The M6424 is a cost-effective OCP-compliant, high capacity and scalable switch that provides additional flexibility to the flexiHaul product family. The M6424’s high performance design is purpose built for Time Sensitive Networks (TSN), enabling advanced mobile networking architectures and applications with Nano second timing requirements. Connect direct to cellular radios using Common Public Radio Interface (CPRI) and eCPRI, bridging the traditional mobile network and Ethernet infrastructure for a modern centralized or cloud-based NFV mobile architecture.

CPRI traffic is encapsulated using IEEE 1914.3-compliant Radio-over-Ethernet (RoE) mappers, integrated synchronization provides performance that exceeds existing solutions. Flexible network deployment, both controlled and remote hardened. Centralized fronthaul aggregation to BBUs and cloud topologies feeding TOR to vBBU. Hardened remote deployment enables service bonding, CPRI aggregation at RRH with evolving RRH small cell eCPRI densification. Converged services traversing same Ethernet NNI trunks with preemption enabled to guarantee latency of RAN connections.

**5G Mobile RAN Compliance**

- **Low cost/high density:** Leverage standard OCP compliant ASIC solution, dramatically improving performance/cost and density/unit.
- **Tighter Synchronization Specifications:** Unique - integrated DPLL and time-stamping with nano-second scale, thus enabling designs compliant with ITU-T and 3GPP specifications.
- **Blend fronthaul and backhaul networks:** RoE mappers enable seamless interworking between legacy CPRI-based products and end-to-end Ethernet network.
- **Carrier isolation on a shared infrastructure:** Structure-Agnostic mapping mode allows for encapsulation and transport of radio traffic. Enabling independent synchronization for multiple carriers over a shared infrastructure. Eliminate interoperability problems in mixed CPRI implementations.
- **Fronthaul bandwidth:** 800Gbps-scale performance, aggregating and switching radio traffic as the fronthaul bandwidth links continue increasing from 2.5G to 10G to 25G and beyond.

**Connectivities**

- 19", 1U Rack mountable (17"W x 1.7"H x 14.9"D)
- Weight 5.5kg
- Temperature hardened (-40~65°C)
- 24 * SFP28 and 4 * QSFP28
- ToD, 10Mhz, 1PPS: In and Out
- Management and console
- Dual, Load sharing hot swap AC/DC power units
- Dual FAN modules (field replaceable)
- Power consumption: Max 240W
- FCC, CE, UL60950, NEBS 3 certified

**RoE Mapping**

- IEEE 1914.3 compliant
- Flexible, user configurable mapper
- 64 AxCs per port
- Synchronization: BC, OC, TC, SyncE

**TSN Features**

- IEEE 802.1CM – Time Sensitive Networking for Fronthaul
- IEEE 802.1Qbu Frame Preemption
- IEEE 802.2br Interspersing Express Traffic

**L2 / L3 Features**

- IEEE 802.1Q Double Tagging, VLAN Translation
- 3 Levels H-QoS
- LACP
- Static / BGP / ISIS / MPLS-SR Routing
- IPv4 / IPv6 Dual Stack

**M6424 Application**
M6424 SYSTEM SPECIFICATION

System Characteristic

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension</td>
<td>44(H) X 440(W) X 383(D) mm</td>
</tr>
<tr>
<td>Weight</td>
<td>4.5 kg</td>
</tr>
<tr>
<td>Power consumption</td>
<td>240 W (Fully loaded)</td>
</tr>
<tr>
<td>Mounting type</td>
<td>19&quot;, 21&quot; or 23&quot; rack mountable</td>
</tr>
<tr>
<td>Port configuration</td>
<td>4 ports x 100G, 24 ports x 25G</td>
</tr>
<tr>
<td>Switching Capacity</td>
<td>800 Gbps</td>
</tr>
</tbody>
</table>

Power/Environmental

-48V DC (-40 - -56V DC)
110/220 AC (90 - 240 VAC)
Operating: -40°C - +65°C, Storage: -40°C - +80°C
Humidity: Up to 85% (non-condensing)

Interfaces

- SFP+/SFP28 port: 24 ports, 1/10/25GbE, 10/25G eCPRI
- QSFP28 port: 4 ports, 100GbE, 25GbE
- Timing I/O: 1PPS In/Out, 10MHz In/Out, ToD Input, ToD Output
- Management port: 100/1000 Mbps Ethernet RJ-45, RS-232C RJ-45
- Console port

Power/Environmental

Power: -48V DC (-40 - -56V DC)
110/220 AC (90 - 240 VAC)
Environmental Operating: -40°C - +65°C, Storage: -40°C - +80°C
Humidity: Up to 85% (non-condensing)

Replaceable Modules

- DC/DC Power Supply Unit
  - Input Voltage Range: -40 - -56V DC
- AC/DC Power Supply Unit
  - Input Voltage Range: 90 - 240 VAC
- FAN Unit
  - FANS per Unit: 4

Network Management

- Operating Protocols: EMS (server, client), Local Craft Terminal Netconf/Yang

L2 Features

- Double Tagging
- VLAN Tagging
- H-QoS
- Link Aggregation
- Jumbo Frame
  - 802.1Q and QinQ
  - VLAN Translation
  - Three-level H-QoS
  - LACP
  - 9K Bytes

L3 Features

- Static / BGP / ISIS / MPLS-SR
- IPv4 and IPv6 Routing
- LLDP
  - 802.1AB LLDP (Link Layer Discovery Protocol)
  - L2 – L7
- ACL

Radio over Ethernet

- Structure Agnostic
  - IEEE 1914.3 Radio over Ethernet (RoE) encapsulations w/structure agnostic mode & native mode
- Tunneling
  - IEEE 1914.3 RoE encapsulations
    - w/Tunneling mode for Asymmetric CPRI rate
  - IEEE 1914.3 RoE encapsulations w/structure aware mode

Time Sensitive Network

- IEEE 802.1CM
- IEEE 802.1Qbu
- IEEE 802.2.br

Time Synchronization

- Precision Timing Protocol
  - IEEE 1588v2 BC/TC/OC
  - G.8275.1 - PTP Telecom profile for phase/time synchronization with full timing support from the network
  - G.8275.2 – PTP Telecom profile for phase/time synchronization with partial timing support from the network
  - G.8262 – Timing characteristics of a synchronous Ethernet equipment clock
  - G.8263 – Timing characteristics of packet-based equipment clocks
  - G.8264 – Distribution of timing information through packet networks
- OAM
  - Ethernet OAM
  - ITU-T Y.1731
  - IEEE 802.1ag
  - IEEE 802.3ah
  - Fault control
    - Alarm severity: Critical, Major, Minor, Warning
  - Unit, Module, Port
  - Classification level
  - 15 min, 1hr, 1 day
  - Performance monitoring
  - Local / Remote
  - Loopback
  - System activity, system failure, Alarms status
    - (Critical, Major, Minor)
  - Visual LED Indicators
  - TAA
  - Telemetry
  - RADIUS
  - Authentication
  - TACACS+

Regulatory & Compliance

- FCC 47 CFR Part 15 Class A, CE Mark, UL 60950-1, IEC 60950-1
- IC (Canada EMI), CB, NESB Level 3 Certified
- ATT-TP-76200, Issue 19, June 2014
- VZ TPR 9205, Issue 5, October 2011
- ROHS 6/6 compliance with Directive 2002/95/EC

Manufacturing and support proudly provided by Fujitsu Network Communications, Richardson Texas
For more information, please contact your Fujitsu Sales Representative

Fujitsu Network Communications, Inc.
2801 Telecom Parkway, Richardson, TX 75082   Tel: 888.362.7763  us.fujitsu.com/telecom