Enabling the hyper-connected world

MileGate

MileGate COGE3

Core unit of the multi-service access platform MileGate, supporting 10 GbE uplinks for ultra high bandwidth

Core unit COGE3

Features & Benefits

- Uplink 2 x 10 GbE via SFP+ or
  2 x GbE via SFP modules
- 3 x 10/100/1000BaseT for uplink, cascading, ring connection
- 1:1 equipment protection possible for maximum availability
- Administration of line cards and gateways MIBs (Management Information Base)
- Distribution of the ESW (Embeded Software)
- re) Designed for outdoor deployment
- All functions via one network management system

COGE3 is a core unit of the MileGate platform for the subracks MileGate 2300/2310 and MileGate 2500/2510. It controls the installed units (line cards, gateways etc.) via the backplane and realises the uplink of the Ethernet data. With SFP+ cages the uplink can be realised with
n x 10 GbE and n x 1 GbE.

COGE3 operates as Ethernet switch, which provides a wide ranges of functions e.g. VLAN and multicasting.

Interfaces

COGE3 controls the data traffic with all installed units and provides the Ethernet uplink. COGE3 comes with three electrical interfaces and two cages for optical SFP+ or SFP modules.

With these, two 10 GbE or 1 GbE uplinks can be realised as well as a redundant 1:1 connection for protection of the transmission. The three electrical interfaces can be used for cascading or ring connection with further MileGates or for the uplink, too.

1:1 equipment protection

COGE3 can be assembled redundantly in the subracks. One COGE3 is in a hot standby mode. This unit takes over operation, in case an error occurs in the active unit. This ensures highest availability of the services.

2-stage multicasting

The 2-stage multicasting feature of the COGE3 and the installed line cards provide efficient data transmission. This is essential for bandwidth consuming applications, in particular for the transmission of TV channels (IPTV).

Topologies

With the interfaces of COGE3 different network topologies can be realised. Beside the star or line topology, redundant 1+1 connections can be built for the case that a transmission route is interrupted.

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Management

All services are managed centrally via the management system UNEM or via local management access (CLI, XML, SNMP).

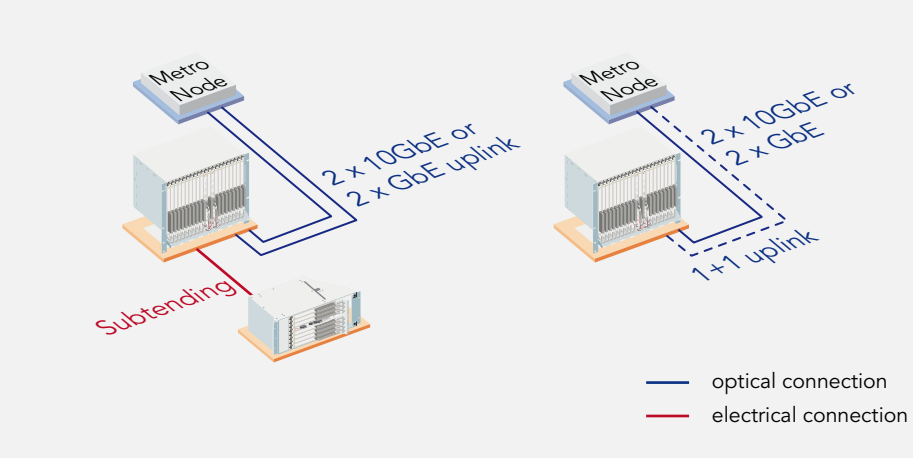

Illustration of COGE3 connections

Technical Data

Interfaces COGE3	
Optical	2 x 10 GbE with SFP+ modules or GbE with SFP modules
Electrical	3 x 10/100/1000BaseT (RJ45)
Supported topologies	Star, linear chain and ring
Management	10BaseT/100BaseTX and 1000BaseTX/SX/LX/EX/ZX and USB (local)
Management COGE3	
Functions	Management and control of MileGate subracks and all plug-in units
	Database with management information
	Embedded software download
	Alarm collection and notification
	External alarm interfacing via backplane and management
Ethernet Functions COGE3	
VLAN services	According to IEEE 802.1Q, 4,096 VLANs supported
	Two VLAN configuration modes (1:1 and n:1) acc. to Broadband Forum TR-101
	VLAN tag stacking (Q-in-Q), according to IEEE 802.1ad
	VLAN QoS with Class of Service (CoS) handling, according to IEEE 802.1p
Spanning Tree Protocol	STP (Spanning Tree Protocol), according to IEEE 802.1D
	RSTP (Rapid Spanning Tree Protocol), based on IEEE 802.1w
Multicast	IGMP v2/v3, supporting IGMPv3 snooping with proxy reporting and message suppression
Link aggregation	LACP, based on IEEE 802.3ad
Security Functions COGE3	
MAC address	MAC address filtering
	Prevention of source MAC spoofing und MAC flooding
Access control list	MAC based access control, according to TR-101
	Multicast access control lists (multicast group restriction)
Further functions	Subscriber isolation per VLAN
	Prevention of L2 peer to peer (hair pin) forwarding
	Broadcast handling
Management	
MCST	For local management
UNEM	For central management
Power Supply	
Input voltage nominal (min/max)	–48/–60 V DC (–40.5 V DC ... –72 V DC)
Operation Environment	
Temperature range and humidity	According to MileGate environmental specifications

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