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LIGHTMODE microOTN

The LIGHTMODE (LM) microOTN is a functional OTN block with integrated pluggable optical modules, capable of transporting Ethernet and any TDM (including low speed PDH) traffic directly over OTN.

SDN native by design, it allows abstraction to the optical domain SDN controller, multi-domain/multi-layer controller or Service orchestrator, liaising over open APIs (YANG models with RESTCONF).

The innovation performed by the LM microOTN extends the use of OTN containers to encapsulate PDH/VCx traffic with 100% efficiency (patented technology in accordance with ITU-T Recommendation G.Sup70). This allows the operator to ultimately decommission any PDH/SDH equipment from their transport network, maintaining the existing services, SLAs and client user interfaces while boosting capacity multiple times in existing access networks. By running all services over OTN these can liaise over existing modern WDM networks resulting in the de-layering of the transport infrastructures.

The result is a converged optical network that spans from CORE to ACCESS based over a common OTNoWDM infrastructure that maximizes the capacity transported per fiber, offering the lowest latency by technology and optimal cost per bit.

LM microOTN AGG

LM microOTN HUB

The LM microOTN AGG is designed for access rings. It collects low speed traffic as local traffic and transports it over a protected OTU-1 (2.5 Gbps) access ring. The 1RU high form-factor offers a fully redundant architecture.

The LM microOTN HUB is designed to close multiple access rings both legacy SDH and new ODU-1 OTN rings, that together with local traffic including GE services is groomed and transported over OTU-2 (10 Gbps) metro rings. The 1RU high form factor offers a fully redundant architecture.

NETWORK MODERNIZATION

Why Migrate Legacy Traffic over LM microOTN

- Complete decommissioning of legacy equipment, with TCO savings including Maintenance & Repair, Real Estate, Power, free-up technical resources and fibers.
- Removal of multiple switching fabrics and vendor-specific NMS, cutting down to single path set-up for any service thanks to the SDN Service Orchestrator.
- Immediate network capacity boost, N- times the capacity of existing access rings.
- Immediate support of new high-speed services like leased lines, low latency and bandwidth-hungry new-gen services, enabling new revenues streams (e.g. Cloud access, Network Virtualization, IoT, Video Streaming)

TECHNICAL SPECIFICATIONS

Parameter	LM microOTN AGG	LM microOTN HUB
Switch fabric	10 Gb/s @ LO / HO	60 Gb/s @ LO / 100 Gb/s HO
Number of blades per shelf	2	
Client Interfaces (per blade)	63xE1 Electrical (75 or 120 ohm option) or 8xE1 Optical (C37.94) + 21xE1 Electrical (75 ohms)	10xSTM-1/4/16 or FE/GbE or OTU-1 2xSTM-1/4/16/64
Line interfaces (per blade)	up to 1xSTM-1/4/16 up to 2xOTU-1	2xOTU-2
Redundancy (1+1)	Power, Control, Switching Fabric	
Protection	VC12/VC4 SNCP, MSP 1+1, ODUε / OSDUk and ODU-0 SNCP	
Size (H x W x D)	44.2 x 482.6 x 282.0 mm (1.74 x 19.00 x 11.10 in)	
Power supply	-48 VDC (-40.5 to -57 VDC) 1RU fully redundant AC/DC converter available as option	
Power consumption	100 W (max)	400 W (max)
Operating temperature	-5°C to +45°C (23°F to 113°F)	
Relative humidity	5% to 95%	
Synchronization mode	Transparent (default) Locked (synchronous) Over OTN	
Synchronization Physical interface	2 MHz, 2 Mb/s	
Management	Stackable, managed as single NE RESTCONF / YANG interface	
Regulations & standards	ETS 300 019-1-3, Class 3.2 ETS 300 019-1-1, Class 1.2 ETS 300 019-1-2, Class 2.2 ETS 300 386 / EN 300 132-2 / EN 300 753 EN 60825-1/-2 / EN 60950-1	

TAKEAWAYS

MicroOTN

maps low speed PDH, SDH virtual containers (VCx) directly over OTN with 100% container utilization. Up to 504x E1/VC12 or up to 8xSTM1/VC4 in a single ODU-0, with switching capabilities.

Block Architecture

allows stacking of LM shelves to form a single Network Element, offering at each site the best combination of interfaces capacity and functionalities.

Integrated WDM

pluggable Optics to create metro rings without the need of extra hardware, or to directly liaise over existing WDM infrastructure when available.

Native SDN

removing the need of proprietary software integration, supporting T-API RESTCONF/YANG.

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