

Multi-Service Gateways EdgeMarc 4806, 4808



As enterprises of all sizes make the transition from legacy technologies to IP-based solutions such as SIP Trunking and Hosted Unified Communications, they require flexibility to support this transition cost-effectively. Ribbon's EdgeMarc Multi-Service Gateways provides the interfaces and functions that allow service providers to deliver a single edge device that adapts to an end user's changing needs.

The EdgeMarc Multi-Service Gateways provide both PSTN gateway functions to support PRI and analog trunks, as well as an Enterprise Session Border Controller (eSBC) for security and Quality of Service (QoS) management of VoIP services. WAN interfaces include both Ethernet and optical, enabling the EdgeMarc 4806 and EdgeMarc 4808 to operate as an optical termination device. EdgeMarc 4806 and EdgeMarc 4808 are optimized to support the demanding needs of enterprises, supporting 1 Gbps symmetric WAN connections with up to 500 concurrent calls.

Key Benefits

- Future-proof design
- Supports both TDM and IP reduces capital expenses
- Supports data rates up to 1 Gbps
- Supports 2,000 registered users and 500 concurrent sessions
- VoIP aware firewall with stateful packet inspection

Ease of Management

As with all EdgeMarc devices, the EdgeMarc 4806 and EdgeMarc 4808 are managed with Ribbon's industry-leading EdgeView services control platform. EdgeView provides a comprehensive view of key performance parameters, enabling service providers to quickly diagnose issues and proactively solve them, minimizing escalations and truck rolls. EdgeView also features user management and reporting capabilities along with menu driven configuration and provisioning tools to make set-up and internetworking simple and intuitive.



	EdgeMarc 4806	EdgeMarc 4808
Concurrent Calls (max)	500	500
WAN Inputs (10/100/1000, RJ45)	2	2
Optical WAN (SFP)	2	2
LAN Ports (10/100/1000, RJ45)	8	8
PRI (RJ-48)	up to 2	up to 2
TI WAN (RJ-48)	up to 2	up to 2
FXO (RJ-11)	2	2
FXS (Amphenol)	6	22
SD Card	1	1

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Performance Maximum adia throughput 1Cbps Maximum number of registered devices (endpoints) 2000 Cloudz-Edge Complete Compatible 2000 Analog Port Features Vex. See http://ribbancommunications.com/solutions/service-provider solutions/edge-sensioss/cloudz-edge-complete for more details Analog Port Features FXEO Port (R-L11) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol teloc connector) * Loop Start Far end disconnect supervision, Battery reversal, RTP silence detection FXF Extures Network Address Translation (PAT)	Features and Capabilities	Specifications
Maximum sessions, voice only Maximum number of registered devices (endpoints) 200 Yes. See http://ribboncommunications.com/solutions/service-provider-solutions/edge-services/coluz/acdge-complete for more details Analog Port Features FXD Port (R-IT) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop Start Representation of the start of the supervision of the supervisi	Performance	·
Maximum number of registered devices (endpoints) 2000 Cloud Edge Complete Compatible Ves. See http://ribbancommunications.com/solutions/service-provider.solutions/edge-services/cloud/zedge-complete for more details Analog Port Features FXO Port (RJ-11) Loop start. Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start and disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start and disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start and start and supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start and start a	Maximum data throughput	1Gbps
Cloud Zedge Complete Compatible Ves. See http://ribbancommunications.com/solutions/service-providersolutions/edge-services/ Coop Start	Maximum sessions, voice only	500
Analog Port Features FXO Port (R-JT) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection FXS Port (Amphenol telco connector) Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection (NAT); static, dynamic Protocol start (AP) (AP) Loop start, Far analation (NAT); static, dynamic Protocol start (AP) Loop start, Far analation (NAT); static, dynamic Protocon start (AP) Loop start, Far analation (NAT); static, dynamic Protocon start (AP) Loop start, Far analation (NAT); static, dynamic Protocon start (AP) Loop start, Far analation (NAT); static, dynamic Protocon start (AP) Loop start, Far analation (NAT); static, dynamic Protocon start (AP) Loop start (AP) Loop start (AP) FXS Port (AB) Loop start (AP) Loop start (AP) Loop start (AP) Loop start (AP) FXS Port (AP) Loop start (AP) Loop start (AP) Loop start (AP) FXS PORT (AP) Loop start (AP) Loop start (AP) Loop start (AP) FXS PORT (AP) Loop start (AP) Loop start (AP) Loop start (AP) FXS PORT (AP) Loop start (AP) Loop start (AP) Loop start (AP) FXS PORT (AP) Loop start (AP) Loop start	Maximum number of registered devices (endpoints)	2000
Coop start, Far end disconnect supervision, Battery reversal, RTP silence detection	Cloud2Edge Complete Compatible	
FXS Port (Amphenol telco connector) PXS Port (Amphenol telco connector) Inlinging voltage s + 48V ms 20Hz, selectable impedance shall be shall be impedance shall be sh	Analog Port Features	
Page Regulared Number (REN) - Syport, 20/system Ringing voltage = 848/ms 2014, 2014, 2015, 201	FXO Port (RJ-11)	Loop start, Far end disconnect supervision, Battery reversal, RTP silence detection
Network Address Translation	FXS Port (Amphenol telco connector)	 Ringer Equivalency Number (REN) – 5/port, 20/system Ringing voltage >= 48Vrms 20Hz, selectable impedance
Prot Address Translation (PAT)	SIP Features	
Application Layer Gateway (SIP proxy) Proxy Modes Transparent proxy mode Multi-homed proxy mode Multi-homed proxy mode Multi-homed proxy mode Registration Pacing Registration Pacing Registration rates (LAN-side/WAN) side) can be controlled Remotely verify and troubleshoot connectivity Header Manipulation Full control to add/delete/modify SIP headers Signaling Protocol (LAN/WAN) UDP TCP, TLS Media Protocol (LAN/WAN) RTP, SRTP SIP Standards Compliance (primary standards) RFC 3261 - RFC 3261 - RFC 3263 - RFC 2833 Codecs G.711, G.722, G.726 G.729 Fax T.38 support for FXS interfaces Security Firewall Denial of Service protection SYN flood, UDP flood, ICMP flood, Fragment flood Encryption and Authentication TLS, SRTP, HTTPS, SSH, Radius Encryption protocols supported ASE, SHA-256, MD-5 Key Management IKE key management, IPSec Proxy ARP Yes Presc VPN Yes (max 12 tunnels) PFTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Full MOS support (including Jitter, Packet Loss)	Network Address Translation	Port Address Translation (PAT)
Proxy Modes 1 Transparent proxy mode Multi-homed proxy mode Media Prot Call Agent Media Protocol (LAN/WAN) Media Protocol (LAN/WAN	Back-to-Back User Agent	Yes
SIP Registration Pacing Registration rates (LAN-side/WAN side) can be controlled NoIP Test Call Agent Remotely verify and troubleshoot connectivity Reader Manipulation Full control to add/delete/modify SIP headers Signaling Protocol (LAN/WAN) UDP, TCP, TLS Media Protocol (LAN/WAN) RTP, SRTP SIP Standards Compliance (primary standards) PRC 3261 PRC 3263 RFC 3267 RFC 3263 RFC 2327 RFC 2	Application Layer Gateway (SIP proxy)	Yes
VoIP Test Call Agent Remotely verify and troubleshoot connectivity Header Manipulation Full control to add/delete/modify SIP headers Signaling Protocol (LAN/WAN) UDP, TCP, TLS Media Protocol (LAN/WAN) RTP, SRTP SIP Standards Compliance (primary standards)	Proxy Modes	Transparent proxy modeMulti-homed proxy mode
Header Manipulation Full control to add/delete/modify SIP headers Signaling Protocol (LAN/WAN) DUP, TCP, TLS Media Protocol (LAN/WAN) RTP, SRTP SIP Standards Compliance (primary standards) RFC 3261 - RFC 2327 - RFC 2326 - RFC 2326 - RFC 2328 - RFC 2328 - RFC 2328 Fax T.38 support for FXS interfaces Security Firewall Denial of Service protection SYN flood, UDP flood, ICMP flood, Fragment flood Encryption and Authentication TLS, SRTP, HTTPS, SSH, Radius Encryption protocols supported 3DES, AES, SHA-256, MD-5 Key Management IKE key management, IPSec Proxy ARP Yes Proxy ARP Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Full MOS support (including Jitter, Packet Loss)	SIP Registration Pacing	Registration rates (LAN-side/WAN side) can be controlled
Signaling Protocol (LAN/WAN) Media Protocol (LAN/WAN) RTP, SRTP SIP Standards Compliance (primary standards)	VoIP Test Call Agent	Remotely verify and troubleshoot connectivity
Media Protocol (LAN/WAN) RTP, SRTP SIP Standards Compliance (primary standards) - RFC 2321 - RFC 2327 - RFC 2323 - RFC 2327 - RFC 2323 - RFC 2325 - RFC 2327 - RFC 2323 - RFC 2327 - RFC 2323 - RFC 2327 - RFC 2323 - RFC 2327 - RFC 2323 - RFC 2327 - RFC 2327 - RFC 2323 - RFC 2327 - RFC 2323 - RFC 2327 - RFC 2327 - RFC 2323 - RFC 2323 - RFC 2323 - RFC 2327 - RFC 2323 - RFC	Header Manipulation	Full control to add/delete/modify SIP headers
SIP Standards Compliance (primary standards) - RFC 3261 - RFC 2837 - RFC 2833 Codecs - G.711, G.722, G.726 G.729 Fax - T.38 support for FXS interfaces Security Firewall - Stateful, VoIP aware firewall - Denial of Service protection - SYN flood, UDP flood, ICMP flood, Fragment flood - Encryption and Authentication - TLS, SRTP, HTTPS, SSH, Radius - Encryption protocols supported - 3DES, AES, SHA-256, MD-5 - Key Management - IKE key management, IPSec - Proxy ARP - Yes - IPSec VPN - Yes (max 12 tunnels) - PPTP support - MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement - Full MOS support (including Jitter, Packet Loss)	Signaling Protocol (LAN/WAN)	UDP, TCP, TLS
Per call statistics (LAN/WAN) G.711, G.722, G.726 G.729 G.711, G.722, G.726 G.729 T.38 support for FXS interfaces G.711, G.722, G.726 G.729 T.38 support for FXS interfaces Security Stateful, VolP aware firewall Stateful, VolP aware firewall StyN flood, UDP flood, ICMP flood, Fragment flood Encryption and Authentication TLS, SRTP, HTTPS, SSH, Radius Encryption protocols supported 3DES, AES, SHA-256, MD-5 Key Management IKE key management, IPSec Proxy ARP Yes Presc VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Media Protocol (LAN/WAN)	RTP, SRTP
Fax T.38 support for FXS interfaces Security Firewall Stateful, VoIP aware firewall Denial of Service protection SYN flood, UDP flood, ICMP flood, Fragment flood Encryption and Authentication TLS, SRTP, HTTPS, SSH, Radius Encryption protocols supported 3DES, AES, SHA-256, MD-5 Key Management IKE key management, IPSec Proxy ARP Yes IPsec VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	SIP Standards Compliance (primary standards)	• RFC 2327 • RFC 3263
Security Firewall Stateful, VoIP aware firewall Denial of Service protection SYN flood, UDP flood, ICMP flood, Fragment flood Encryption and Authentication TLS, SRTP, HTTPS, SSH, Radius Encryption protocols supported 3DES, AES, SHA-256, MD-5 Key Management IKE key management, IPSec Proxy ARP Yes IPsec VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Codecs	G.711, G.722, G.726 G.729
Firewall Denial of Service protection SYN flood, UDP flood, ICMP flood, Fragment flood Encryption and Authentication TLS, SRTP, HTTPS, SSH, Radius Encryption protocols supported 3DES, AES, SHA-256, MD-5 Key Management IKE key management, IPSec Proxy ARP Yes IPsec VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Fax	T.38 support for FXS interfaces
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Encryption and Authentication TLS, SRTP, HTTPS, SSH, Radius Encryption protocols supported 3DES, AES, SHA-256, MD-5 Key Management IKE key management, IPSec Proxy ARP Yes IPsec VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Firewall	Stateful, VoIP aware firewall
Encryption protocols supported 3DES, AES, SHA-256, MD-5 Key Management IKE key management, IPSec Proxy ARP Yes IPsec VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Denial of Service protection	SYN flood, UDP flood, ICMP flood, Fragment flood
Key Management IKE key management, IPSec Proxy ARP Yes IPsec VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Encryption and Authentication	TLS, SRTP, HTTPS, SSH, Radius
Proxy ARP Yes IPsec VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Encryption protocols supported	3DES, AES, SHA-256, MD-5
IPsec VPN Yes (max 12 tunnels) PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Key Management	IKE key management, IPSec
PPTP support MSCHAP, MSCHAP V2, MSCHAP+MPPE Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	Proxy ARP	Yes
Voice Quality Measurement Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	IPsec VPN	Yes (max 12 tunnels)
Per call statistics (LAN/WAN) Full MOS support (including Jitter, Packet Loss)	PPTP support	MSCHAP, MSCHAP V2, MSCHAP+MPPE
	Voice Quality Measurement	
Mean Opinion Score (MOS) MOS tabulated every 10 seconds of every call on both WAN and LAN side of call leg.	Per call statistics (LAN/WAN)	Full MOS support (including Jitter, Packet Loss)
	Mean Opinion Score (MOS)	MOS tabulated every 10 seconds of every call on both WAN and LAN side of call leg.



Features and Capabilities	Specifications	
Traffic Management/Routing/QoS	·	
Routing	BGP - fully functional BGP stack supporting Layer 2/3 IP WAN solutions (MPLS) RIP OSPF PPPoE Secondary address / Subinterface	
Multicast	Protocol Independent Multicast – sparse mode (PIM-SM)	
Traffic prioritization	Class-based queueing (up to 8) Prioritization on IP and port Prioritization on VoIP protocol Traffic Shaping Call Admission Control Upstream, downstream bandwidth management	
DHCP server	Yes	
QoS	Diffserv (DSCP), IP Precedence, policing	
VLANs	802.1Q (up to 16) Multi-VLAN ALG support	
Network addressing	IPv4, IPv6	
System Management		
Device Management	CLI, (SSH, Telnet) Web GUI (HTTP, HTTPS)	
Remote upgrades, back-up, restore	TFTP, FTP, SCP, HTTP, HTTPS	
Firmware	Dual local firmware image for upgrade and recovery	
Network Management	SNMP v1, v3	
Message Analytics	System monitoring and SIP statistics	
Debug tools	Packet capture (tcpdump), traceroute, ping, syslog	
Endpoint monitoring	Two-way Active Monitoring Protocol (TWAMP)	
Edge Orchestration	EdgeView Service Control Center for device and endpoint management	
EdgeView key functions	 Remote troubleshooting Proactive management Inventory management Configuration management Reporting and data analytics (for more information, please see: http://ribboncommunications.com/products/service-provider-products/management/edgeview-service-control-center-scc) 	
Hardware Specifications		
Dimensions (W x D x H)	16.75" x 13.375" x 1.7" (1 u)	
Weight	6.5 lbs.	
Mounting Options	Rack Mountable	
MTBF	179,330 hours	
Operating Temperature	0-40 deg. Celsius	
Operating Relative Humidity	4% to 90% (non-condensing)	
Compliance	RoHS 2.0, UL/cUL, CB, FCC part 15, FCC part 68, IC, CE, RCM and VCCI	
Power	100/240 VAC-auto selecting, 50-60 Hz	
Hardware Warranty	5 years	
Software support and maintenance	First year included	



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About Ribbon Communications

Ribbon is a company with two decades of leadership in real-time communications. Built on world class technology and intellectual property, Ribbon delivers intelligent, secure, embedded real-time communications for today's world. The company transforms fixed, mobile and enterprise networks from legacy environments to secure IP and cloud-based architectures, enabling highly productive communications for consumers and businesses. With locations in 28 countries around the globe, Ribbon's innovative, market-leading portfolio empowers service providers and enterprises with rapid service creation in a fully virtualized environment. The company's Kandy Communications Platform as a Service (CPaaS) delivers a comprehensive set of advanced embedded communications capabilities that enables this transformation.

To learn more visit RibbonCommunications.com

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