As part of Nevion’s VikinX product line of broadcast audio and video routers, VikinX eMerge is a series of next generation Ethernet media routers, specifically designed to aggregate, switch and forward IP media streams in a broadcast environment.

VikinX eMerge can be deployed as a simple plug and play device for many broadcast applications. For more sophisticated networks, the products are equipped with a wide range of advanced Ethernet and IP features.

Three different eMerge base units are available, with a choice between:
- 24 GigE Base-T ports
- 48 GigE Base-T ports or Base-X SFP ports
- 48 GigE Base-X SFP ports

All base units are delivered with a single AC or DC power supply – an additional power supply can be added for redundancy purposes. Optional 10GigE uplink module is supported on all eMerge base units, providing four additional 10GigE SFP+ ports.

**Applications**
- Aggregation of multiple Ethernet-based audio and video signals onto one or more Gigabit Ethernet or 10Gigabit Ethernet lines
- Point-to-point and point-to-multipoint routing of Ethernet-based audio and video signals
- Aggregation and routing of broadcast data control signals like RS232, RS422, RS485 and GPI, when pre-mapped into Ethernet packets
- Distribution of Ethernet-based synchronization signals
- Ethernet transport networks for broadcast contribution, distribution and studio infrastructure

**Key features**
- High-performance layer 2 / layer 3 media aggregation
- 176Gbps fully non-blocking fabric with ultra-low latency
- Optional uplink with four 10 GigE SFP+ ports
- Support for Openflow v1.3
- ERPS (Ethernet Ring Protection Switching) allows for a fault tolerant ring-based network topology
Flexible hardware options
- Available with 24 RJ45 ports, 48 RJ45 ports or 48 SFP cages.
- Optional uplink with 4 ports for network interfacing at 1G or 10G speeds.
- Field replaceable redundant power supplies support AC-AC, DC-DC, or AC-DC applications.

Flexible table size management
- Configurable profiles for different MAC/IP/MPLS/ACL/Mcast distribution.
- Up to 64K MAC address.
- Up to 8K ACL.

Advanced QoS
- Support up to 2K queues.
- Supports layer 2 to layer 4 flow classification.
- Up to 4K flow policies.
- Supports multi-stage scheduling (SP, WDRR, SP + WDRR) and tail drop/WRED.

Layer 2/3 VPN
- Selective QinQ feature strictly conforms to 802.1Q and 802.1ad.
- Supports full set of MPLS switching and control protocols such as LDP/MPLS BGP VPN/VPLS/VPWS and VRF-Lite.

Network security
- Supports centralized port-based and MAC-based 802.1x authentication.
- Supports standard and extended ACL.
- MAC port binding, port isolation, private VLAN, MAC security, and MAC filtering.
- DoS attack and CPU traffic protection.
## Performance
- **Switch fabric capacity**: 176 Gbps
- **Forwarding speed**: 132 Mpps
- **Packet buffer memory**: 4 MB
- **Latency**: 3 μs (64 byte)
- **System memory**: 512 MB DDR
- **CPU**: Cavium CN5010

## Ports
- **Base unit**: 24 x 10/100/1000 Base-T, 48 x 10/100/1000 Base-T, 48 x 100/1000 Base-X
- **Uplink option**: 4 x 1000/10G Base-X SFP+
- **Console port**: 1 x RJ45 (DB9 converter)
- **Management port**: 1 x 10/100/1000 Base-T

## Layer-2 / layer-3 features
- **Max MAC address**: 64K
- **Max VLANs**: 4,094
- **Link aggregation (Groups/ports)**: 24/8
- **Jumbo frames (Bytes)**: 16,000
- **Spanning tree**: STP/RSTP/MSTP
- **IPv4/IPv6 routing**: RIP, OSPF, Static
- **Multicast routing**: PIM-SM, IGMP, IGMP-Snooping

## Management
- **Telnet, TFTP, NTP, SSH, DNS, SNMPV1/V2/v3, RMON, Port/Vlan Mirror, sFlow**

## OpenFlow support
- **Open vSwitch**: Ver. 19
- **GRE tunneling**: Yes

## Physical & environmental
- **Size (inches)**: 1.73 (H) x 17.5 (W) x 12.9 (D)
- **Weight (lbs)**: 14.1
- **Air-flow**: Front to back
- **Hot-swappable redundant power**: Yes
- **Power**: 85W max
- **Input voltage/frequency**: 100 – 240V AC / 50 – 60Hz
- **Operating temperature**: 0°C to 45°C
- **Storage temperature**: -40°C to 70°C
- **Operating humidity**: 10 to 90% (non-condensing)
- **Storage humidity**: 0 to 95% (non-condensing)

## Regulatory compliance
- **Emissions**: FCC, CE
- **Safety**: UL, CE

## Ordering options
- **EM-GE-48T**: 48 x 10/100/1000 Base-T ports with slot for optional uplink module
- **EM-GE-24T**: 24 x 10/100/1000 Base-T ports with slot for optional uplink module
- **EM-GE-4SFP+**: 4 x 1000/10G SFP+ SFP+ Ethernet ports
- **EM-GE-48S**: 48 x 100/1000 Base-X SFP ports with slot for optional uplink module
- **Contact sales/support for more information**
As part of Nevion’s VikinX product line of broadcast audio and video routers, VikinX eMerge IP media routers is a series of next generation Ethernet/IP switches, specifically designed to aggregate, switch and forward IP media streams in a broadcast environment.

Several switches can be interconnected via standard 10GigE/40GigE/100GigE connections, forming a fully non-blocking router cross point with a switching capacity that scales to several Terabits per second, comparable to a video routing core with thousands of HD-SDI inputs and outputs.

A number of eMerge EM-10GE products are available with a selection of 32 or 48 10GigE SFP+ ports, as well as up to 20 40GigE QSFP+ ports or 4 zQSFP+ 100GigE ports. All 40GigE/100GigE ports can be configured as 4 x 10GigE ports, enabling up to 96 non-blocking 10GigE ports in a single RU. VikinX eMerge can be deployed as a simple plug and play device for many broadcast applications. For more sophisticated networks, the products are equipped with a wide range of advanced Ethernet and IP features.

Applications
- Aggregation of multiple Ethernet-based audio and video signals onto one or more Gigabit, 10G, 40G or 100Gigabit Ethernet lines
- Point-to-point and point-to-multipoint routing of IP-based audio and video signals
- Aggregation and routing of broadcast data control signals like RS232, RS422, RS485 and GPI, when pre-mapped into Ethernet packets
- Distribution of Ethernet-based synchronization signals
- Ethernet transport networks for broadcast contribution, distribution and studio infrastructure

Key features
- High performance non-blocking switch fabric
- Up to 2.4 Tbps forwarding capacity
- 10GigE, 40GigE and 100GigE interface support
- Advanced carrier quality and features, including MPLS L2 VPN and QinQ
- Advanced network address translation
- Support for Openflow v1.3
- Redundant power supplies and fans with hot swap support
- Low power consumption
Flexible hardware options

• Five different configurations, each combining 10G, 40G and 100G port to match every application
• 1 + 1 redundant power supplies with hot swap support
• N + 1 redundant fans with hot swap support

Flexible table size management

• Configurable profiles for different MAC/IP/MPLS/ACL/Mcast distribution
• Up to 64K MAC address
• Up to 8K ACL

Advanced QoS

• Support up to 2K queues
• Supports layer 2 to layer 4 flow classification
• Up to 4K flow policies
• Supports multi-stage scheduling (SP, WDRR, SP + WDRR) and tail drop/WRED

Layer 2/3 VPN

• Selective QinQ feature strictly conforms to 802.1Q and 802.1ad
• Supports full set of MPLS switching and control protocols such as LDP/MPLS BGP VPN/VPLS/VPWS and VRF-Lite

Network security

• Supports centralized port-based and MAC-based 802.1x authentication
• Supports standard and extended ACL
• MAC port binding, port isolation, private VLAN, MAC security and MAC filtering
• DoS attack and CPU traffic protection
VikinX eMerge 10G-40G-100G

Performance
Switch fabric capacity | 12-2.4 Tbps
Forwarding speed | 122Mpps
Packet buffer memory | 9MB
Latency | 700 ns
System memory | 2 G DDR
CPU | Cavium CN5010

Physical & environmental
Size (inches) | 17.3 (H) x 17.5 (W) x 12.9 (D)
Weight (lbs) | 14.1
Air-flow | Front to back
Hot-swappable redundant power | Yes
Power | See table
Input voltage/frequency | 100 – 240V AC / 50 – 60Hz
Operating temperature | -40°C to 45°C
Storage temperature | -40°C to 70°C
Operating humidity | 10 to 90% (non-condensing)
Storage humidity | 0 to 95% (non-condensing)

Ports
Base unit | See table
Console port | 1 x RJ45 (DB9 converter)
Management port | 1 x 10/100/1000 Base-T

Layer-2 / layer-3 features
Max MAC address | 64K
Max VLANs | 4094
Link aggregation (Groups/ports) | 24/8
Jumbo frames (Bytes) | 16,000
Spanning tree | STP/RSTP/MSTP
IPv4/IPv6 routing | RIP, OSPF, Static
Multicast routing | PM-SM, IGMP, IGMP-Snooping

Management
Telnet, TFTP, NTP, SSH, DNS
SNMPv1/v2/v3
RMON, Port/Vlan Mirror, sFlow

OpenFlow support
Open vSwitch | Ver 19
GRE tunneling | Yes

Interface options

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<th>EM-10GE-48X2Q4Z</th>
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</table>

Regulatory compliance
Emissions | FCC, CE
Safety | UL, CE

Ordering options
EM-10GE-48X2Q4Z | eMerge P media router with 48 x 10GbE + 2 x 40GbE + 4 x 100GbE
EM-10GE-32X2Q | eMerge P media router with 32 x 10GbE + 2 x 40GbE + 4 x 100GbE
EM-10GE-48X6Q | eMerge P media router with 48 x 10GbE + 6 x 40GbE + 4 x 100GbE
EM-40GE-20Q4Z | eMerge P media router with 20 x 40GbE + 4 x 100GbE
EM-10GE-32X | eMerge P media router with 32 x 10GbE
Contact sales/support for more information
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