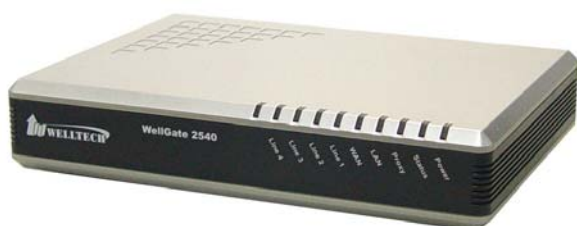


# WellGate 2540

## 4-Line FXO SIP IP Gateway



WellGate 2540 front view



WellGate 2540 rear view

**Dual IP Stack : IPv6 and IPv4 Simultaneously**  
**Support up to 4 SIP Trunk Servers**  
**Support different SIP Trunk to each FXO line**  
**Auto HTTP Provision feature**  
**Flexible Routes Plan, Dial Plan, Digit Manipulation**  
**Redundant Firmware Image**

WellGate 2540 is an 4-Line FXO gateway with SIP protocol IP device which allows to connect 4 Lines of analog PSTN telephone line or connect to analog extension of PABX to make or receive VoIP call over Internet or VPN network. This device is suitable for office IP-PBX application at office to office or office to branch office to call between PSTN Line and IP Call.

### To select up to 4 SIP TRUNK Accounts

WellGate 2540 is appropriate to use four VoIP SIP Trunk or IP Centrex service or IP-PBX within offices and remote branch offices. One of four SIP Servers ( or ITSP Service provider or alternative IP-PBX ) can be configured freely at each line ( FXO port ) to make or receive IP Call. It provides 4 service platforms according to your dial number or routes plan.

### IPv6 VoIP Gateway is ready to Market

IPv6 address was developed for years, however, it was not practical to our life up to date. More and more electronic devices are able to link to IP Network, this makes existing IPv4 address supply in shortage to global market. Meanwhile, the emerging countries are not able to increase IPv4 address supply due to strong market demand on broadband services. WellGate 2540 is an SIP based FXO gateway which built-in both IPv6 and IPv4 IP address. No matter when you are ready to deploy IPv6 network now, or reserve the future expansion to IPv6 from existing IPv4 address, WellGate 2540 is ready to grow up with you. Both IPv6 and IPv4 address are working simultaneously at Voice IP Call. Its flexibility of both IPv6 and IPv4 accept and interwork both addresses on today and tomorrow whenever you need.

### Flexible Dial plan and Route Plan Features

WellGate 2540 provides flexible Dial Plan between FXO and IP Trunk (SIP Soft Switch). Dial Plan is to configure in what condition the digits can be sent out to/from IP network. The dialing inter-digit time before dialing is configurable to meet local PSTN line or PBX's extension line. Dial Rule is able to detect the prefix code and maximum digits reached and then dial automatically. The Digit Manipulation (DM) allows you to configure matched prefix code, digits length, start and stop digit position to be replaced digits as well.

Route Plan is to configure the incoming and outgoing call routes which you desired this call to go out or allow to income. For



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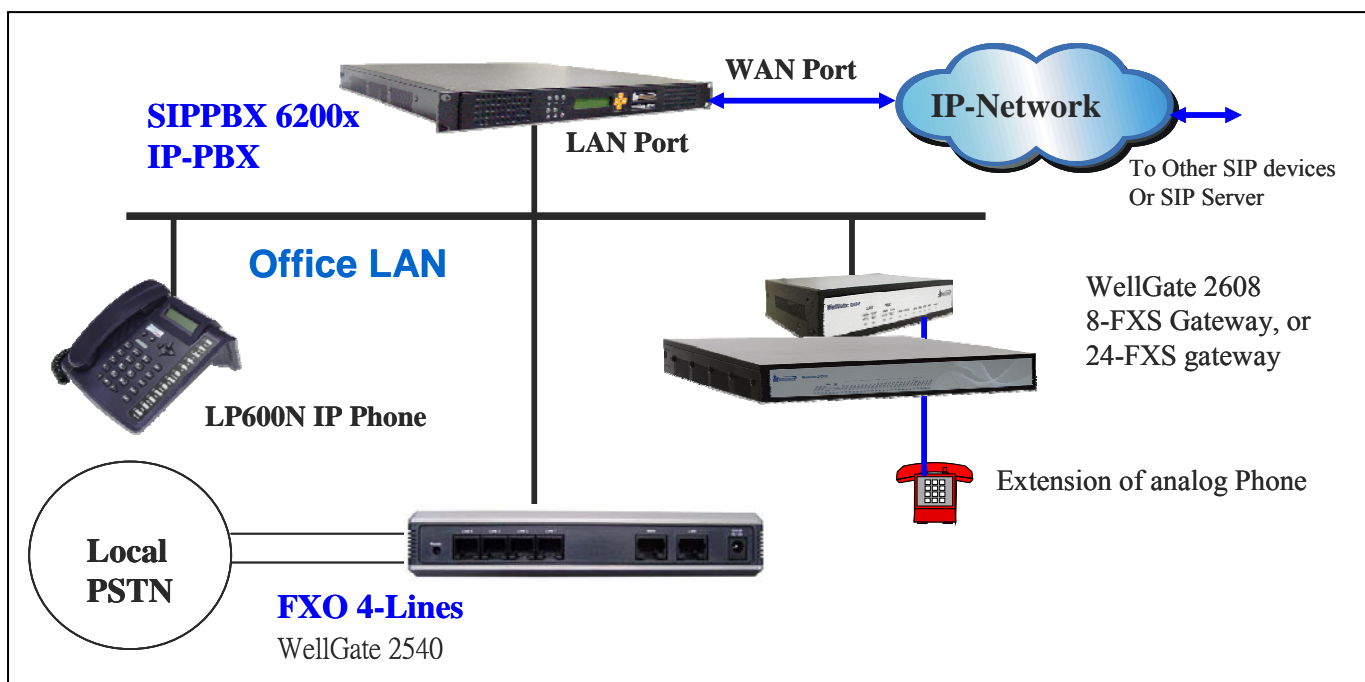
# WellGate 2540

## 4-Line FXO SIP IP Gateway

instance, IP incoming call may Reach to one FXO port with Priority or Cyclic access. You can also configure IP incoming call by Matched prefix digits, Matched dialing number to FXO line and Matched digit length. For FXO outgoing call to IP routes, the hunting type supports Priority or Cyclic or Simultaneously to select which SIP trunk ( SIP Proxy Server ) to go. FXO outgoing call routes also support by Matched prefix digits, Matched outgoing SIP Trunk number and Matched digit length. Both direction supports No Answer time out and Backup Routes.

### Suit to IP-PBX to access local PSTN Line

WellGate 2540 is a SIP IP device to connect with IP-PBX to access local PSTN network with FXO interface. Its telephony features, for instance, Caller ID detection and Releasing FXO port after call was dropped, are easy to integrate with Legend Telephony Line with IP-PBX in office and branch office IP call application. It is compatible with local Telecom network regulation and your office IP network to transmit analog voice between them.



### SPECIFICATION

#### Interface:

Ethernet port (RJ-45, 10/100 base-T)  
 1-WAN port, connect to IP Network  
 1-LAN port connect to PC with NAT  
 Support Bridge, NAT and Gateway mode  
 Telephony port connect to local PSTN line (RJ-11 x 4 pcs)  
 DC +12V power input Jack  
 Reset key to return Factory setting  
 LED Indicator for System, SIP and FXO status

#### IP Network connection

IPv4 (RFC 791) and IPv6 Simultaneously  
 IPv6 Auto Configuration (RFC 4862)  
 IPv6 Only, IPv4 Only or dual stack  
 MAC Address (IEEE 802.3)  
 MAC Clone Setting  
 Vendor Class ID  
 IP/ICMP/ARP/RARP/SNTP  
 Static IP  
 DHCP Client (RFC 2131), WAN port  
 DHCP Server, LAN port

NAT Server (RFC 1631)  
 PPPoE Client  
 DDNS ( DynDNS )  
 DNS Client  
 Firewall  
 URL Filter  
 IP Filter  
 MAC Address Filter  
 Application program Filter  
 Port Filter  
 Port Forwarding (TCP, UDP or both)  
 Bandwidth Control (Download and Upload), Maximum Bandwidth priority setting  
 UPnP Server at LAN port  
 Behind NAT, use DMZ for NAT traversal  
 SNTP with time zone and Daylight Saving  
 TCP/UDP (RFC 793/768)  
 RTP/RTCP (RFC 1889/1890)  
 IPV4 ICMP (RFC 792),  
 TFTP Client  
 VoIP VLAN Support 802.1Q, 802.1P

# WellGate 2540

## 4-Line FXO SIP IP Gateway

VLAN ID Range : 2 to 4094  
VLAN Priority : 0 to 7 (Highest Priority)  
QoS : DiffServ (RFC 2475), TOS (RFC791, 1394)

### SIP Protocol :

RFC3261 compliance  
Support up-to 4 SIP Trunk to Register  
SIP UDP Protocol  
Support SIP compact Form  
Support SIP HOLD Type: Send Only, 0.0.0.0 or inactive  
SIP Session Timer (RFC 4028)  
SIP Session Refresher: UAC or UAS  
SIP Encryption  
MD5 Digest Authentication (RFC2069/RFC2617)  
Reliability of provision response PRACK (RFC3262)  
Early/Delay Media support  
Offer/Answer (RFC3264)  
Message Waiting Indication (RFC3842)  
Event Notification (RFC3265)  
REFER (RFC3515)  
Support Outbound Proxy  
Support Primary and Backup SIP Server  
Support STUN NAT Traversal  
Support "rport" parameter (RFC 3581)  
Configure SIP local Port  
SIP QoS Type: DiffServe or QoS  
Accept Proxy Only : YES or NO

### Audio Codec :

G.711 A-law/ $\mu$ -law, G.729A, G.723.1 (6.3K, 5.3K)  
Select voice codec priority : Local or Remote  
Voice Payload size (ms) configuration  
Silence Suppression  
VAD/CNG  
LEC : Line Echo Canceller  
Max Echo Tail Length (G.168): 32, 64 and 128ms  
Packet Loss Compensation  
Automatic Gain Control  
In-band/out of band DTMF (RFC4733, RFC2833 / SIP INFO)  
Adaptive/Configurable Jitter Buffer  
G.168 Acoustic Echo Cancellation  
Configure RTP basic Port  
RTP QoS Type : DiffServ or TOS  
Phone Book ( 50 records ) for peer to peer calls  
Dialing Plan with drop, replace, Insert dialing digits  
Select First digit and Inter digit timeout duration (Sec)  
Selectable Call Progress Tone  
Support Specified Line Calling

### Call Features :

4-Line FXO connect to PSTN or PBX simultaneously  
Caller ID recognition DTMF (before/after 1<sup>st</sup> ring) and FSK (before 1<sup>st</sup> ring ), ETSI and Bellcore  
DTMF Caller ID start and stop BIT configurable  
Current Drop Detection to release FXO port  
Disconnect tone recognition to release FXO port  
Tone Generation: Ring Back, Dial, Busy, call waiting, ROH,  
Warning, Holding, Stutter dial tone and disconnect tone

Configure Tone Frequency, Cadence, Level and Cycle  
Select Tone specification by Country name List  
Global Country Based Tone Specification  
NAT Traversal support STUN, UPNP and Behind NAT  
Out-Band DTMF : RFC2833 and SIP Info  
RFC2833 Payload type : 101 or 96  
DTMF send out ON and OFF Time configure  
DTMF incoming recognition Minimum ON and OFF time  
DTMF Relay Volume configuration  
T.38 FAX Volume configuration  
Flash Time transmit via SIP Info (Enable or Disable)  
Message Waiting Indication (Stutter Tone Notice)  
Block Anonymous Call  
Call Hold  
Call Transfer

### FXO Line Configuration:

Activate or deactivate  
Line ID  
FXO Line Phone number  
Polarity Reversal detection for call establish and Billing  
Current drop recognition to release port  
Incoming call Handle: Hotline or 2 stage dialing  
HOT Line to desired phone number  
Play voice file to incoming call  
Repeat playing voice file counts  
Self-recorded voice files to upload  
Generate FLASH TIME to PSTN network  
T.38 or FAX Relay Type  
Incoming and outgoing dB value configurable  
Dialing Answer Delay time to establish call path  
Answer PSTN incoming call after how many ring cycles  
Caller ID detection mode by Country selection  
VoIP dial to FXO/PSTN Line: 1 stage dialing and 2 stage dialing  
Outgoing SIP Caller ID Selection  
Support 4 SIP Trunk  
Accept desired SIP Proxy incoming calls Only

### Flexible Routing Plan :

Prefix Match and Length  
Priority Ring  
Cyclic Ring  
Simultaneous Ring  
Programmable Hunting Cycle  
Backup Routes with Digit Manipulation  
Default Routes

### Flexible Dial Plans :

Retrieve transfer call from 3<sup>rd</sup> party by dial Code (default: \*#)  
Inter digit time out setting  
First digit dial out delay time setting  
End of dial keypad number  
Dial Rule : Match dial Prefix and Maximum digits length ( 1-15 )  
Phone Book can be Exported or Imported

### Digit Manipulation (Drop and Replace Rule):

FXO DM Group  
VoIP DM Group

# WellGate 2540

## 4-Line FXO SIP IP Gateway

DM 1 Group  
 DM 2 Group  
 DM 3 Group  
 DM 4 Group  
 Matched Prefix  
 Matched digit length  
 Replace digit start position  
 Replace digit stop position  
 Replace number

Incoming Ring frequency recognition range: 10 to 70 Hz  
 Incoming Ring ON time recognition range: 0 to 8000ms  
 Incoming Ring OFF time recognition range: 0 to 8000ms  
 Incoming Ring Level recognition range: 10 to 95Vrms  
 Support Peer to Peer Dialing  
 Flash Time Detection: range from 80 to 800 ms  
 Configure Ring Cadence, Frequency and Voltage

### MANAGEMENT :

Administrative Telnet CLI and HTTP, HTTPS  
 HTTP provision through MAC address  
 Multilingual Web User Interface  
 3 Levels of User Access Right with Password protection with different Web Language (Administrator, Supervisor and User)  
 HTTP/HTTPS Service Access limitation from WAN port  
 Configure Service ports at HTTP, HTTPS and telnet Services  
 Phone Debug Module: Device Control, Call Control, DB, Verbose  
 SIP Debug Module: Register, Call, SIP Message, Others  
 SNTP Debug Module  
 Device Debug Module  
 DSP Debug  
 Provide 8 Debug Levels :  
 Emergency  
 Alert  
 Critical  
 Error  
 Warning

Notice  
 Information  
 Debug  
 Provides System Status Logs  
 Connect to external SYSLOG Server  
 Status display: Network, Line, SIP Trunk status  
 Diagnostics (debug through Syslog Event Notice)  
 Debug in real time by Telnet  
 Auto Provision via HTTP Server  
 SNMP V2/Trap  
 Configuration Backup/Restore  
 Dual Firmware Image Backup  
 Reset to factory Default  
 \*\* Support Welltech proprietary encryption protocol at SIP Signal and Voice codec during transmitting to IP network in order to Anti-ISP block of VoIP call. This feature only be available with Welltech SIP server or SIPPBX6200 IP-PBX

### Environmental :

Actual Dimension: 17.5(W) × 3.2(H) × 12.6(D) CM  
 Weight: 0.5kg (One unit with packing)  
 Operating Temp. & Humidity  
 - Temp.: 0°C~45°C (32°F~113°F)  
 - Humidity: 10%~90% relative humidity, non-condensing  
 Power Adaptor:  
 - INPUT: AC100V~240V, 50/60Hz  
 - OUTPUT: DC 12V, 1.5A

### Approvals:

CE, FCC (Part 15, Class B), LVD and RoHS

### Country of origin:

Made in Taiwan

### Packing Accessories

WellGate 2540 x 1 pcs  
 AC to DC+12V Power adaptor x 1 pcs  
 CD User Manual x 1 pcs

### Warranty

One year

## Comparison Table between WellGate 3804A and WellGate 2540.

	IPv6	SIP	H.323	NAT for WAN/LAN	Routes and Dial Plans	Rich Telephony Features	SIP Trunk	Enclosure
WellGate 2540	YES	YES	NO	YES	YES	YES	4 sets	Plastic
WellGate 3804A	NO	YES	YES	NO	NO	NO	NO (Only SIP Proxy Server)	Metal