STM-1/4 SDH Multiplexer

VCL-1043-STM-1/4

Product Overview

Orion’s VCL-1043-STM-1/4 SDH Multiplexer and GigE-SDH Aggregator is the compact Multi-Service Access Platform (MSAP) that offers Gigabit (Optical and Electrical ports), Ethernet (FE), STM-1, STM-4 and E1 aggregation functions. The Gigabit and SDH uplink (network side) interfaces can provide simultaneous services.

The VCL-1043-STM-1/4 SDH Multiplexer and GigE-SDH Aggregator complies to relevant ITU-T standards. This cost-effective and flexible multi-service platform supports STM-1 / STM-4 level uplink (networks side) ports and various optional downlink (customer side) ports to provide E1, optical, Ethernet over SDH and Ethernet over PDH traffic access and aggregation.

The TDM traffic in SDH/MSTP network and the packet traffic in IP network can be distributed and aggregated in the STM-1/4 SDH Multiplexer and GigE-SDH Aggregator.

The VCL-1043-STM-1/4 SDH Multiplexer and GigE-SDH Aggregator allows time-slot cross-connection and IP data switching facility. With the ability of connecting various network topologies, reliable self-healing mechanism and unified intelligent management system, the product is suitable for enterprise access, private network interconnection, mobile base stations connection and video monitoring applications.

Highlights

- Supports Four Gigabit Ethernet interfaces (UTP / SFP)
- Supports GFP (G.8040, G.7041 / Y.1303), VCAT (G.7043) and LCAS (G.7042) encapsulation
- Supports Non-blocking switching for granularity VC-12/ TU3/ VC4
- Supports MEF-9 and MEF-14 compliant for EPL, EVPL, E-LAN
- Supports Enhanced Ethernet traffic management with hierarchical QoS, includes:
  - DSCP based QoS
  - 802.1p based QoS
  - VLAN based QoS
  - Port based flow control.
Technical Specifications

Network Topology
- Point to point
- Chain
- Mesh
- Ring

Network Element Configurations
- Add-Drop Multiplexer (ADM)
- Digital Cross-Connect (DXC)
- Terminal Multiplexer
- Regenerator

Uplink (Network Side) Interfaces
- STM-1: S1.1, L1.1, L1.2
- STM-4: S4.1, L4.1, L4.2
- Gigabit Ethernet Optical
- Gigabit Ethernet Electrical

Downlink (Customer Side) Tributary Interfaces
- STM-1: S1.1, L1.1, L1.2 (Upto 200 Kms.)
- STM-1e
- E1 (Both 120 Ohms and 75 Ohms)
- 10 / 100 Base-Tx (Fast Ethernet Electrical)
- 100 Base-Fx (Fast Ethernet Optical)
- 1000 Base-T (Gigabit Ethernet Electrical)
- 1000 Base-Lx / 1000 Base-Fx (Gigabit Ethernet Optical)

Electrical Interfaces
- PDH Interfaces: E1
- Data Interfaces: 10/100/1000 Ethernet Interfaces (Both EOS and EOP technology)

Cross-Connect
- 32 x 32 - VC4
- 96 x 96 - TU3
- 2016 x 2016 - VC12
- Fully non-blocking at VC-12, TU-3 and VC-4 granularity
- Power consumption - less than 200W

Power Supply
- -48V DC nominal, -36V to 72V (1+1 redundancy option available)
- 220V AC nominal, 85V to 264V (1+1 redundancy option available).

Network Protection
- Single/double terminal 1+1 linear Multiplex Section Protection and SNCP protection.

Operations Interface
- Network Management platform based on C/S architecture
- DCC and EXM (Extended E1 interface for management) channel for communication between gateway and elements
- DCN channel for the communication between gateway and server
- SNMP_V1 and SNMP_V2 protocol
- External alarm interface and indicators.

Maintenance
- Higher-order and Lower-order POH, SDH/SONET level alarms
- Performance monitoring as per ITU-T Rec. G.826 and G.784
- Loop-back function
- Embedded E1 BERT function
- Remote firmware update.

Physical Dimensions
- 3U high, 19" Width

Optional Hardware Redundancy
- Power Supply redundancy

Timing & Synchronization
- Timing & Synchronization of System as per ITU-T Rec. G.813
- Free-running, Tracing and Hold-Over modes
- Traces any timing source of STM-1/4 uplinks or STM-1 optical tributaries, or external timing source
- External timing output.

User Data Channel
- User (RS232) data channel

Environmental
- Operating Temperature: -5°C to 50°C
- Storage Temperature: -40°C to 70°C
- Relative Humidity: 10% to 95%, non condensing.

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