EdgeMarc 4550 Series

Enterprise Session Border Controller

Benefits

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

Connect to SIP Trunking and hosted IP telephony services

Establishes visibility with system and SIP protocol analytics through EdgeView

Protects voice devices by providing voice-aware security services

Optimizes voice quality using traffic management and prioritization

Manages the quality of real-time communications to simplify troubleshooting

Allows for call pre-emption for priority calls

Introduction

The EdgeMarc 4550 Series are flexible, application ready enterprise session border controllers that can be deployed initially as a low-cost WAN access router and expanded to other applications such as hosted VoIP, SIP trunking and enterprise video over IP. It is the ideal platform for service providers offering Ethernet or multi-link bonded T1 services for converged VoIP networks.

All-In-One

One box for data routing, VLANs, firewall, and VoIP ALG – with a single management interface.

Scalability

Whether you need a single T1/E1 or up to 4 T1/E1 interfaces, the 4550 Series is cost optimized for businesses of all sizes. Additional T1/E1 interfaces are enabled through software license keys.

Quality of Service

Packet prioritization and data traffic shaping for VoIP calls.

Broad Interoperability

Comprehensive list of PBX manufacturers and SIP trunking services.

Consistent logical interface for the service provider regardless of PBX type

Simplified Troubleshooting

MOS statistics, call monitoring, LAN/WAN problem isolation from the router, Integrated VoIP Test Call Agent, TCPdump, PING , Traceroute and more.
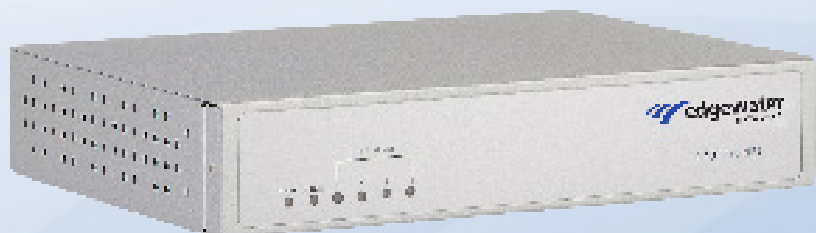
Interfaces - T1 WAN (4552 only)

- 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 (4552 only)

- Up to 4 ports
- Double frame, multiframe CRC no-CAS, multiframe CRC CAS, and unframed
- HDB3 Line Coding
- RJ-45, 120ohm balanced Connector
- PPP
- PPPoFR
- MLPPP
- MLPPPoFR
- Frame Relay
- HDLC/cHDLC

Interfaces - Ethernet WAN

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

Interfaces - Ethernet LAN

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

USB Ports: 2

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 (up to 8)
- 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)

VoIP

- SIP ALG
- NAT for SIP
- Survivability (SIP) - station to station
- Survivability (SIP) - PSTN failover
- SIP registration pacing
- 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
- 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
- EdgeProtect TLS client
- Up to 12 Tunnels

T1/E1 Voice (4552 Only)

PRI Codec

- G711ulaw (T1)
- G711alaw (E1)

PRI Switch Types

- NI2
- ESS4 (aka 4ESS)
- ESS5 (aka 5ESS)
- DMS100
- HK
- EURO (aka ETSI) E1 only

Power, Dimensions, and Certifications

- W: 10", D: 7", H: 1.7"
- Weight: 2 lbs
- Power: External Brick (AC) -12V, 3.0A
- Power Consumption: 32W (Max)
- Certifications: UL, CE, FCC Part 15, FCC Part 68, Industry of Canada, CB, RoHS

Mean Time Between Failures

- 87,600 hours

Warranties

- Hardware: 5 years
- Software: 1 year

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
EM-4550-1-4-0-0-0-0-5	EdgeMarc 4550 - 5
EM-4550-1-4-0-0-0-0-10	EdgeMarc 4550 - 10
EM-4550-1-4-0-0-0-0-15	EdgeMarc 4550 - 15
EM-4550-1-4-0-0-0-0-30	EdgeMarc 4550 - 30
EM-4550-1-4-0-0-0-0-50	EdgeMarc 4550 - 50
EM-4550-1-4-0-0-0-0-70	EdgeMarc 4550 - 70
EM-4550-1-4-0-0-0-0-90	EdgeMarc 4550 - 90 (Ethernet Only)
EM-4552-T1-4-0-0-0-0-0	EdgeMarc 4552 - VPN router, Single T1/E1
EM-4552-T1-4-0-0-0-0-5	EdgeMarc 4552 5T, Single T1/E1
EM-4552-T1-4-0-0-0-0-15	EdgeMarc 4552 15T, Single T1/E1
EM-4552-T1-4-0-0-0-0-30	EdgeMarc 4552 30T, Single T1/E1
EM-4552-T1-4-0-0-0-0-50	EdgeMarc 4552 50T, Single T1/E1
EM-4552-T1-4-0-0-0-0-70	EdgeMarc 4552 70T, Single T1/E1
EM-4552-T1-4-0-0-0-0-90	EdgeMarc 4552 90T, Single T1/E1 (Ethernet Only)
EM-4552-T2-4-0-0-0-0-5	EdgeMarc 4552 5T, Dual T1/E1
EM-4552-T2-4-0-0-0-0-15	EdgeMarc 4552 15T, Dual T1/E1
EM-4552-T2-4-0-0-0-0-30	EdgeMarc 4552 30T, Dual T1/E1
EM-4552-T2-4-0-0-0-0-50	EdgeMarc 4552 50T, Dual T1/E1
EM-4552-T2-4-0-0-0-0-70	EdgeMarc 4552 70T, Dual T1/E1
EM-4552-T3-4-0-0-0-0-5	EdgeMarc 4552 5T, Three T1/E1
EM-4552-T3-4-0-0-0-0-15	EdgeMarc 4552 15T, Three T1/E1
EM-4552-T3-4-0-0-0-0-30	EdgeMarc 4552 30T, Three T1/E1
EM-4552-T3-4-0-0-0-0-50	EdgeMarc 4552 50T, Three T1/E1
EM-4552-T3-4-0-0-0-0-70	EdgeMarc 4552 70T, Three T1/E1
EM-4552-T4-4-0-0-0-0-5	EdgeMarc 4552 5T, Quad T1/E1
EM-4552-T4-4-0-0-0-0-15	EdgeMarc 4552 15T, Quad T1/E1
EM-4552-T4-4-0-0-0-0-30	EdgeMarc 4552 30T, Quad T1/E1
EM-4552-T4-4-0-0-0-0-50	EdgeMarc 4552 50T, Quad T1/E1
EM-4552-T4-4-0-0-0-0-70	EdgeMarc 4552 70T, Quad T1/E1

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