

EdgeMarc 4550 Series Network Services Gateways

Introduction

The EdgeMarc 4550 Series network services gateways are scalable VPN/routers that support Ethernet or T1/E1 WAN connectivity. For T1/E1 services, you can start with a single T1/E1 initially and upgrade to support up to four T1/E1's without additional hardware. Features include up to four T1/E1 ports with flexible clocking options that support both internal and external clocking sources.

The EdgeMarc 4550 Series are flexible, application ready network services gateways 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/E1 services for converged VoIP networks.

Feature Rich, Simple to Use - Key Features

- Expands to 4 X T1/E1 with software license key upgrade
- 10/100 Mbps Ethernet WAN Port
- Integrated 4 port managed Ethernet switch with VLAN support
- QoS: priority queuing, traffic shaping, Diffserv marking/policing
- DHCP server
- Integrated VoIP Test Call Agent- standalone or in conjunction with EdgeView Active Line Testing (ALT)
- NAT/PAT
- Management: HTTP, HTTPS, SSH, Telnet, SNMPv1 and v3
- Available V.90 management modem (4551*)
- Available VoIP-aware VPN/Firewall
- Available VoIP application layer gateway (SIP)
- Resolves NAT/Firewall traversal issues
- Available VoIP call admission control
- Available Passive call quality monitoring

Product Benefits

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.

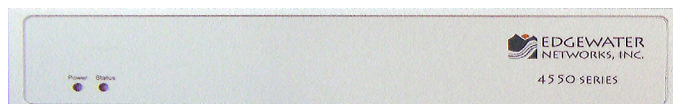
Quality of Service - Packet prioritization and data traffic shaping for VoIP calls.

Plug & Dial - Interoperates with leading softswitch vendors to configure IP phones in minutes, not hours.

Simplified Troubleshooting

MOS statistics, call monitoring, LAN/WAN problem isolation from the router, Integrated VoIP Test Call Agent, TCPdump, PING, Traceroute and more.

Ideal for Multi-Link, Bonded T1/E1 and Metro-Ethernet Services

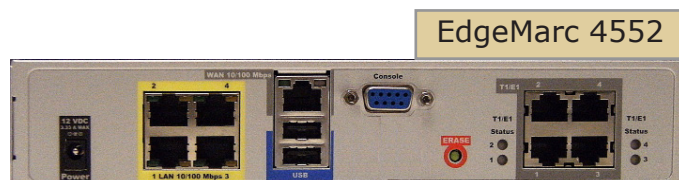
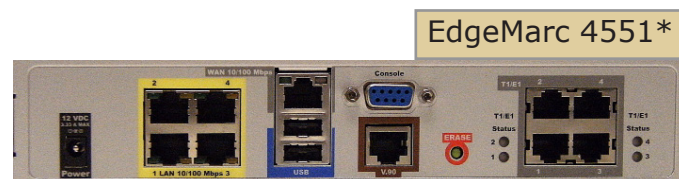
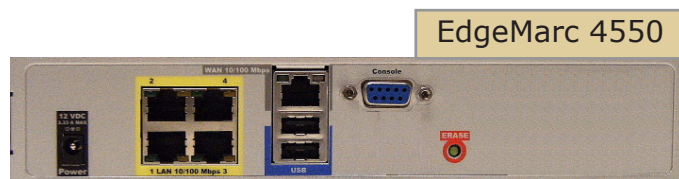


Converged Networking. Simplified.

EdgeMarc 4550 Series Network Services Gateways

Specifications

Interfaces	
T1 WAN	Up to 4
Framing	ESF/D4
Line coding	B8ZS
Line Build Out	0, -7.5, -15db
Connector	RJ45
PPP	Yes
MLPPP	Yes
MLPPPoFR	Yes
MLFR	Yes
Frame Relay	Yes
HDLC/cHDLC	Yes
E1 WAN	
Framing	Double-frame
	Double-frame CRC
	Multi-frame
	Multi-frame CRC
Unframed Support	Yes
Line Coding	HDB3
Connector	RJ-45, 120ohm
PPP	balanced
MLPPP	Yes
MLPPPoFR	Yes
Frame Relay	Yes
HDLC/cHDLC	Yes
Ethernet WAN	1
Autosensing	Yes
10/100 Mbps	Yes
Duplex	Half or Full
Ethernet LAN	4
Autosensing	Yes
10/100 Mbps	Yes
Duplex	Half or Full
Managed VLAN	Yes
USB ports	2
Console Connector	DB9 Female
V.90 Management Modem	Yes (4551*)



System Services	
DHCP server	Yes
Local TFTP/FTP server	Yes
Automatic TFTP/FTP download on restart	Yes

Power, Dimensions, Certifications	
Size	Height 1.70", Width 10.0", Depth 7.0"
Weight	2 lbs.
Power	External Brick (AC)- 12V, 3.0A
Power Consumption (Maximum)	32W
Certifications	
UL	Yes
CE	Yes
FCC Part 68	Yes
FCC Part 15	Yes
Industry Canada	Yes
CB	Yes
RoHS	Yes

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Specifications

Traffic Management/QoS/Routing	
Class-based queuing	Up to 8
Prioritization on IP	Yes
Prioritization on VoIP Protocol	Yes
Traffic shaping	Yes
Guaranteed bandwidth	Yes
Upstream bandwidth management	Yes
Downstream bandwidth management	Yes
VoIP call admission control	Yes
Diffserv marking	Yes
Diffserv policing	Yes
IP routing	Yes
Secondary address/subinterface support	Yes
VLAN - 802.1Q	Up to 16

VoIP	
SIP ALG	Yes
NAT for SIP	Yes
Survivability (SIP) - station to station	Yes
Survivability (SIP) - PSTN failover	Yes
SIP registration pacing	Yes
Softswitch redundancy	Yes
Proxy mode	Yes
Multi-homed proxy mode	Yes
Transparent proxy mode	Yes
EdgeView Plug & Dial Compatible	Yes
Dynamic VoIP clients list	Yes
SIP RFC 3261	Yes
SIP RFC 2327	Yes
SIP RFC 3263	Yes
SIP RFC 2833 (Non PRI)	Yes
H.225.0v5	Yes
H.245.0v10	Yes
VoIP Test Call Agent	Yes

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

Security	
Stateful packet inspection firewall	Yes
VoIP protocol aware firewall	Yes
Dynamic network address translation	Yes
Static network address translation	Yes
Port address translation	Yes
Denial of Service protection - SYN flood	Yes
Denial of Service protection - UDP flood	Yes
Denial of Service protection - ICMP flood	Yes
Denial of Service protection - Fragment flood	Yes
IPSec	Yes
IKE key management	Yes
3DES	Yes
AES	Yes
SHA-1	Yes
MD-5	Yes
IPSec Hardware acceleration	Yes
Number of tunnels	Up to 12

VoIP Quality Monitoring	
Per call statistics	Yes
LAN side measurements	Yes
WAN side measurements	Yes
Mean Opinion Score (MOS)	Yes
Bad MOS score alarms	Yes
Below threshold MOS counters	Yes
Degradation in MOS due to network impairments	Yes
Jitter	Yes
Packet loss	Yes
Consecutive lost packets	Yes
Total # of RTP packets received	Yes
Sum of received & expected packets	Yes
Out of sequence packets	Yes
Average packet loss burst length	Yes
Estimated jitter buffer delay	Yes
Estimated jitter buffer packet discard rate	Yes
Probability that degradation is due to LAN congestion	Yes
Probability that degradation is due to Router congestion	Yes
Probability that degradation is due to access link congestion	Yes
Probability that degradation is due to diverse routing	Yes
Probability that degradation is due to unreliable link	Yes



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EdgeMarc 4550 Series Network Services Gateways

PRODUCT	Part Number	Ethernet WAN	T1/E1 WAN	Ethernet LAN	V.90 Modem	WAN Calls
EdgeMarc 4550						
EdgeMarc 5	EM-4550-1-4-0-0-0-0-5	1	-	4	-	5
EdgeMarc 10	EM-4550-1-4-0-0-0-0-10	1	-	4	-	10
EdgeMarc 15	EM-4550-1-4-0-0-0-0-15	1	-	4	-	15
EdgeMarc 30	EM-4550-1-4-0-0-0-0-30	1	-	4	-	30
EdgeMarc 50	EM-4550-1-4-0-0-0-0-50	1	-	4	-	50
EdgeMarc 70	EM-4550-1-4-0-0-0-0-70	1	-	4	-	70
EdgeMarc 4551*						
VPN router, Single T1/E1	EM-4551-T1-4-0-0-0-0-0	1	1	4	1	0
EdgeMarc 5T, Single T1/E1	EM-4551-T1-4-0-0-0-0-5	1	1	4	1	5
EdgeMarc 15T, Single T1/E1	EM-4551-T1-4-0-0-0-0-15	1	1	4	1	15
EdgeMarc 30T, Single T1/E1	EM-4551-T1-4-0-0-0-0-30	1	1	4	1	30
EdgeMarc 50T, Single T1/E1	EM-4551-T1-4-0-0-0-0-50	1	1	4	1	50
EdgeMarc 70T, Single T1/E1	EM-4551-T1-4-0-0-0-0-70	1	1	4	1	70
VPN router, Dual T1/E1	EM-4551-T2-4-0-0-0-0-0	1	2	4	1	0
EdgeMarc 5T, Dual T1/E1	EM-4551-T2-4-0-0-0-0-5	1	2	4	1	5
EdgeMarc 15T, Dual T1/E1	EM-4551-T2-4-0-0-0-0-15	1	2	4	1	15
EdgeMarc 30T, Dual T1/E1	EM-4551-T2-4-0-0-0-0-30	1	2	4	1	30
EdgeMarc 50T, Dual T1/E1	EM-4551-T2-4-0-0-0-0-50	1	2	4	1	50
EdgeMarc 70T, Dual T1/E1	EM-4551-T2-4-0-0-0-0-70	1	2	4	1	70
VPN router, Three T1/E1	EM-4551-T3-4-0-0-0-0-0	1	3	4	1	0
EdgeMarc 5T, Three T1/E1	EM-4551-T3-4-0-0-0-0-5	1	3	4	1	5
EdgeMarc 15T, Three T1/E1	EM-4551-T3-4-0-0-0-0-15	1	3	4	1	15
EdgeMarc 30T, Three T1/E1	EM-4551-T3-4-0-0-0-0-30	1	3	4	1	30
EdgeMarc 50T, Three T1/E1	EM-4551-T3-4-0-0-0-0-50	1	3	4	1	50
EdgeMarc 70T, Three T1/E1	EM-4551-T3-4-0-0-0-0-70	1	3	4	1	70
VPN router, Quad T1/E1	EM-4551-T4-4-0-0-0-0-0	1	4	4	1	0
EdgeMarc 5T, Quad T1/E1	EM-4551-T4-4-0-0-0-0-5	1	4	4	1	5
EdgeMarc 15T, Quad T1/E1	EM-4551-T4-4-0-0-0-0-15	1	4	4	1	15
EdgeMarc 30T, Quad T1/E1	EM-4551-T4-4-0-0-0-0-30	1	4	4	1	30
EdgeMarc 50T, Quad T1/E1	EM-4551-T4-4-0-0-0-0-50	1	4	4	1	50
EdgeMarc 70T, Quad T1/E1	EM-4551-T4-4-0-0-0-0-70	1	4	4	1	70



* Special Order Only

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PRODUCT	Part Number	Ethernet WAN	T1/E1 WAN	Ethernet LAN	V.90 Modem	WAN Calls
EdgeMarc 4552						
VPN router, Single T1/E1	EM-4552-T1-4-0-0-0-0-0	1	1	4	-	0
EdgeMarc 5T, Single T1/E1	EM-4552-T1-4-0-0-0-0-5	1	1	4	-	5
EdgeMarc 15T, Single T1/E1	EM-4552-T1-4-0-0-0-0-15	1	1	4	-	15
EdgeMarc 30T, Single T1/E1	EM-4552-T1-4-0-0-0-0-30	1	1	4	-	30
EdgeMarc 50T, Single T1/E1	EM-4552-T1-4-0-0-0-0-50	1	1	4	-	50
EdgeMarc 70T, Single T1/E1	EM-4552-T1-4-0-0-0-0-70	1	1	4	-	70
VPN router, Dual T1/E1	EM-4552-T2-4-0-0-0-0-0	1	2	4	-	0
EdgeMarc 5T, Dual T1/E1	EM-4552-T2-4-0-0-0-0-5	1	2	4	-	5
EdgeMarc 15T, Dual T1/E1	EM-4552-T2-4-0-0-0-0-15	1	2	4	-	15
EdgeMarc 30T, Dual T1/E1	EM-4552-T2-4-0-0-0-0-30	1	2	4	-	30
EdgeMarc 50T, Dual T1/E1	EM-4552-T2-4-0-0-0-0-50	1	2	4	-	50
EdgeMarc 70T, Dual T1/E1	EM-4552-T2-4-0-0-0-0-70	1	2	4	-	70
VPN router, Three T1/E1	EM-4552-T3-4-0-0-0-0-0	1	3	4	-	0
EdgeMarc 5T, Three T1/E1	EM-4552-T3-4-0-0-0-0-5	1	3	4	-	5
EdgeMarc 15T, Three T1/E1	EM-4552-T3-4-0-0-0-0-15	1	3	4	-	15
EdgeMarc 30T, Three T1/E1	EM-4552-T3-4-0-0-0-0-30	1	3	4	-	30
EdgeMarc 50T, Three T1/E1	EM-4552-T3-4-0-0-0-0-50	1	3	4	-	50
EdgeMarc 70T, Three T1/E1	EM-4552-T3-4-0-0-0-0-70	1	3	4	-	70
VPN router, Quad T1/E1	EM-4552-T4-4-0-0-0-0-0	1	4	4	-	0
EdgeMarc 5T, Quad T1/E1	EM-4552-T4-4-0-0-0-0-5	1	4	4	-	5
EdgeMarc 15T, Quad T1/E1	EM-4552-T4-4-0-0-0-0-15	1	4	4	-	15
EdgeMarc 30T, Quad T1/E1	EM-4552-T4-4-0-0-0-0-30	1	4	4	-	30
EdgeMarc 50T, Quad T1/E1	EM-4552-T4-4-0-0-0-0-50	1	4	4	-	50
EdgeMarc 70T, Quad T1/E1	EM-4552-T4-4-0-0-0-0-70	1	4	4	-	70

