

Adit 3500 Series Trunk Gateway

Release 1.6



The Adit® 3000 series of IP Business Gateways are a new breed of access 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 trunk gateway, high-performance IPSec VPN-capable router, and stateful firewall with flexible WAN options. It replaces multiple elements at the customer premises that typically provide routing, security, and trunk gateway functions – 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 competing offerings, 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.

Major product benefits:

- SIP-PRI/CAS trunk capability for PBX trunk applications
- WAN options include 2xT1 and Ethernet
- 2xT1- voice trunk capacity
- Comprehensive routing, firewall, VPN tunneling, VoIP gateway, and integrated T1s in a single platform
- Price-disruptive features and performance
- 4 FXS option for analog modems, T.38 Fax and alarms

Components

- Adit 3500 platform
- Hardware features:
 - 4 FXS hardware option
- Included accessories:
 - System software, AC power converter and Wall mount bracket
- 8-hour battery back up unit option

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-PR/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

Dial Plan Features

- Prefix number stripping and appending
- PRI Trunk Routing Table
- Configurable Dial Plan

Router Performance

- Wire-speed on Ethernet or 2xT1 interface

Power

- Integrated battery charger
- DC Input Voltage: 12 VDC, 3 Amp

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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

Quality of Service

- ToS marking & interpretation per IETF Std. 5
- VLAN Priority Queuing

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 and CHAP authentication
- Ping and IPCP
- Multi-Protocol Encapsulation and VLAN Tagging

Voice Signaling (4 FXS option)

- FXS loop start, ground start
- DTMF signaling per RFC 2833 and Call progress tone generation
- Custom Local Area Signaling Services and distinctive ringing support
- Multiple line appearance

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

Management

- Status indicators
- SNMP v1, v2c (via 10/100Base-T or in-band network)
 - Standard MIB
- Command Line Interface (CLI), Telnet, FTP, TFTP
- CLI over secure telnet
- RADIUS
- Web-based interface over SSL and Syslog

Regulatory Approvals and Certifications

- 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)

Physical

- Wall mount brackets (included)
- 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)

Environment

- 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%

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