

TopGate-16/24/48/96 Series VoIP Gateway

TG-8016/24/48/96 series analog gateway is one product of VoIP Top-Gate series by I.C.S.. It is a carrier class VoIP gateway. Carriers and enterprises can use it to provide regular phone, fax, and IP Centrex services through broadband networks. Top-Gate Guarantees a smooth transition to NGN (Next Generation Network), therefore protects your long-term investments. When fully configured, one Top-Gate system supports up to 96 FXS lines. Top-Gate is designed to meet the VoIP demands of telecommunications carriers, value-added service providers, and mid to large sized enterprises. Installed in a highly compact 1U chassis, Top-Gate 48/96 POTs gateway equipped with one control module, two card slots (for two FXS cards with 1 RJ21 or 6 RJ45 ports each), and two power feeds (so end-users have the options to use one or two 70W power supply to protect system from power surge and to provide redundancy).

Intelligent and Rich in Features

Top-Gate adopts embedded Linux operating system. Equipped with powerful hardware configuration and controlled by sophisticated software, the system supports multiple functions and provides solutions to a variety of application demands. In addition to supplementary functions like fashion ringing tones, Caller ID, Call Forwarding, and Call Routing, RADIUS Billing Interface, Broadcasting Second-stage Dialing, and Auto Dialing. Top-Gate supports SIP and MGCP protocols, and is the ideal gateway for VoIP connection and IP-PBX application.

Easy to Operate and Maintain

Like other gateway products by I.C.S., Top-Gate supports configuration using web based user interface.



TopGate-16/24/48/96

- The ideal gateway for IP-PBX and residential VoIP application
- High voice quality
- Highly compact yet truly reliable
- User-friendly provision tools
- Featuring fashion ringing tones, auto dialing, dual phone numbers, and RADIUS billing interface
- Advanced VoIP technologies including SIP/MGCP protocols, iLBC, and voice encryption
- Compatible with systems: Asterisk, 3CX, Cisco Systems, Huawei, etc..

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FeaturesR

Configuration	16/24/48/96 analog FXS ports, and 16/24/48 analog FXO ports
Voice processing	Voice codec: G.711, G.729A, G.723.1, GSM, and iLBC Echo cancellation: G.168; Tail Length: 8/16/32ms Dynamic Jitter buffer; Voice Activity Detection (VAD); and Comfort Noise Generator (CNG)
Calling Control	Calling/Called Number Mapping; Line Hunt
End user features	Caller ID; Call Forwarding; Call Waiting; Hotline; Prefix Dialing; and Do Not Disturb
Fax processing	T.30, T.38 Fax Relay
Billing	Radius Interface; Polarity reverse
Configuration methods	Web based user Interface; Text based configuration
Remote provisioning	Through HTTP/WEB mode

Signaling

End user off hook detection	FXS loop start and DDI (HongKong)
VoIP protocols	SIP (RFC3261) and MGCP (RFC2705)
DTMF	DTMF Digits Transmit; RFC2833; INFO(SIP)

Hardware

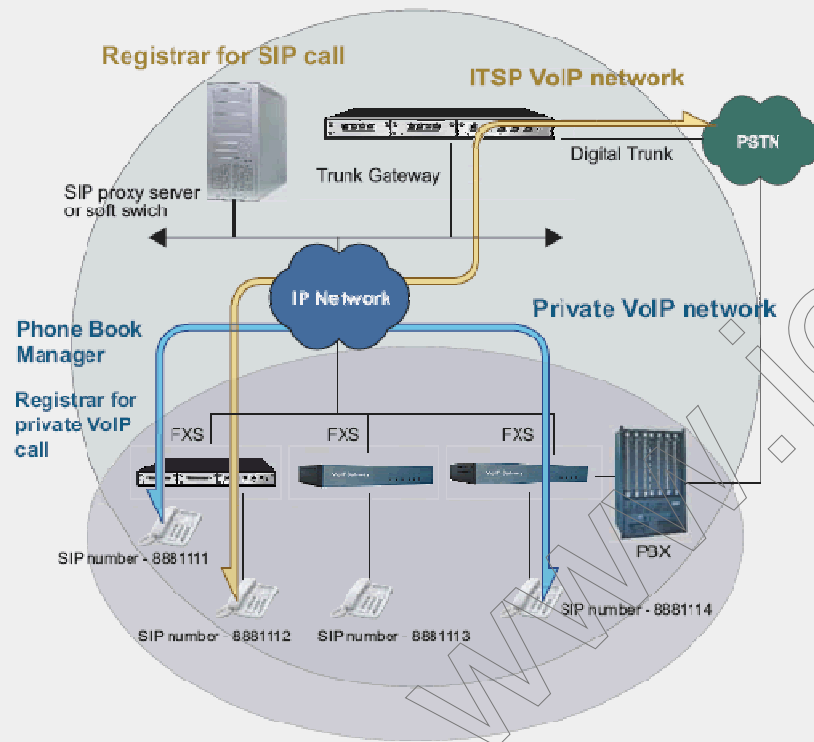
Max Line Length	3000 meters
REN Equivalence	5 for short loop (300 meters), 3 for medium loop (1500 meters)
Ringing Voltage	60 V
FXS port connector	RJ-21 (for TG8048 & TG8048S), RJ-45
Ethernet port connector	RJ-45 or 10/100 Base-T, with auto sensing
Internal memory	128 MB
Flash memory	8 MB
CPU	Motorola PowerPC 825
DSP	TIC5509
Input voltage	110~240 AC; 50~60Hz; input current 1AMP
Power consumption	70 W (max)
Dimension (H x W x D)	4.4 x 44 x 44 cm ; 1 U in height; 1.9" chassis
Weight	Net weight: 7 kg; gross weight: 10.5 kg

Environmental Requirements

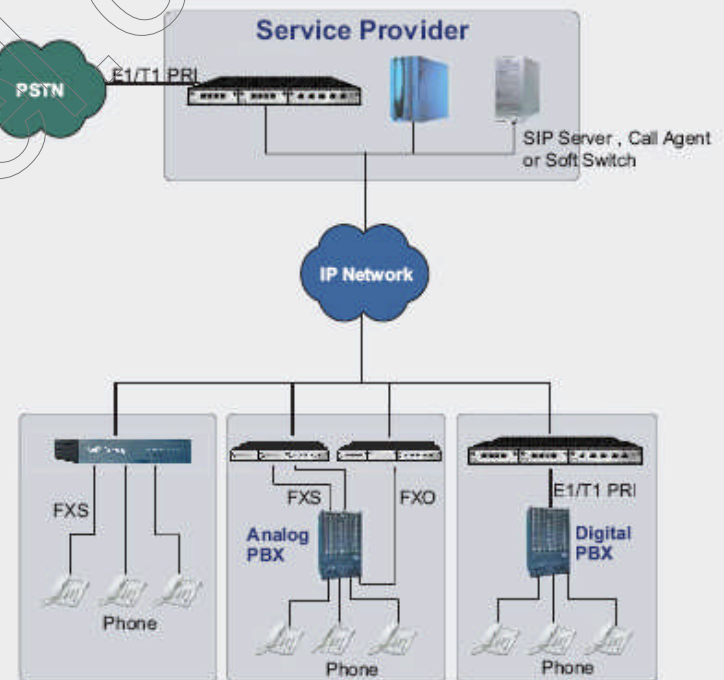
Operating Environmental	0 to 40° C, Non-Condensing Humidity 10% to 95%
Non-Operating Environmental	-10 to 60° C

TopGate Application

Dual network VoIP - ITSP + Private



ITSP/ISR VoIP network



TopGate Application

Line extension over IP

