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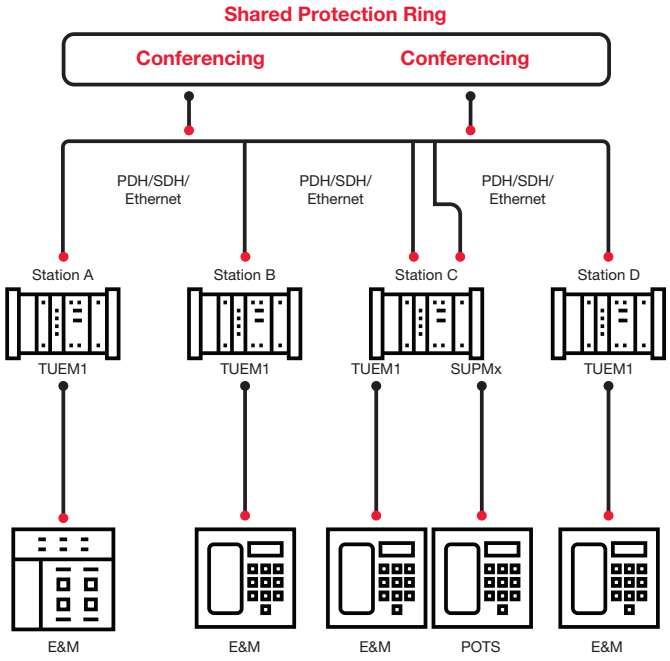
XMC20 TUEM1

TUEM1 offers E&M VF interfaces with onboard conferencing function for dedicated networks

XMC20 TUEM1

TUEM1 integrates traditional services in the XMC20 platform. Important functions for dedicated networks such as E&M voice telephony and conferencing can be offered with TUEM1 in only one unit.



01 Analogue telephone network with conferencing and shared protection ring

Thanks to the access to the XMC20 hybrid Ethernet-TDM backplane, services offered with TUEM1 can be transmitted via all transport network technologies. For that XMC20 offers interfaces towards PDH, SDH and Ethernet/IP networks.

- 8 x 2- or 4-wire E&M V/F interfaces
- Compatible and interoperable with UMUX cards NEMCA, NEMSG and MAGI8
- Scalable conferencing on board for 32 participants per unit and 10 parties
- Enables different topologies
- Various protection functions
- Built-in maintenance functions for network debugging
- All functions configurable from one network management system

E&M V/F Interface

TUEM1 is equipped with eight voice interfaces with a telephony bandwidth of 300 Hz to 3.4 kHz with separate E&M signaling interfaces. Each voice channel is configurable in 2-wire or 4-wire mode and offers two E&M signaling channels.

Conferencing engine

The onboard conferencing engine enables various applications and network topologies so that legacy telephony services can be combined and integrated in a modern telecommunication network.

Distributed and centralized voice conferences with a maximum of 32 participants per unit and up to 10 parties with maximal 17 participants each can be set up.

Protection functions

TUEM1 supports different protection mechanisms, ensuring that the delivered service persists in case of a failure in subnetworks:

- Network protection: 1+1 path protection and 1+1 subnetwork connection protection (SNCP/I)
- 1:1 equipment protection for the conferencing function

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Flexible topology
With the TUEM1, operators of dedicated networks can build a variety of applications in different network topologies.

Applications which can be addressed by TUEM1 in a point-to-point network topology:

- Analogue telephony networks with E&M
- Connection of analogue train radio
- Interexchange trunking connection

Applications which can be addressed by TUEM1 in a point-to-multipoint network topology:

- Analogue telephony networks with conferencing
- Analogue telephony networks with conferencing and Shared Protection Ring

An application which can be addressed by TUEM1 in a multipoint-to-multipoint (Omnibus) network topology is analogue telephony conferencing with and without Shared Protection Ring

Management
The management of the TUEM1 is integrated in the ECST/UNEM management system. By having one element manager for all types of services, operators will accelerate the provisioning process. The element manager ensures efficient OAM&P (Operation, Administration, Maintenance and Provisioning) and lower operational costs.

Technical Data

E&M Interface	
Analogue voice interface	2-wire, 4-wire
Number of analogue voice interfaces	8
Signalling interfaces	E&M 8 x 2
Signalling interface types	Type I to Type V

Conference Engine	
Conferences	Linear addition of the voice signals, wired-AND addition of the CAS signalling signals
Conference type	Multipoint-to-multipoint, point-to-multipoint
Number of conferences	Up to 10
Number of participants per conference	Up to 17
Number of participants per unit	Up to 32

Analogue Voice Interface	
Coding	A-Law according to ITU-T G.711
Performance characteristics	According to ITU-T G.712
Impedance in the voice band	600 ohms balanced and floating (2-wire input/output, 4-wire input, 4-wire output)
Bandwidth	300 … 3,400 Hz

Protection	
Supported protection mechanism	1+1 path protection 1+1 SNCP/I protection 1:1 equipment protection

Management	
ECST	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 XMC20 environmental specifications

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