Megaplex-4

MS-JNPR

IP/MPLS Edge Router Module

- Full-featured high-availability IP/MPLS edge router
- Megaplex-4 TDM and voice service over IP/MPLS networks using Layer-2 VPN, VPLS, IPVPN
- Megaplex-4 Ethernet and IP service over IP/MPLS networks using Layer-2 VPN, VPLS, IPVPN
- High availability with two cards per chassis providing card level redundancy (optional)
- Protection based on IP/MPLS mechanisms, such as FRR and VPLS multi-homing

The MS-JNPR multiservice module adds to Megaplex-4 a carrier-class IP/MPLS router, based on Juniper's successful virtualized MX router series (vMX).

IP/MPLS ROUTER

MS-JNPR features the same broad set of IPv4/IPv6 and MPLS capabilities available in the MX Series portfolio. This includes comprehensive VPN support at:

- Layer 2 (virtual private LAN service, L2 circuits, L2VPN, and EVPN)
- Layer 2.5/MPLS (LDP, RSVP, P2MP LDP, and RSVP, with class of service/QoS)
- Layer 3 (unicast and multicast L3VPNs with CoS/QoS), BNG/LNS, and a variety of multicast techniques (physical interface module, Internet Group Management Protocol, Multicast Listener Discovery, multicast generic routing encapsulation).

Additionally, the router employs advanced routing protocols such as EVPN and Source Packet Routing in Networking (SPRING).

As an extension to MPLS core networks, vMX offers feature consistency with the physical MX Series platforms, including:

- High-performance virtual broadband network gateway (BNG) capabilities
- L2TP network server/Layer-2 Tunneling Protocol (LNS/L2TP)
- Point-to-Point Protocol over Ethernet (PPPoE)
- Dynamic Host Configuration Protocol (DHCPv4/DHCPv6)
- DHCP client, server and relay
- Pseudowire Headend Termination (PWHT)
- Static and dynamic (RADIUS) subscriber interface.

Additionally, vMX supports IPsec for secure routing between clouds, between private and hybrid clouds, and between cloud-based and on-premise resources. Together, these sophisticated features help users build advanced, virtualized, and distributed networks.

The module occupies two module slots in the Megaplex-4 chassis.

MS-JNPR

IP/MPLS Edge Router Module

MARKET SEGMENTS AND APPLICATIONS

The MS-JNPR module provides an effective solution for power utilities, water utilities, gas and oil firms, transportation companies (railways, ATC) and government bodies (such as army) which intend to migrate their operational networks to new MPLS-based networks, while keeping their legacy services intact and enabling gradual migration from TDM to packet services. The IT/OT convergence and the fact that many companies already use MPLS for their IT networks, can be a driver for integrating MPLS into access devices like Megaplex-4.

INTEROPERABILITY

MS-JNPR operates with Juniper MX devices and Juniper SRX/vSRX.

RESILIENCY

MS-JNPR features a vast range of IP/MPLS redundancy mechanisms, both at the link level (such as FRR) and at the card level (such as VPLS multi-homing), when two cards are used in a chassis.

MANAGEMENT

Megaplex-related features are managed via Megaplex-4 CLI and RADview.

The Router application (vMX) is managed via Juniper MX series management tools, such as Juniper MX CLI and Juniper CSD.

Juniper CSD (Connectivity Services Director) is a robust and holistic application that facilitates automated design and provisioning of Layer-2 VPN, Layer 3-VPN services and MPLS infrastructure.

vMX CLI is accessible via the remote SSH.

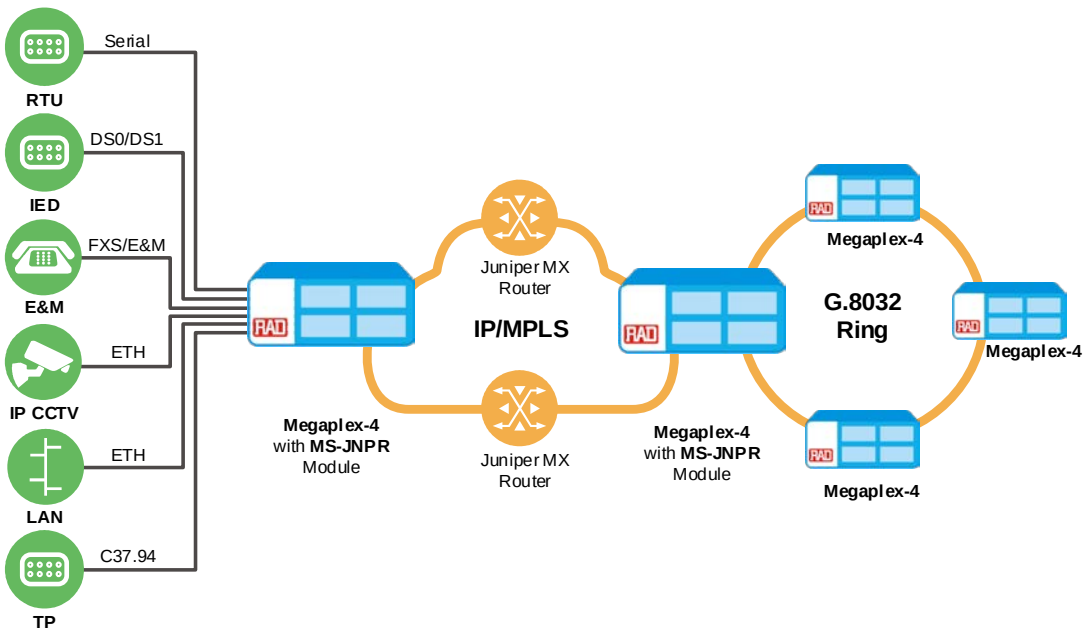

Figure 1. Multiservice Operational WAN over MPLS

Data Sheet

MS-JNPR

IP/MPLS Edge Router Module

Specifications

IP/MPLS ROUTER

VMX 17.4 feature set

RESILIENCY

Card/router- and link-level redundancy based on VMX IP/MPLS mechanisms (FRR, VPLS multi-homing, VRRP, etc)

ETHERNET INTERFACE

Number of Ports
1

Type
1000Base-FX

Connector
SFP socket

SFP Transceivers
SFP5/5D, SFP6/6D, SFP7/7D, SFP8/8D

Maximum Frame Size
9600 bytes

CONTROL PORT

Interface
RS-232, UART

Baud Rate
115200 bps

Connector
RJ-45

USB PORT

For factory use only

GENERAL

LED Indicators
RDY (green): The module is up and running
LINK (green) – for GbE port:

- On: the port is connected to an active Ethernet hub or switch
- Off: Ethernet link is not detected

ACT (yellow) – per port:

- On or Blinking (in accordance with the traffic): ETH frames are received or transmitted
- Off: ETH frames are not received and transmitted

Power Consumption
55W max

Environment
Operating temperature:
-10°C to +55°C (14°F to 131°F)

Storage temperature: -20°C to 70°C (-4°F to 158°F)
Humidity: up to 95%, non-condensing

Ordering

MP-4100M-MS/JNPR/X8C/VMX250M

Multiservice module, VMX-250M perpetual license, Xeon D, 8 cores

RADCARE-VMX250M-PREMIUM

RADcare package for VMX-250M Multiservice module

MP-4100M-MS/JNPR/X8C/VMX1G

Multiservice module, VMX-1G perpetual license, Xeon D, 8 cores

RADCARE-VMX1G-PREMIUM

RADcare package for VMX-1G Multiservice module

MP-4100M-MS/JNPR/X8C/VMX5G

Multiservice module, VMX-5G perpetual license, Xeon D, 8 cores, with RADcare package

RADCARE-VMX5G-PREMIUM

RADcare package for VMX-5G Multiservice module

The module must be ordered together with the relevant RADcare package.

It is mandatory to order a RADcare Project Assurance package for operating MS-JNPR. To order it, please contact your Sales Representative.

OPTIONAL ACCESSORIES

Recommended SFP Transceivers

SFP-5D
Gigabit Ethernet, DDM, internal calibration, 850 nm, multimode, VCSEL, 0.55 km (0.3 mi)

SFP-8D
Gigabit Ethernet, DDM, internal calibration, 1310 nm, single mode, laser, 40.0 km (24.8 mi)

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