EdgeMarc 4601

Enterprise Session Border Controller

Features and Benefits

Enterprise-class session border controller optimized for medium to large offices.

Connects the PBX to the SIP trunking service by performing SIP protocol harmonization.

Protects voice devices by providing voice-aware security services.

Optimizes voice quality using traffic management and prioritization.

Monitors the quality of real-time communications to simplify troubleshooting.

Service providers and enterprise organizations use the EdgeMarc 4601 Enterprise Session Border Controller to connect IP and TDM based PBXs to SIP trunking services.

Introduction

The EdgeMarc 4601 automatically manipulates SIP messages and features advanced inspection capabilities that enables it to be deployed in many different environments with a wide range of PBXs and SIP trunking services. It is the ideal platform for service providers and enterprise organizations for use in SIP trunking, hosted VoIP and other converged services.

Security and Connectivity

SIP-aware NAT/firewall. SIP protocol harmonization: adjustments needed to connect IP and TDM PBXs to service provider SIP trunks. SIP registration proxy for service provider and/or PBX

High Quality Voice

Traffic management/QoS including prioritization, traffic shaping, CBWFQ and diffserv marking. Call Admission Control. Troubleshooting. Passive call quality monitoring. VoIP test call agent.

Simplified Installation

Supports multiple PBX connection types- PRI or IP
Simplified GUI with PBX specific pull down menu

Broad Interoperability

Comprehensive list of PBX manufacturers and SIP trunking services. Consistent logical interface for the service provider regardless of PBX type. Interoperable with Microsoft Lync Server.

Interfaces - T1 WAN

- Up to 4 ports
- ESF/D4 Framing
- B8ZS/AMI Line Coding
- 0, -7, -15db Line Build Out
- RJ45 Connector
- PPP
- PPPoFR
- MLPPP
- MLPPPoFR
- Frame Relay
- HDLC/cHDLC
- Independent Clocking (per port)

Interfaces - E1 WAN

- Up to 4 ports
- Double-frame, Double-frame CRC, Multi-frame, Multi-frame CRC Framing
- Unframed Support
- HDB3 Line Coding
- RJ-45, 120ohm balanced Connector
- PPP
- PPPoFR
- MLPPP
- MLPPPoFR
- Frame Relay
- HDLC/cHDLC

Ethernet WAN

- 1 x 10/100 Mbps
- Auto Sensing
- RJ-45
- Half or Full Duplex
- PPoE

Ethernet LAN:

- 4 x 10/100 Mbps
- Auto Sensing
- RJ-45
- Half or Full Duplex
- Managed VLAN

USB Ports: 2

Console Connector: DB9 Male

Power, Dimensions and Certifications

- Height: 1 .7", Width: 13", Depth: 8"
- Weight: 2 lbs
- Power: External Brick (AC)- 12V, 3.0A
- Power Consumption: 32W (Maximum)
- Certifications: UL, CE, FCC Part 15, FCC Part 68, Industry of Canada, CB, RoHS

Management

- Web GUI
- CLI
- HTTP, HTTPS
- SSH, Telnet
- SNMP v1, v3
- TCPdump, Traceroute, Ping, Syslog
- Configuration backup/restore
- Remote Upgrades (FTP)

System Services

- Supports IPv4 and IPv6 addressing and services
- DHCP server
- Local TFTP/FTP server
- Automatic TFTP/FTP download on restart

Traffic Management/Routing/QoS

- Class-based queuing
- Prioritization on IP
- Prioritization on VoIP Protocol
- Traffic shaping
- Guaranteed bandwidth
- Upstream bandwidth management
- Downstream bandwidth management
- VoIP call admission control
- Diffserv marking
- Diffserv policing
- IP routing
- Secondary address/subinterface support
- VLAN - 802.1Q (up to 16)

- Relative Humidity: 10% to 90%

VoIP

- SIP ALG/B2BUA
- H.323 ALG
- NAT for SIP
- NAT for H.323
- Survivability (SIP) - Available
- SIP registration pacing
- SIP registration proxy
- Softswitch redundancy
- Proxy mode
- Multi-homed proxy mode
- Transparent proxy mode
- EdgeView Plug & Dial Compatible
- Dynamic VoIP clients list
- SIP RFC 3261
- SIP RFC 2327
- SIP RFC 3263
- SIP RFC 2833 (Passthrough and PRI only)
- H.323 version 4
- H.225.0v5
- H.245.0v10
- VoIP Test Call Agent

Security

- Password encryption for SIP User Agent password (protect EdgeMarc and SIP UA credentials)
- Stateful packet inspection firewall
- VoIP protocol aware firewall
- Dynamic network address translation
- Static network address translation
- Port address translation
- Denial of Service protection - SYN flood
- Denial of Service protection - UDP flood
- Denial of Service protection - ICMP flood
- Denial of Service protection - Fragment flood
- IPSec
- IKE key management
- 3DES
- AES
- SHA-1
- MD-5
- IPSec Hardware Acceleration

T1/E1 Voice

2 PRI Links (T1 only, Maximum)

PRI Codec

- G711ulaw
- G711alaw
- G729a

PRI/NET

- NI2
- ESS4 (aka 4ESS)
- ESS5 (aka 5ESS)
- DMS100
- Euro-ISDN (E1 PRI)
- HK-ISDN (T1 PRI)

PRI/Client (aka USER)

- NI2
- 4ESS
- 5ESS
- DMS100
- Euro-ISDN (E1 PRI)
- HK-ISDN (T1 PRI)

CAS Codec

- G711ulaw
- G711alaw
- G729a

CAS/NET

- Ground start
- Loop start
- GR-303 Ground start
- GR-303 Loop start
- Ground Start(SAS)
- Loop Start(SAS)
- E&M

CAS/Client

- FXO-GR303 ground start
- FXO-GR303 loop start
- E&M
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- Out of Band DTMF (RFC 2833)
- Echo Cancellation (User Side)
- Gain Control (User Side)
- Applications-PBX Trunking
- Applications- PSTN Failover

Passive Call Quality Monitoring

- Per call statistics
- LAN side measurements
- WAN side measurements
- Mean Opinion Score (MOS)
- Bad MOS score alarms
- Below threshold MOS counters

- Degradation in MOS due to network impairments
- Jitter
- Packet loss
- Consecutive lost packets
- Total # of RTP packets received
- Sum of received & expected packets
- Out of sequence packets
- Average packet loss burst length
- Estimated jitter buffer delay
- Estimated jitter buffer packet discard rate
- Probability that degradation is due to LAN congestion
- Probability that degradation is due to Router congestion
- Probability that degradation is due to access link congestion
- Probability that degradation is due to diverse routing
- Probability that degradation is due to unreliable link

Ordering Information

Part Number	Description
4601-101-0030	EdgeMarc 30 Dual T1 PRI, Single E1 PRI, 2 x T1/E1 WAN
4601-102-0060	EdgeMarc 60 Dual T1 PRI, Single E1 PRI, 2 x T1/E1 WAN
4601-103-0080	EdgeMarc 80 Dual T1 PRI, Single E1 PRI, 2 x T1/E1 WAN

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