

SI3000 Signaling and Media Gateway



Highlights:

- Carrier-Class Communications
- Seamless interconnect of IP based Call Server solution with existing network
- Wide band (HD Voice) and adaptive bit rate voice coding support
- IP to IP Transcoding \ Transrating
- Ensure the reutilization of the existing legacy infrastructure
- Signaling Conversion
- TDM hairpinning
- Integrated Media Server
- Universal and modular design
- Full QoS in IP networks

Service providers and telecom operators are deploying the softswitch-based architecture into their networks. Incumbent operators (ILEC), on the other hand have invested substantial amounts of time and money in their existing technology and infrastructure. For this reason they do not wish to start rebuilding their existing network infrastructure from scratch to match this trend. Incumbents are following the migration path. They are investing into IP-based softswitch platforms only when expanding capacity and functionality at the core network.

As an integral part of the Iskratel product family, the SI3000 Signaling and Media Gateway (SI3000 SMG) delivers a distributed voice communication over IP networks. The SI3000 SMG presents an optimal solution that enables operators to upgrade their infrastructure to a next-generation IP network, while still keeping the existing equipment in place.

The SI3000 SMG interfaces TDM-based legacy voice services to the IP network. It performs media conversion between the circuit and packet networks and converts signaling between the E1 interface and the MGCP/H.248-SIGTRAN network interface. The SI3000 SMG connects traditional access, switch nodes and PBXs using the V5.2, SSN7 and DSS1 SIGTRAN interfaces. Additionally, the SI3000 SMG supports CAS signaling transmission over IP network to the softswitch. With the use of TDM hairpinning sustains TDM call quality between TDM end points and assures optimal usage of media processing resources.

The SI3000 SMG incorporates a media server functionality which supports a variety of media processing functions, including voice, DTMF and fax transcoding, DTMF detection and generation, announcement generation, message play and record, conferences, IP to IP transcoding and other advanced capabilities. These functions are logically combined and embedded in a service logic execution environment. They use VoiceXML to implement a wide variety of basic and enhanced services, including playing announcements, calling card, conference calling, interactive voice response, advanced speech recognition and voice messaging, as well as custom-built applications.

Operators are able to incrementally populate the SI3000 MSCN Multi Service Control Node by adding SI3000 SMG blades according to the network demand. SI3000 SMG thus eliminates the need for costly wholesale platform upgrades, provides network deployment flexibility and cost effective alternative to SBC transcoding.

Technical data

Capacity	Single blade	Multiple blades
VoIP channels	MEA 1U – up to 960	MEA 20 – up to 11520 MEA 10 – up to 7680
E1 links	MEA 1U – 8 / 32	MEA 20 – up to 384 MEA 10 – up to 256
TDM		
TDM interfaces	DSS1, SSN7, V5.2, CAS (1VSK, 2VSK, E&M, R2)	
TDM hairpinning	Yes (within one blade)	
Redundancy		
E1 blades	no	
Ethernet	redundant 10/100/1000 Mbps	
Voice features		
Voice Codecs (see license requirements below *)	Wireline: G.711 (A/μ-law), G.723.1, G.722, G.722.1, G.726, G.729A/AB, iLBC GSM/UMTS: GSM-EFR*, AMR-NR*, AMR-WB* (G.722.2) High definition voice: G.722, AMR-WB* (G.722.2)	
Silent Suppression	VAD, CNG	
Echo suppression	G.165/168, up to 128 ms tail	
IP to IP Transcoding/Transrating	Up to 600 transcoding channels per blade	
Jitter buffer	up to 200ms	
Tone detection/generation	DTMF, Fax, Modem	
Fax/modem over IP	T.38; G.711, clearChannel	
Management Interface		
Ethernet	10/100/1000 Mbps	
Console	RS232	
IP support		
Quality of Service	VLAN (IEEE 802.1p/Q), DiffServ	
Network protocols		
Data protocols	TCP/IP, SNMP	
Connectivity Control	MGCP, H.248	
SIGTRAN	DSS1/IP (IUA), SSN7/IP (M3UA, M2UA, M2PA), V5.2/IP (V5UA)	
Media Server Features		
	Announcement generation	
	DTMF detection and generation	
	VoiceXML interpreter V2.0 and V1.0	
	Interactive Voice Response	
	Conferencing	
	Integration with ASR, TTS platform	
	Legal interception support	
Management features		
Protocols	SNMP, HTTP, FTP, NTP, Telnet	
Management System	SI3000 MN	
Environmental conditions		
Security	EN60950, IEC60950, EN60825	
EMC	ETSI EN 300 386 (EN55022 Class A)	
Storage	ETSI EN 300 019-1-1, class 1.2	
Transport	ETSI EN 300 019-1-2, class 2.3.	
Operation	ETSI EN 300 019-1-3, class 3.1E: additional extended temperature range from -5 to 55°C (16h), rel. humidity 5-90%	
Other		
Dimension (H x W)	MEA 20 (500 x 500 mm), MEA 10 (267 x 450 mm), MEA 1U (45 x 450 mm)	
DC input voltage	-40...-72V	

* Using the AMR-WB, AMR-NB, GSM-EFR resource in connection with a Iskratel product described herein are to be practiced only upon preliminary obtained patent license agreements for the AMR-WB, AMR-NB, GSM-EFR standards.

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MAD110400-GEE-030

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