

- up to 128 VoIP channels
- up to 4 E1 flows
- high quality voice
- carrier-class reliability
- desktop case



Trunking Gateway

SMG platform can be used as a trunking gateway for converting signal and media flows of TDM and VoIP networks.

Optimal Solution for Digital PBX

SMG-2 и SMG-4 gateways make possible smooth transition from TDM infrastructure to advanced VoIP-networks providing full compatibility with existing Devices provides an excellent opportunity of digital PBX connection with NGN networks.

Functional Compatibility

Strict compliance with requirements of modern protocols, recommendations and standards provides 100% SMG devices functional compatibility with a variety of equipment: digital PBX, IP-PBX, Softswitches etc.

RADIUS-routing

Intellectual call routing based on billing system responses according to RADIUS protocol enables to create flexible methods of call processing.

Unauthorized access protection

Intellectual protection against unauthorized call attempts via SIP (fail2ban, iptables, white/blacklists, etc.) has been implemented in SMG Trunking Gateway.

Media Flows Transcoding

The hardware transcoding based on MediaCodecs Mindspeed Technologies helps coordinate media flows with different VoIP codecs.

High Quality of Voice processing

Modern hardware platform, support of all basic audio codecs used in VoIP- networks (G.711, G.723.1, G.726, G.729), echo elimination functions, silence detector, comfort noise generator, DTMF signal reception and generation, and traffic prioritization mechanism (QoS) provide high quality of voice processing.

Interfaces

SMG-4 converter has 4 RJ-48 ports on board for E1 flows connection, 1 LAN 10/100/1000 Base-T (RJ-45) port to connect IP-network.

SMG-2 converter in basic configuration supports one E1 (SS7, DSS-1) flow and 32 VoIP channels (SIP). Possibility of second E1 flow activation and number of VoIP channels increasing up to 64 by additional option activation.

Application diagram



Product Name	E1 flows number	E1 flows expansion	VoIP number of channels
SMG-2	1	up to 2	up to 64
SMG-4	4	-	128

Functional capabilities

Calls management

- Called party (CdPN) or calling party (CgPN) number routing
- Before and after routing number modification
- Use of multiple number plans
- Trunk-group cutoff
- Call Control via RADIUS¹
- Trunk-groups direct connection
- Prefix for few Trank-groups

Voice codecs

- G.711 (a-law, μ -law), G.729 (A/B), G.723.1, G.726 (32 Kbps)

Fax support

- T.38 Real-Time Fax, G.711 (a-law, μ -law) pass-through

Voice standard

- VAD (Voice Activity Detection)
- CNG (Comfort Noise Generation)
- AEC (echo cancellation, G.168 recommendation)

Quality of Service (QoS)

- Diffserv and 802.1p priority assignment for SIP and RTP
- Dynamic and static jitter buffer

DTMF

- Outband (RFC 2833, SIP INFO)
- Inband (RFC 2833, SIP INFO)

Billing

- RADIUS Accounting
- Different billing systems support: Hydra Billing, LAN Billing, Porta Billing, NetUP, BGBilling (integration with other systems is possible)
- Billing information recordering to CDR file and sending to FTP-remote server

TDM protocols

- Ss7
- PRI (Q.931)

VoIP protocols

- SIP, SIP-T/SIP-I

Capacity and Performance

SMG-2

- up to 64 VoIP channels
- up to 2 E1 flows (RJ-48)
- Maximum load intensity - 40 cps

SMG-4

- 128 VoIP channels
- 4 E1 flows (RJ-48)
- Maximum load intensity - 40 cps

Flexibility

- Single file download-upload of configuration
- Multiple network interfaces creating for (SIP, RTP) telephony with different IP-addresses
- Number plans multiple operating
- Signal channel SS7 redundancy
- Talking connection monitoring (by RTP or RTCP availability)
- Trunk registration of SIP-interfaces

Control and monitoring

- Channel flows E1 and VoIP monitoring on web-interface
- Emergency logging with opportunity to save logs on syslog-server
- Emergency notification by SNMP

Security

- Access attempts to device output in syslog
- List of permitted IP addresses for device control access
- Access rights delimitation admin / user
- IP address control of RTP- counter flow source

Interfaces

SMG-2

- 1 x 10/100/1000 Base-T(RJ-45)
- 1 x E1 (RJ-48)
- 1x add-on port E1 (RJ-48)¹
- 1 x Console (RJ-45)
- 1 x USB 2.0 port

SMG-4

- 1 x 10/100/1000 Base-T(RJ-45)
- 4 x E1 (RJ-48) ports
- 1 x Console (RJ-45) port
- 1 x USB 2.0 port

Physical characteristics

- Power: 220V AC
- Temperature range: +5°C to +40°C
- Humidity: up to 80%
- Dimensions: 187x124x31 mm

¹Optional

Software current version 3.1.3

Application diagram

Protocol converter

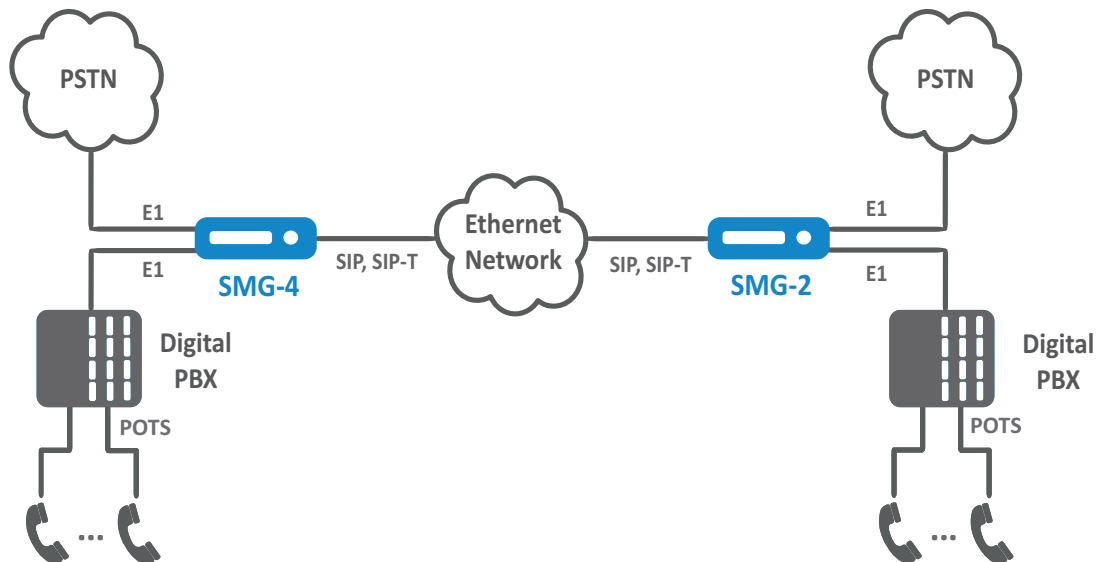
Wide range of TDM and VoIP protocols support allows to use SMG-4 for converting signal and media flows in different directions:

- VoIP <-> TDM
- TDM <-> VoIP
- TDM <-> TDM






Trunk Gateway

SMG-4 IP trunk Gateway is used for numbering capacity removal from digital PBX by IP and interfacing with PSTN.



Ordering Information

Product Name	Description	Figure
SMG-2	Digital gateway SMG-2: 1 E1 (RJ-48) port, 1 add-on E1 (optional)port, 64 VoIP-channels, 1 10/100/1000Base-T (RJ-45) port, 1 USB 2.0 port	
SMG-ADD-E1	SMG-ADD-E1 option for 1 E1 add-on port activation at SMG-2 digital gateway	
SMG-4	Digital gateway SMG-4: 4xE1, 1x1GE, 128 VoIP-channels, 220V AC	
EMS-SMG-CPE	EMS-SMG-CPE option of Eltex.EMS system for Eltex network elements control and monitoring. 1 SMG-2/SMG-4 network element	

About company

Eltex company- is leading Russian developer and manufacturer of telecommunications equipment with 20 years of history. Integrity of solutions and seamless integration capability into Customer infrastructure is priority area of company development.

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