

10GbE MXG Media Exchange Gateway

Layer 2 and 3 Address Translation, Filtering, Policing, and Replication

Designed to facilitate the hand-off between private customer networks and MD8000 networks, the 10GbE MXG Media Exchange Gateway provides a variety of network address translation modes for VLANs, IP networks, and RTP and UDP media streams.

KEY FACTS:

- Compatible with MD8000 networking equipment
- L2/L3 translation for Ingress or Egress streams
- One 10Gbps Ethernet user port and one 1Gbps Ethernet port for monitoring (Copper or Optical)
- Virtual network interface support for easy connection to customer L3 networks using ARP or IGMP protocols

KEY FEATURES:

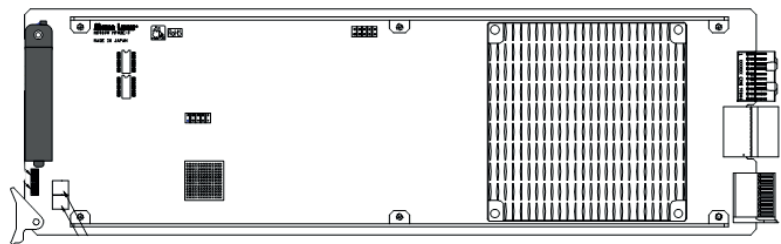
- Supports up to 64 VLANs and 64 Hand-off services per port
- Jumbo packet support
- Support for all MD8000 protocols
- Stream replication (three outputs per service)
- ARP and IGMP v3 Support

APPLICATIONS:

- SDI video transport over diverse VLANs, IP networks, or IP subnets
- Service provider to private customer network transport integration
- Video transport and pass-through over customer L3 IP networks
- Transport of Media Links Ether-IP packets from other Data modules.

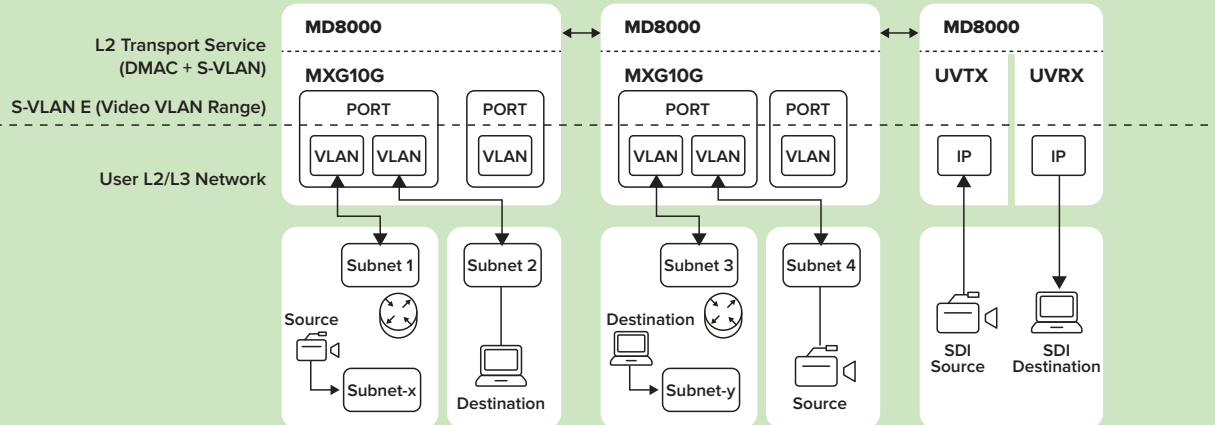
The seamless bi-directional interconnection of broadcast video transport networks with private customer networks is a challenge for many service providers. With our new MXG10G1P line card, Media Links meets this challenge head-on by giving users a wide range of Layer 2 and 3 address translation options. These choices include both Ingress and Egress address translation by source or destination MAC address, VLAN ID and Priority, and source and destination IP address. In addition, the MXG10G1P module supports Time-to-Live, ToS/DSCP, and source/destination UDP port number conversions. A granular Stream Policing feature based on 1Mbps increments is also available.

Multiple MXG10G1P gateway cards can be installed in a single MD8000 chassis, giving users the ability to perform frame and packet header conversions on dozens of video streams. One 10Gbps user port is supported, with each port capable of handling 64 hand-off services. For Egress streams, stream replication with three outputs per service is offered.

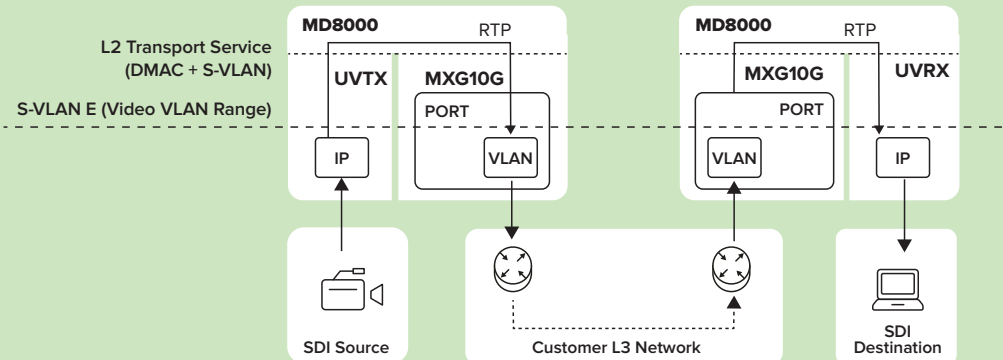


SAMPLE USE CASES

10GbE MXG Media Exchange Gateway – VLAN to IP Subnet Translation



10GbE MXG Media Exchange Gateway – Media Transport through a Customer L3 Network



MD8000

MXG10G

L3
Network 1

L3
Network 2

MD8000

MXG10G

MXG10G

Trunks

UVTX

10G
Hitless Data

UVRX

10G
Hitless Data

10GbE MXG Media Exchange Gateway - 10G Hitless Data Transfer

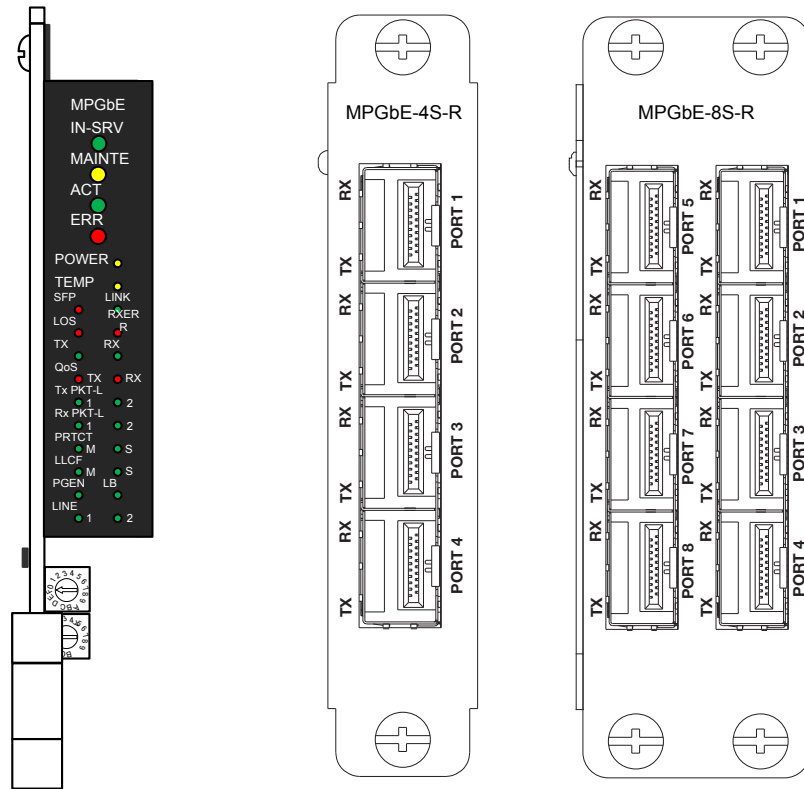
SERVICE SPECIFICATIONS & SUPPORTED PROTOCOLS

10GbE MXG Ingress Service Specifications (port-to-SWCNT)		
Item	Description	Remarks
# of Services	64 Hand-off Services per port	Port-1
Target of Services	MAC+IPv4+UDP+RTP MAC+IPv4+UDP	Format can be specified per service
Stream Filtering	DMAC Address, SMAC Address, VLAN ID, SIP Address, DIP Address, SUDP Port Number, DUDP Port Number	Qualification in each field is available
Stream Policing	Configurable with 1 Mbps unit	Rate can be specified per service
Address (Header) Translation	DMAC Address, SMAC Address, VLAN ID, VLAN Priority, SIP Address, DIP Address, TTL, ToS/DSCP, SUDP Port Number, DUDP Port Number	Configurable (Overwrite or Through) per field per service

10GbE MXG Egress Service Specifications (SWCNT-to-port)		
Item	Description	Remarks
# of Services	64 Hand-off Services per port	Port-1
Target of Services	MAC+IPv4+UDP+RTP MAC+IPv4+UDP	Format can be specified per service
Stream Filtering	DMAC Address, VLAN ID, DIP Address, DUDP Port Number	Qualification in each field is available
Stream Policing	Configurable with 1 Mbps unit	Rate can be specified per service
Address (Header) Translation	DMAC Address, SMAC Address, VLAN ID, VLAN Priority, SIP Address, DIP Address, TTL, ToS/DSCP, SUDP Port Number, DUDP Port Number	Configurable (Overwrite or Through) per field per service
Stream Replication	Additional three outputs per service. Independent address translation per output. (One service entry is consumed per replicated output)	Some restrictions apply

Supported Protocols and Functions at a Virtual Network Interface			
Protocol	Supported function	Description of the action	Remarks
ARP	Response to an ARP request received at a virtual network interface.	The ARP request targets to a valid virtual network interface at a port.	
	Resolution of a Destination MAC Address (Transmit ARP requests and process their replies)	New DMAC Auto Set is requested at an egress service	New DIP Address is a unicast IP address
IGMPv3	Transmission of Join (IGMPv3 membership report, EXCLUDE) messages	When an Ingress Service is enabled (periodically in every 30 seconds after that)	Filter DIP Address is an IP Multicast address
		When an Egress Service is enabled (periodically in every 30 seconds after that)	New DIP Address is an IP Multicast address
	Transmission of Leave (IGMPv3 membership report, INCLUDE) messages	When an Ingress Service is enabled	Filter DIP Address is an IP Multicast address
		When an Egress Service is enabled	New DIP Address is an IP Multicast address
ICMP	Transmission of ICMP Echo Reply when an ICMP Echo is received at a virtual network interface.	The ICMP Echo targets to a valid virtual network interface at a port.	The active line cannot be changed by manual operations

10GbE MXG General Specifications		
Item	Description	Remarks
Operable chassis	All MD8000 series chassis	MD8000, MD8000EX, or MD8000SX
Board structure	Front + Rear	
External dimensions	Front board: 17 mm (W) * 113 mm (H) * 367 mm (D) Rear board: 41 mm (W) * 96 mm (H) * 126 mm (D)	Front board occupies a 1-slot width Rear board occupies either a 1-slot width (SFPx4port) or a 2-slot width (SFPx8port)
Weight	1 kg or less	
Power consumption	33.0 W or less	
Operating temperature	0 ~ 40°C (Ambient)	Under the no-condensing humidity condition
Redundancy modes	All MD8000 modes of operation are supported	Single/Class B/Class C/Class J
Compliant with	CE/CSA, NEBS Level 3	



MXG Front Panel

4 Port Rear Panel (4S-R)

8 Port Rear Panel (8S-R)

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