, IP phones, and other legacy interfaces hosted by a softswitch or traditional Class 5 switch. This allows service providers and their enterprise customers to realize a level of cost savings not offered by competing solutions.

Carrier-grade, Standards-based Design

The CMG Card's carrier-grade, standards-based design ensures efficient migration to a converged IP infrastructure. MGCP allows standards-based call control and signaling communications with the service provider's call agent and softswitch.The CMG Service Card enables the packetization of voice services using G.711, G.726, and G.729ab CODECs. G.729ab and G.726 CODECs reduce transport bandwidth requirements with standards-based compression of voice bandwidth down to 8 Kbps per call. Silence suppression, voice activation detection, and comfort noise generation are also supported, further enhancing voice quality and transport efficiency. Fax calls are supported with either T.38 fax relay, or auto-detection and pass-through.

The CMG Service Card delivers a new generation of hosted PBX and IP Centrex features for small- and medium-sized businesses while still hosting traditional TDM services. As a result, the CMG offers a cost-effective solution for service providers seeking to migrate from traditional architectures to next-generation IP networks.

Key Features

- Layer 3 QoS mechanisms enable voice prioritization and LAN based IP phone support
- Supports a variety of Centrex and CLASS services such as call waiting, distinctive ringing, caller ID and many others
- Delivers industry-leading G.711, G.726, (optional) and G.729 voice channel capacity
- Supports MGCP line side applications (RFC 3435)
- Supports fax calls via T.38 Fax Relay, auto-detect/fallback
- Provides extensive gateway and softswitch interoperability
- Management options include SNMP, Telnet and CLI

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Specifications: Adit 600 Customer Media Gateway (CMG) Service Card

Service Card

Adit 600 CMG

CMG-01 (P/Ns 740-0284, 740-0286) and CMG-02 (P/N 740-0238) Service Cards for the Adit 600 Converged Services Access Gateway platform

Requirements: Adit 600 Release 9.0 or higher for CMG-02, Release 9.4 for CMG-01

Dimensions: 3.5 in (H) x 0.75 in (W) x 11.25 in (D)
8.9 cm (H) x 1.9 cm (W) x 28.6 cm (D)

Weight: 5.2 oz (0.15Kg)

Power

Dissipation: 6W

Internal solid-state (fuseless) protection

Fan-free operation, cooling is by free air convection

Environmental

Operating temperature range: 32°F to 104°F (0°C to 40°C)

Storage temperature range: -40°F to 158°F (-40°C to 70°C)

Maximum operating altitude: 10,000 ft (3.048 m)

Maximum non-operating altitude: 40,000 ft (12,192 m)

Relative humidity (non-condensing) range: 0% to 95%

Management

CLI support through controller via RS-232 or Telnet

Menu driven through Controller CLI or Telnet to CMG

Ping, SNMP, Telnet support

Ethernet management port

IP management connection via Ethernet, IP/DS0 bearer channel, and in-band WAN

Software upgradeable via TFTP

Configuration upload and download via TFTP

RADIUS

Voice and Packet Interfaces

Voice/fax/modem - up to 40 designated FXS lines

LAN – 10/100Base-TX port on card

WAN – designated Adit 600 T1 lines and channelgroups (PPP, Frame Relay, PPP over Frame Relay, ML-PPP)

Voice Processing and Mediation, Fax and Modem Relay

G.711u-Law, G.711a-Law, G.726-16, G.726-24, G.726-32, G.726-40, G.729ab
Voice Channel Capacity
- G.711, G.726 - 48 channels
- G.729ab - 24 channels of G.729ab

Interface Capacity
- Adit 600 configured with the CMG supports 40 FXS

T.38 Fax Relay - gateway controlled using UDPTL transport
- Up to 6 concurrent T.38 fax calls per module for CMG-01
- Up to 12 concurrent T.38 fax calls per module for CMG-02

Fax/Modem auto-detect and fallback
G.168 echo cancellation (up to 64 ms)
RTP packetization (over UDP/IP)
10-30 ms packetization times (10-80 ms for G.729)
160 ms jitter buffer, dynamic delay adjustment
RTCP performance reporting
Call progress tone and cadence generation via provisionable tone files
RFC 2833 events for GR-303 over IP interworking

Routing and Policy Management

IP RIP V1, RIP V2, IPX RIP/SAP, static routing and Classless Inter-Domain Routing (CIDR)
PAP and CHAP
NAT,NAT Bypass, and PAT
DNS proxy
Spanning Tree Protocol
Firewall filtering
ToS byte configuration for routed voice traffic prioritization
DHCP Server/BOOTP Relay
Trace Route
Syslog
SNTP
Secondary IP addresses

Router Performance

Up to 3.84 Mbps (60 DS0s) full-duplex IP WAN bandwidth

5000, 192-byte packets per second

Security Features

GRE tunneling

Connection Types (Media Flows)

TDM-to-Packet or Hairpin (TDM-TDM)

2-way, 1-way, Inactive (for call hold)

2 connections per endpoint (for call waiting, transfer)

3-way conferencing

Softswitch Call Control and Signaling/Interoperability

MGCP (IETF RFC 2705 and NCS 1.0)

MGCP IETF Versions 0.1, 1.0, 1.0bis

Interoperable with the leading softswitches

Services Enabled (under Softswitch control)

Basic calling

Caller ID

Call waiting, call forwarding, and voice mail

Hold/transfer, conference using external bridge

Many other Centrex and CLASS services

Distinctive ringing

Network Standards

ANSI, CCITT, IEEE 802.3, IEEE 802.1D

IETF - RFC 2705, others per router card

Regulatory Compliance

USA
UL60950, FCC Part 15, Class A, Designed to NEBS Level-3 for type 2 and 4 equipment (not certified)

Canada
CSA C22.2 No. 60950-00, ICES-003, Class A

European Union (CE Mark)
EN60950, EN55022, Class A, EN 60950, Safety of Information Technology

Australia/New Zealand
AS/NZS 60950, AS/NZS CISPR22, Class A

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