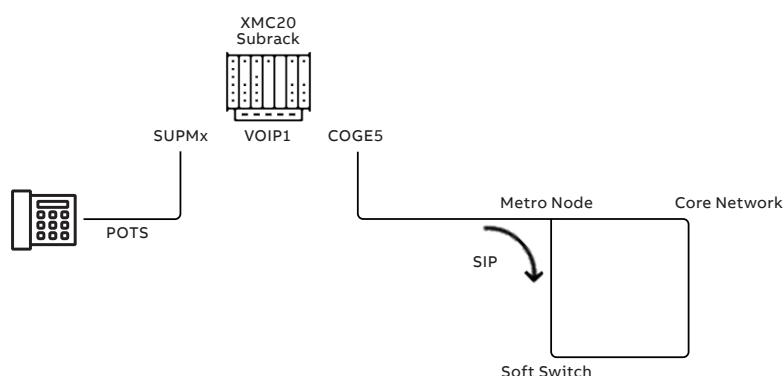


XMC20 VOIP1

SIP voice media gateway unit to enable smooth migration from legacy TDM voice traffic to a SIP-based VoIP network



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01 XMC20 voice media gateway (SIP) in packet-based access networks

- Economical support of POTS services in SIP architecture
- Interoperability – fully compliant with SIP (RFC 3261)
- Carrier-grade reliability
- Robust and flexible
- High port-density with up to 1216 subscribers per subrack
- All functions out of one network management system

The use of SIP in PTNs

When the service offering is dominated by multimedia services, SIP protocol is often the operators' choice. The simplicity and transport media type agnostic characteristics of SIP make it effective to handle multimedia sessions, including voice. It is also a fundamental component in the IMS. The main SIP entities are the User Agent and the SIP servers.

XMC20 SIP User Agent

XMC20 plays the role of a user agent in the SIP architecture. It connects POTS subscribers to the IP network, packetises POTS signalling to SIP and the voice media streams to RTP (Real Time Protocol) streams and transports them over the IP network.

VOIP1 guarantees a smooth migration from legacy TDM to a SIP-based VoIP network.

Standards compliant

XMC20 is an ETSI compliant equipment. The VOIP1 module fully supports open interfaces to the softswitch, using the SIP signalling.

Quality-of-Service

A key factor in a successful voice application over a packet switched network is Quality-of-Service (QoS). The VOIP1 uses Differentiated Services (DiffServ) to provide prioritisation of the VoIP traffic; it marks packets with a particular DiffServ Code Point (DSCP). The DSCP can be mapped to the QoS label in the packet network.

Carrier-grade solution

The VOIP1 module guarantees carrier grade voice services, reliability and an advanced support of multiple SIP domains, outbound proxies and registrars on a per-line basis. By supporting 1:1 equipment protection, the voice media gateway provides redundancy and 99.999 % availability.

Management

All XMC20 functions are centrally managed via the management system UNEM/ECST or via a local access (CLI, XML, SNMP). Operators save costs and accelerate the provisioning process with only one element manager for all services.

Technical Data

PSTN/ISDN Properties

Media gateway control protocol	SIP (RFC 3261)
Voice algorithms and compression	ITU-T G.711 PCM 64 kbps ITU-T G.729 A/B
Echo cancellation	ITU-T G.168, provisionable up to 128 ms tail length
Silence suppression	Supported
Comfort noise generation	Supported

Services/Features

POTS, ISDN-BA, ISDN-PRA, MFC-R2, Nokia CAS	Supported
Fax & modem	Voice band data or T.38
Supplementary services	Supported
Proxy/Domain	Supports primary/secondary outbound proxy servers Supports multiple SIP domains, outbound proxies and registrars on a per-line basis

Capacity

Maximum number of user ports per card	Up to 1216 POTS
Number of active channels per card	Up to 200 (G.711 codec) Up to 80 (G.729 A/B codec)

Quality of Service

Class of service	Differentiated Services (DiffServ)
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Redundancy

Equipment redundancy	1:1 equipment protection
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3rd Party Interoperability

With SIP servers	Supported
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Management

ECST	For local management
UNEM	For central management

Power Supply

Input voltage nominal (min/max)	-48/-60 V DC (-39.5 V DC ... -72 V DC)
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Operation Environment

Temperature range and humidity	According to XMC20 environmental specifications
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