Enabling the hyper-connected world

M3000

Ultra-low latency access/aggregation router

The M3000 router supports Carrier Ethernet/IP ultra-low latency switching and aggregation for mobile AnyHaul applications.

Features & Benefits

- 1 Tb/s switching capacity
- 24 ports of 1GBase-R (SFP), 10GBase-R (SFP+), or 25GBase-R (SFP28)
- 4 ports of 40GBase-R (QSFP+) or 100GBase-R (QSFP28)
- Supports multiple generations of mobile services including 3G/4G/LTE/5G
- IP/MPLS aggregation
- Advanced Class C PTP timing services for mobile clocking synchronization
- Optimized for small aggregation and remote PoP (point-of-presence) applications.

The M3000 is a 1RU (rack unit) Carrier Ethernet/IP access/aggregation switch that supports latency-sensitive, mobile packet-based transport. The unit is comprised of 24x1GE(SFP), 10GE(SFP+) or 25GE(SFP28) ports, and 4x40GE(QSFP+) or 100GE(QSFP28) ports for pluggable optics.

The M3000 is designed to address mobile transport network challenges head on. With high switching capacity, low latency, key synchronization features, and high service scalability, it gives service providers the agility and capacity they need to get mobile services to market quickly. Its advanced features are designed for next generation packet mobile deployments with traffic management and carrier class reliability in mind.

The M3000 provides two mounting slots for dual redundant power modules and two mounting slots for dual redundant fans on the rear panel. The management and console interfaces are located on the front panel.

Ultra-low Latency Access/Aggregation Router

M3000

Extraordinary capacity and flexibility

Next generation mobile networks require transport solutions that couple high capacity and port density with low latency and service flexibility. The cost-effective M3000 delivers on all fronts, with 1 Tb/s switching capacity, 24 optical interfaces of 1GE(SFP), 10GE(SFP+) or 25GE(SFP28), and 4 optical ports of 40GE(QSFP28) or 100GE(QSFP28) for pluggable uplink modules. The 10GbE or 25GbE interfaces can be used as downlink toward the user network, and the 40GbE or 100GbE interfaces can be used to either cascade other switches or connect to a core of network devices. The M3000 offers Class C PTP T-BC timing support and SyncE allowing for mobile clocking synchronization from the core of the network.

Unmatched deployment flexibility and support

The M3000 can be used for a variety of new, revenue-generating applications, such as a L2/L3 Ethernet LAN switch in high-rise buildings or as a datacenter application and aggregation switch. Additionally, it helps to enhance network efficiency through offering dedicated L3 functionality. It can be used for various application scenarios as a mobile AnyHaul switch for the mobile, business, and residential markets (3G, 4G, LTE, 5G and/or Ethernet/IP). With low power consumption and high service scalability, the M3000 is optimized for small aggregation and remote point-of-presence applications providing amazing deployment flexibility and efficiency.

Made for rigid performance and reliability requirements

The M3000 provides two mounting slots for the dual power modules and two mounting slots for the fan on the rear panel. The power supply modules support 1:1 redundancy and load sharing. Fan operation is controlled by internal CPU, and fan speed is controlled based on internal system temperature. Security features include storm control for broadcast, multicast and unknown unicast packets, out-of-band management, and SSH (secure shell) support. The M3000 offers the ability to migrate to an IP/Ethernet mobile platform with traffic management and carrier class reliability.

An asset to wireless operators

Next generation mobile services will significantly raise the bar on performance requirements for AnyHaul transport and aggregation. Rigid quality-of-service requirements and growing bandwidth needs will make support for ultra-low latency, extraordinary capacity, and strong security paramount. Furthermore, service providers and operators will need to implement these new requirements cost-effectively and in record time to compete in the market. The M3000 delivers; with its ability to interface with a variety of generations of mobile backhaul technologies and support various network architectures, it is a valuable tool for wireless operators. Its port density, service scalability, and flexibility to adapt to the evolving network and bandwidth needs of users make it both cost effective and future ready.

Ultra-low Latency Access/Aggregation Router

M3000

Product Specifications

Capacity

+ Max. 1000Gb/s switching capacity base on I/O full duplex
+ Main switching block in base board with fixed I/O Interface

Interfaces

+ 24 ports for 1G (SFP), 10G (SFP+), or 25G (SFP28) optical interfaces
+ 4 ports for 40G (QSFP+) or 100G (QSFP28) optical interface
+ 1 port for RS-232 (RJ45) Interface for console debug mode
+ 1 port for 10/100/1000Base-T electrical interface for management

Resiliency

+ Redundant dual power supply unit (PSU)
+ Hot swappable for all plug-in units (PSU and FAN)
+ LED Indicator

Clock Synchronization

+ IEEE1588v2 (Class C T-TC/BC)
+ Synchronous Ethernet (10/25/100G Interfaces)

Layer 2 Capabilities

+ Standard Ethernet Bridging SVL and IVL
+ Per port/VLAN MAC limit
+ Station movement control
+ Per port L2 protocol packet processing up to 288K MAC entries using UFT (Unified Forwarding Table)
+ 4K active VLANs for 802.1q tagged frame
+ Port/Subnet/Protocol/MAC-based VLAN
+ VLAN translation on ingress and egress.
+ 802.1D (STP), 802.1W (RSTP), 802.1s (MSTP),
+ Link aggregation according to 802.3ad based on MAC or IP address
+ Jumbo frame 12KB
+ 802.1q /Q-in-Q tunneling
+ Link aggregation (Static and LACP)
+ MAC filter, Max-host, Loop detection
+ Store and Forward
+ L2 Multicast

Layer 3 Capabilities

+ 16K IPv4 Hosts
+ 380K IPv4 LPM
+ 64K L3 Next Hop Table
+ 4Ks IP multicast group
+ 512 VRF
+ Static routing
+ IGP: ISIS and OSPFv2/v3
+ BGPv4
+ TWAMP
+ Virtual Router Redundancy Protocol (VRRP)
+ Per L3 interface L3 protocol packet processing
+ 802.1q /Q-in-Q tunneling

Traffic Management

+ 32MB Buffer size
+ 10 unicast/multicast queues per egress port
+ 24K Packet descriptors per packet buffer
+ 8K/8 + 1.5k/12 per pipe Ingress Flex Counter/Updates (SLA)
+ 8K/4 per pipe Egress Flex Counters/ Updates(SLA)

Physical and Environmental

+ Dimensions (WxHxD):
  440 mm x 44 mm x 418 mm
+ Operating Temperature:
  -4 to 140°F (-20 to 60°C)
+ Storage Temperature:
  -40 to 158°F (-40 to 70°C)
+ Operating humidity:
  10 to 80% non-condensing
+ AC power: 110 to 220VAC, 50/60 Hz
+ DC power: 24/48VDC
+ Maximum power consumption:
  270W
+ Heat transfer:
  Right (inlet) to left (outlet)

Regulation and Compliance

+ CE Mark
+ UL 62368-1
+ FCC Part 15B
+ VCCI
+ KC Mark

Ordering Information

Base Unit, Power Supply and Fan Modules	
M3000-DC	24-port 1G(SFP) or 10G(SFP+) or 25G (SFP28) 4-port 40G (QSFP+) or 100G (QSFP28) 2 Power supply slots: 1 DC Power supply module provided 2 FAN Slots: 2 FAN modules provided Note: Order M3000-PSUMODDC to get a second DC power supply module
M3000-AC-NA **M3000-AC-EU** **M3000-AC-UK**	24-port 1G(SFP) or 10G(SFP+) or 25G (SFP28) 4-port 40G (QSFP+) or 100G (QSFP28) 2 Power supply slots: 1 AC Power supply module provided, -NA = North American Power Cord -EU = European Union Power Cord -UK = UK Power Cord 2 FAN Slots: 2 FAN modules provided Note: Order M3000-PSUMODAC-XX to get a second AC power supply module
M3000-PSUMODAC-NA **M3000-PSUMODAC-EU** **M3000-PSUMODAC-UK**	1 AC Power Supply Module -NA = North American Power Cord -EU = European Union Power Cord -UK = UK Power Cord
M3000-PSUMODDC	1 DC Power Supply Module for M3000
M3000-FAN-MODULE	1 FAN Module for M3000 Base unit comes with 2 Fan Modules installed; this part number is for sparing purposes.

DZS Headquarters
Plano, TX USA
info@DZSi.com
www.DZSi.com/contact-us/

Contact DZS today

www.DZSi.com | support@DZSi.com