

Comprehensive access routing, firewall, VPN tunneling, VoIP trunk gateway, and integrated T1s in a single platform

SIP-PRI/CAS trunk capability for PBX trunk applications

WAN options include 2xT1 and Ethernet

2xT1- voice trunk capacity

A Carrier-Class Converged Services Trunking Gateway Offering Scalability and High-Performance

Force10 Networks' Adit® 3000 series of Converged Services Access Gateways are a new breed of CPE platforms designed to deliver carrier-hosted voice and data services at a disruptive price with unmatched performance. The Adit 3500 integrates the features of a VoIP trunk gateway, high-performance IPSec VPN-capable router, and stateful firewall with flexible WAN options. It replaces multiple elements at the customer premises offering a powerful blend of speed, security, data and voice. Additionally, a 4 FXS option provides connectivity for analog fax and modems. This single platform offers scalability and high-performance for Internet and IP access, LAN-to-LAN connectivity over private and public networks, and VoIP PBX trunk service applications.

Converged IP Services without Sacrificing Performance

Unlike expensive competing enterprise router solutions, the Adit 3500 maintains 2xT1 wire-speed throughput with low latency for all packet sizes. The Adit 3500's VoIP-aware routing engine is based on advanced network processing technology and enables converged IP applications without the typical degradation in performance seen in other legacy solutions on the market. By integrating routing and security features into a single processor, the Adit 3500 cost-effectively supports Network Address Translation (NAT/NAPT), stateful packet inspection, flow classification, Application Layer Gateway (ALG), intrusion detection and IPSec VPN tunneling.

Access control lists also protect traffic flowing in and out of the network. The integrated firewall keeps the network and LAN segments secure from intrusions and attacks while allowing authorized access to network resources.

Carrier-Grade VoIP Service Delivery

The Adit 3500 is a carrier-class solution that enables the key calling features used by today's business services. Built on top of the base routing engine, the Adit 3500 provides a scalable, integrated SIP trunk gateway that can terminate PBX traffic, and route both voice and data across public and private networks. The routing engine supports small packet size characteristics of full-capacity voice and data plus the Quality of Service necessary to deliver carrier-grade voice. The Adit 3500 also provides 4 FXS ports to support Fax/Modem bypass as well as T.38 Fax Relay directly on the VoIP network.

Simplified Configuration and Management

The Adit 3500's scalability does not increase its complexity. Both local and remote provisioning is simplified through an easy-to-use web interface and an intuitive Command Line Interface. Remote alarms from the Adit 3500 are reported via SNMP, Syslog, e-mail alerts, or through a web interface. The platform can also be remotely configured and upgraded.

Key Features

- Price-disruptive features and performance
- 4 FXS option for analog modems, T.38 Fax and alarms



Specifications: Adit 3500 Trunk Gateway



Chassis

Adit 3500

Rack mount option: 19-inch or 23-inch rack

Dimensions: 1.75 in (H) x 8.25 in (W) x 12 in (D)
4.4 cm (H) x 21 cm (W) x 30.5 cm (D)

Weight: 6.25 lb (2.83 kg)

Power

DC Input Voltage: 12 VDC, 3 Amp

Integrated battery charger

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%

Components

Adit 3500 platform

Hardware features include an FXS hardware option

System software, AC power converter

8-hour battery back up unit option

Wall mount bracket

Management

Status indicators

SNMP v1, v2c (via 10/100Base-T or in-band network) – Standard MIB

Command Line Interface (CLI), Telnet, FTP, TFTP and Web-based interface over SSL

CLI over secure telnet

RADIUS

Syslog

Interfaces

1 T1 WAN port (RJ-48C connector)

- Framing for T1: SF (D4) or ESF
- Line Code for T1: B8ZS or AMI
- Internal or line-derived clock source
- T1 Loop Codes and BERT Testing

1 T1-PRI/CAS port (RJ-48C connector)

- National ISDN-1/2
- Configurable to support most common Class 5 switches
- E&M:Wink Start, Immediate Start, Delay Dial

1 10/100Base-T WAN port (RJ-45 connector)

1 10/100Base-T switched LAN ports (RJ-45 connector)

RS-232 console port (DB-9 connector)

Optional 2nd T1-PRI/CAS port (supporting up to a 2-PRI/CAS voice trunk) Includes 2nd T1 WAN port (supporting up to a 2-T1 MLPPP)

Optional 4 FXS capacity

Network Standards

ANSI/TIA T1.403, ANSI/TIA T1.413 i2 and ANSI/TIA T1.231

ITU G.703, G.704

National ISDN-1/2

ITU-T Q.931 and ITU-T Q.921

Telcordia GR-506-CORE

Voice Processing and Mediation

SIP call control

Inter-op with various industry-leading SIP proxies and application servers such as Alcatel-Lucent, Avaya, BroadSoft, Sylanro, etc.

Full T1 voice capacity

CODEC support for G.711 a-law/G.711 μ -law/G.729ab

G.168 echo cancellation and silence suppression

T.38 FAX support

FAX/Modem Bypass

Voice activity detection/comfort noise generation

RTP/RTCP

Call progress tone and cadence generation

10-80 ms voice frame on PRI/CAS channels

10-20 ms voice frame on FXS channels

Max. 150 ms jitter buffer

Gain control

Modem support – V.90, G.711 fallback

VPN

IPSec tunneling, PPTP and L2TP support

VPN Interoperability with Cisco, FreeBSD, Netscreen, Checkpoint, SafeNet, Microsoft, FreeSwan

DES, 3DES and AES

IKE based key management

Digital certificates and pre-shared key authentication

Router Performance

Wire-speed on Ethernet or 2xT1 interface

Voice Signaling (4 FXS option)

FXS loop start, ground start

DTMF signaling per RFC 2833 and Call progress tone generation

CLASSSM (Custom Local Area Signaling Services) and Distinctive ringing support

Multiple line appearance

Quality of Service

ToS marking & interpretation per IETF Std. 5

Dial Plan Features

Prefix number stripping and appending

PRI Trunk Routing Table

Configurable Dial Plan

Routing and Policy Management

IPv4, Static routes, OSPF, RIP v1 and v2

PPP – ACF, VJ Compression

DHCP Server/Client/Relay

DNS Relay, Resolver and BootP Relay

PAP & CHAP authentication

Ping and IPCP

Multi-Protocol Encapsulation and VLAN Tagging

Security Features

Stateful firewall

NAT/NAPT, NAT Bypass and NAT Pin-Holes

Application Layer Gateways including VoIP

L1-L4 Flow classification

Denial of Service Filtering and Intrusion detection

Regulatory Approvals

USA UL60950, FCC Part 15 Class A, FCC Part 68, Interbuilding-Network T1 (WAN) and Intrabuilding (FXS)

Canada ICES-003 Class A digital devices, CSA C22.2 No. 60950-00, CS-03 - Interbuilding-Network T1 (WAN) and Intrabuilding (FXS)



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