



SMG Integrated Media Gateway

Remove Unclearness, Disconnection and Complexity



SMG 3000

- Compact 1U form factor for 8/16 E1/T1-SIP
- Compliant with SS7/SS1/ISDN Globally
- Telecom Resilience and Voice Quality

With a better way to interconnect and deliver services through ease-of-use and unmatched low total cost of ownership, The Synway SMG3000 is a member of Synway's gateway family that enables service providers and enterprises to maximize value of their networks and services. The SMG3000 converts digital PSTN message into IP formats and connects and secures sessions across IP and mixed network boundaries to support the seamless delivery of services.

Besides providing low-to-high scalability in single compact footprint, the SMG3000 processes signaling and media in a single chassis and can deliver SIP services into SS1, SS7, PRI, and SIP networks. It also provides basic IP session control and security features to help service providers deliver multimedia services with features that include SIP trunking support, and IP-to-IP transcoding of voice, mobile HD voice.

The SMG3000 connects IP and hybrid networks via telephony and Ethernet links in a compact 1U form factor appliance. It also transforms media and signaling to support efficient and reliable voice, fax and multimedia sessions for mobile, fixed and cloud-based applications. The convergence of IP multimedia and TDM gateway functionality in a single chassis in the SMG offers significant reductions in investment and operational cost when compared to less integrated alternatives.

Key features



● Flexible and efficient Gateway Solution

With its scalable density and versatility, SMG can help enable wireless and wireline service providers to add new Value Added Services (VAS) quickly, and provide a clear migration path to an all-IP network. It can scale up to 480 simultaneous IP sessions and at the same time provide media transcoding and impressive sessions per second performance.

SMG supports voice densities ranging from 240 to 480 channels of SS7 signaling, call routing, call translation and IP transcoding in a single 1U chassis for gateway operations. The integrated gateway functionality not only provides interworking between IP and TDM domains, but also automated failover from IP to TDM for outbound routing. These features help service providers looking to improve network and routing resiliency and lower TCO. These capabilities make the SMG an excellent option for mobile VAS, SIP trunking, contact center and emergency service deployments, as well as for retail, wholesale, business, and enhanced Voice over IP (VoIP) services.

● Any-to-Any Signaling and Multimedia Connectivity

SMG3000 provides any-to-any network connectivity

through its ability to interwork multiple protocols used by telecommunications providers to deliver services to their retail, business and wholesale customers. It can provide interworking between SS1, R2, ISDN, SS7, SIP formats.

The SMG also supports any-to-any media transcoding for popular voice codecs. T.38 and G.711 fax interworking and support for RTP, INBAND and SIPINFO method based tones and event handling complement the media transcoding capabilities to provide a high degree of flexibility to help deliver value added services economically.

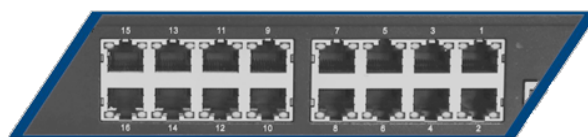
● User-friendly management and configuration toolkits

The Web graphical user interface (WebUI) is a real-time web toolkits to configure, monitor SMG. It allows operators to configure and perform real-time monitoring and maintenance. Flexible SIP and Protocols configuration enable services providers and enterprises to seamlessly connect in hybrid networks. Helping configure SIP, SIP trunking, SIP Mediation, PCM, SS7 and ISDN, Routing and more; And a broad range of gateway toolkits also help gateway's maintenance and software upgrading for Web UI, gateway services and firmware.



Telecom -grade Cooling System

Adopt two built-in ultra-silent fans coupled with minimum windage design



E1 Interface



Dual Power Supply

Embrace dual power module to guarantee 100% availability



EMC Design

Minimize heating and EMC via regular hexagon cooling hole

Key Features

Flexible SIP and Protocols configuration enable services providers and enterprises to seamlessly connect in hybrid networks

Scalable from 240 to 480 simultaneous SIP sessions with multimedia transcoding, and 240 to 480 channels of SS7 signaling

Combined IP and TDM gateway features on a single platform

Any-to-any signaling and media support

SIP profiler and web based user configuration

Integrated transcoding support for voice, tone and faxing

Carrier class solution

Values

Help configure SIP, SIP trunking, SIP Mediation, PCM, SS7 and SS1, R2, ISDN, Routing and more; a broad range of gateway toolkits help gateway's maintenance and software upgrading for Web UI, gateway services and firmware

Scalable IP and TDM connectivity solution provides high performance in a small footprint to help lower ownership cost and operational cost

Integrated multimedia gateway features facilitate TDM and IP interworking to provide service delivery flexibility and automated failover between domains

Support for SS1, R2, SS7, SIP signaling, and SIP interworking along with voice and transcoding provides a cost-effective platform to help service providers evolve from a TDM to an all-IP environment

Easy-to-use service configuration and management tools can help accelerate service deployment and simplify platform management

Eliminates the need to add separate hardware to support transcoding requirements helping to reduce CAPEX and number of platforms deployed

Carrier class design and features provide high availability, reliable throughput and enhanced service delivery

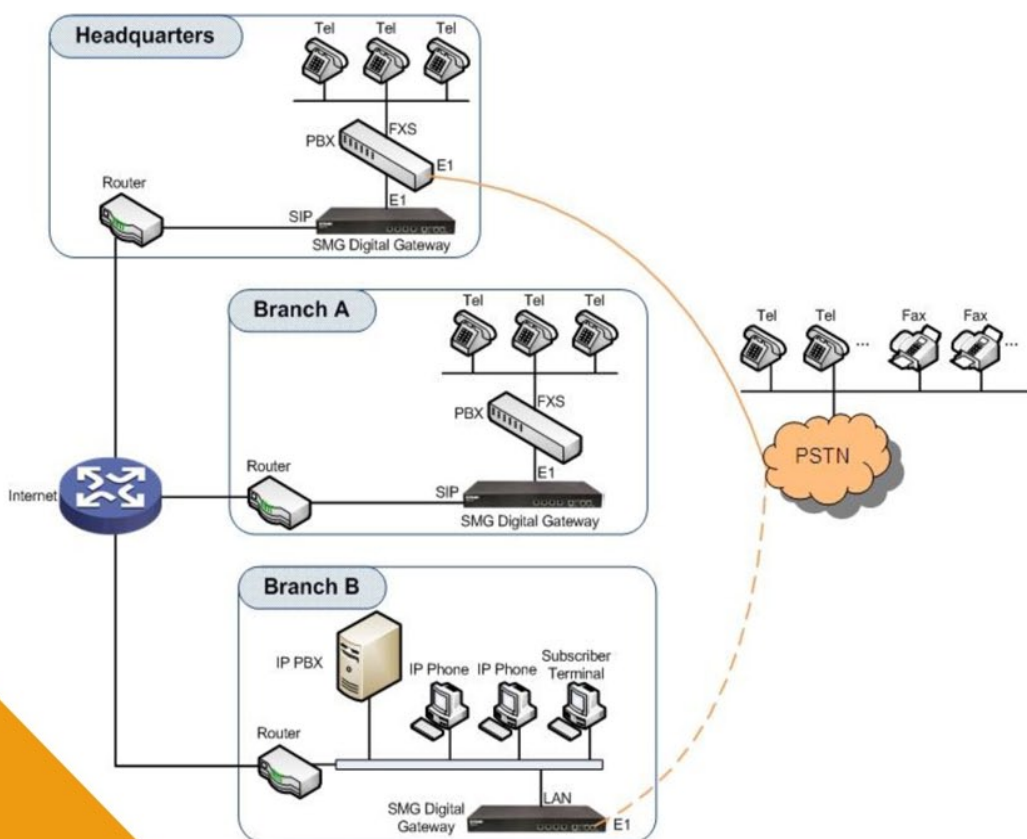


Figure 1 Typical Application

● Typical Applications

- Centralized VoIP and FoIP application servers, including IP-based voice mail and UMC
- IVR and announcements
- IP PBX
- VoIP extension to branch offices
- Contact centers

Typical Applications

Product models

SMG3008	8E1/T1 and 240 SIP channels
SMG3016	16E1/T1 and 480 SIP channels

Routing Features

Call routing and translation(from PCM to IP or reversely)

IP Bearer Features

Coder support: G.711,G.711U,G.729A/B,722,723,GSM,iLBC,Silk,OPUS
RFC2833,RF3261,SIPINFO, INBOUND

Compliant with TCP/UDP, HTTP,
ARP/RARP,DNS,NTP,TFTP,TELNET,STUN and more IP protocols
Echo cancellation: G.168 128 ms tail length
Voice activity detection and packet loss concealment
Comfort noise generation
T.38 real-time fax, T.38 – G.711 interworking
Digit transmission via RFC 2833 (SIP)
Hosted NAT

OAM&P

Network Time Protocol (NTP)
Web User Interface (WebUI) supports configuration via browser
SNMP MIBs
TR069

Power Requirements

AC Power Supply Range 100 – 240 VAC
The power supply will operate at frequencies between 47 Hz and 63 Hz

Power Consumption

Typical	Minimum
8 E1/T1	120 Watts
16 E1/T1	150 Watts

Environment

Operating temperature range
0 to +55 °C, 8-90% relative humidity non-condensing
Storage temperature range
-20 to +85 °C, 8-90% relative humidity non-condensing

Physical Dimensions

High	Wide	Deep
1.72 in (44 mm)	17.32in (440 mm)	10.51in (267 mm)
Weight 6.8 lb (Approx.3.1 kg)		

Maintenance

Power supplies field installation

Resiliency

SS7 signaling: 1+1 active/standby redundancy
Redundant power supply(Dual power system)
Smart IP probing
Automated failover (Ethernet links)
Failover via automatic protection switching

Capacity

240 - 480 TDM channels per 1U shelf
240 - 480 VoIP channels per 1U shelf

I/O Interfaces — Rear I/O — T1/E1

Telephony T1 and E1	8/16 T1/E1 for timing (BITS clock), signaling and bearer traffic (T1 - 100 ohms and E1 - 120 ohms)
Clock Sync	Stratum

IP Interfaces

IP Dual redundant 2 - 100/1000 Base-T Ethernet for VoIP payload and
signaling

Gateway Memory

Flash 256M, System memory 2G

TDM Signaling Protocols

E1 Mode:
E1-Euro ISDN , E1-NI2 ISDN , E1-Q.Sig, E1-CAS, E1-MFCR2
T1 Mode:
T1-NI2 ISDN, T1 5ESS 9 ISDN,T1 5ESS 10 ISDN,T1 DMS100 ISDN,
T1 DMS 100 Meridian ISDN,T1 QSIG,
16 SS7 links in standalone configuration

IP Protocols

Core SIP Specifications and Notable Extensions

RFC 3261 SIP Basic
RFC 3262 SIP PRACK
RFC 3265 SIP Subscribe/Notify
RFC2833,RF3261,2976,3515,3581,SIPINFO,INBOUND

Notable SIP Extensions

RFC 3398 ISUP/SIP Mapping
RFC 3711 SRTP (for SIP)
Tel URI – RFC 3966
IP and ISUP interworking and more

QoS

Adaptive jitter buffer
Packet loss compensation
Configurable Type of Service (ToS) fields for packet prioritization and
routing

Approvals and Compliance

For information about RoHS compliance and other approvals, please
contact Synway directly.

EMC/EMI

Compliant with most international standards. For compliance documents,
please contact Synway's sales representatives.

Safety

Compliant with most international standards, please ask Synway or its
sales representatives worldwide. Synway would comply all new safety
standardfor different regions around the world while needed.

Telecom Approvals

(Partially approved)Compliant with most international standards, please
ask Synway or its sales representatives worldwide.

Reliability/Warranty

Estimated MTBF per Telcordia Method 1: With Dual Redundant AC or DC
Power Supplies
Rear I/O Type 1 — T1/E1
NO PSTN Interface:150000 hours
8E1/T1 95000 hours
16E1/T1 90000 hours

Technical Specifications



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