VoIP Gateway Series

FXO Service Features



AddPac Technology

Sales and Marketing

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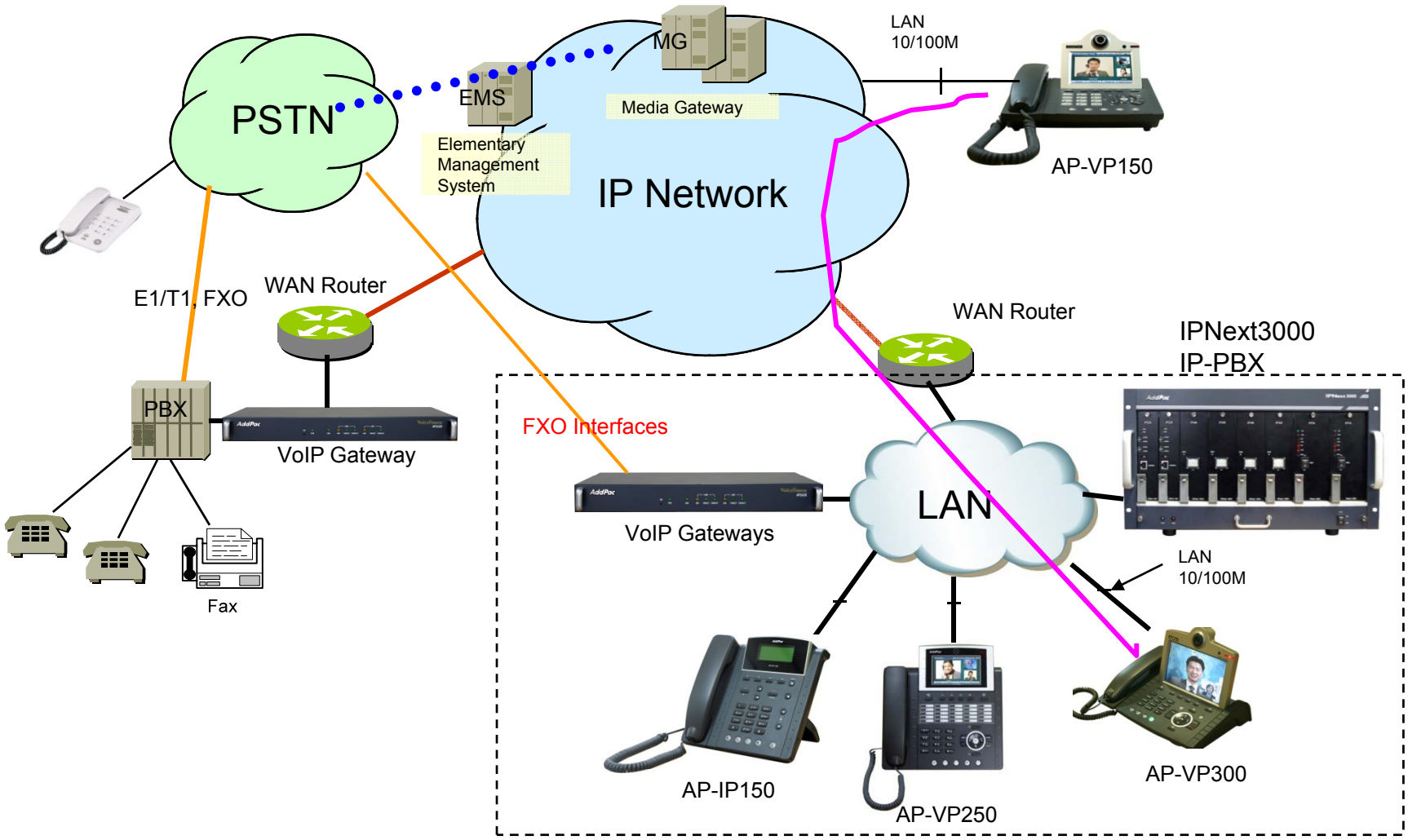
Network Diagram for FXO Call



FXO Service Feature List

FXO Service Features	Polarity inverse detection function
	Caller-ID detection function
	PSTN backup or busy-out function with hook off in case of power down
	Clear down tone registration and detect function
	Hook flash timing setting function
	Ring detect timeout setting function
	Ring number setting function
	Voice-confirmed connect function

FXO VoIP Gateways for SMB (4~8 Port)

Product	AP1002	AP1005	AP1100	
				
Model			Type	VoIP
			A	4 FXS, 4 FXO
			B	8 FXS
			C	8 FXO
VoIP Ports	2-Port FXS & 2-Port FXO	4-Port FXO	Up to 8-Port	
Signaling	SIP,H.323	SIP, H.323	SIP, H.323	
Module Slot	N/A	N/A	N/A	
LAN Port	2	2	2	
Console	Support	Support	Support	
Power	External Adaptor	External Adaptor	External Adaptor	

FXO VoIP Gateways (~24Port)

Product	AP1700	AP1800	AP2610	AP2620	AP2120N	AP2330
						
Available Modules	AP-FXS4 AP-FXO4 AP-FXS2O2 AP-E&M4 AP-E1	AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4 AP-N1-E1	AP-FXS4 AP-FXO4 AP-FXS2O2 AP-E&M4	AP-FXS4 AP-FXO4 AP-FXS2O2 AP-E&M4 AP-E1	AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4	AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4
Analog Ports	Up to 8	Up to 16	Up to 4	Up to 8	Up to 16	Up to 24
Signaling	SIP, H.323	SIP, H.323	SIP, H.323	SIP, H.323	SIP, H.323	SIP, H.323
Digital E1/T1	Up to 2E1	Up to 2E1	N/A	Up to 2E1	N/A	N/A
E&M	Support	N/A*	Support	Support	Support	N/A*
Module Slot	Two(2)	Two(2)	One(1)	Two(2)	Two(2)	Three(3)
LAN Port	2	2	2	2	2	2
Console	1	1	1	1	1	1
Power	Single PSU	Single PSU	Single PSU	Single PSU	Single PSU	Single PSU

FXO VoIP Gateways (~32Port)

Product	AP2340	AP2640	AP2650
			
Available Modules	AP-N1-FXS8 AP-N1-FXO8 AP-N1-FXS4O4	AP-FXS8 AP-FXO8 AP-FXS4O4 AP-E&M8 AP-E1	AP-FXS8 AP-FXO8 AP-FXS4O4 AP-E&M8 AP-E1
Analog Ports	Up to 32	Up to 32	Up to 32
Signaling	SIP, H.323	SIP, H.323	SIP, H.323
Digital E1/T1	N/A	Up to 2E1	Up to 2E1
E&M	N/A*	Support	Support
Module Slot	Four(4)	Four(4)	Four(4)
LAN Port	2	2	2
Console	1	1	1
Power	Single PSU	Single PSU	Dual PSU

FXO Large Capacity VoIP Gateways

Product	AP3100P	AP6500	AP6800
			
Available VoIP Modules	AP-FXS4, AP-FXO4 AP-FXS2O2, AP-E&M4	AP-N1-FXS32 AP-N1-FXO32	AP-N1-FXS32 AP-N1-FXO32
Analog Ports	Up to 60 (4Port Module x 15)	Up to 128 (32 Port Module x 4)	Up to 256 (32 Port Module x 8)
Signaling	SIP, H.323	SIP, H.323	SIP, H.323
CPU Redundancy (Dual CPU)	N/A	Support (Option)	Support (Option)
E&M	Support	N/A	N/A
Module Slot for VoIP Module	15 Slots	4 Slots	8 Slots
LAN Port	2	2	2
Console	1	1	1
Dual Power Supply (Option)	Support	Support	Support

FXO VoIP Modules

DSP

Target	VoIP Modules	Module Features	Module Picture
AP1700,AP2610 AP2620,AP3100P	AP-FXO4	4-Port FXO Module	
AP1700,AP2610 AP2620,AP3100P	AP-FXS2O2	2-Port FXS&2-Port FXO Module	
AP1700,AP2610 AP2620,AP3100P	AP-FXS3O1	3-Port FXS&1-Port FXO Module	
AP2120N AP2640 AP2650	AP-FXO8	8-Port FXO Module	
AP2120N AP2640 AP2650	AP-FXS4O4	4-Port FXS&4-Port FXO Module	

FXO VoIP Modules

DSP

Target	VoIP Modules	Module Features	Module Picture
AP1800 AP2330 AP2340	AP-N1-FXO8	8-Port FXO Module	
AP1800 AP2330 AP2340	AP-N1-FXS4O4	4-Port FXS&4-Port FXO Module	
AP6500 AP6800	AP-N1-FXO32	32-Port FXO Module	

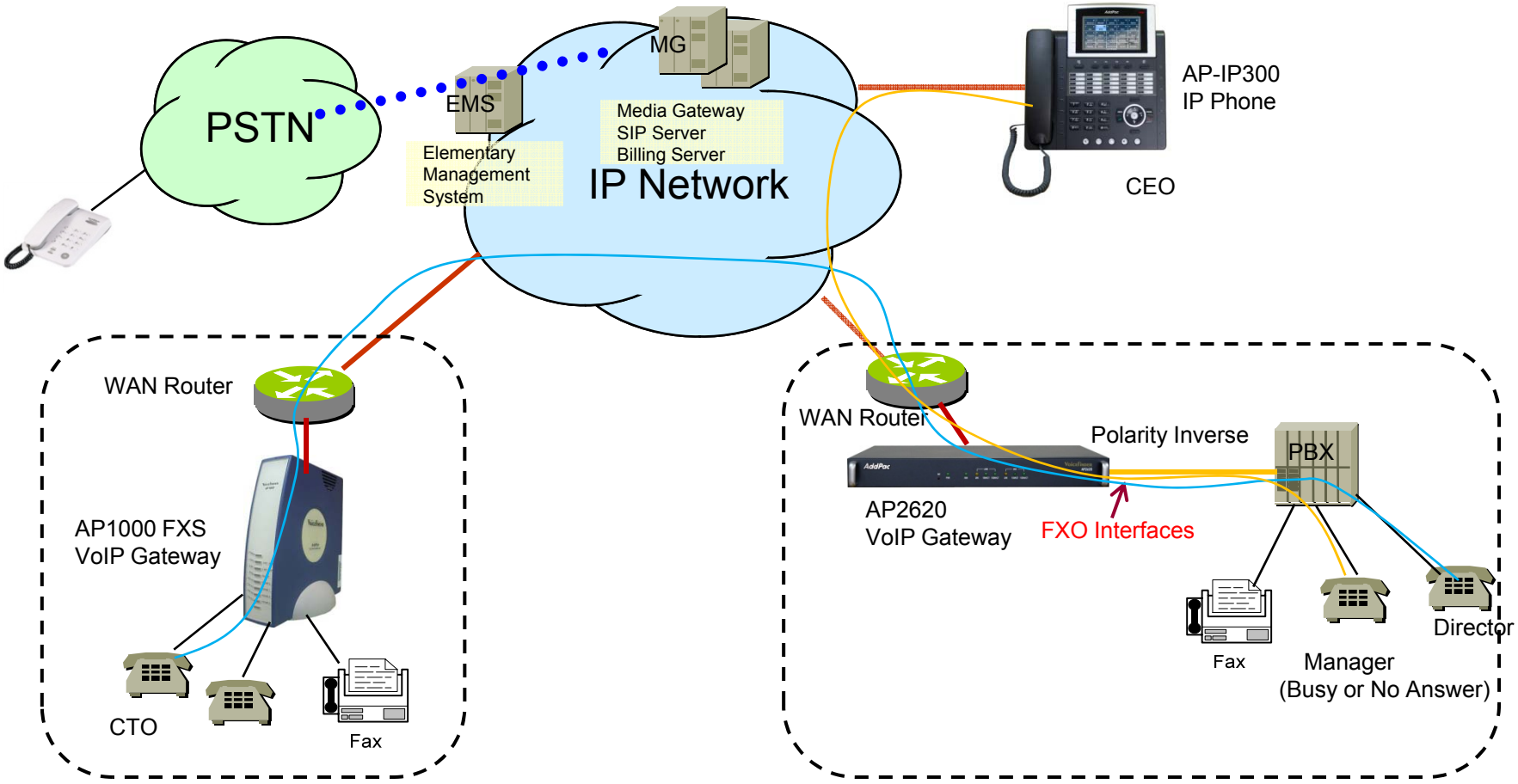
Polarity Inverse Detection Function

- Polarity inverse detection function
  - — The FXO port detects the polarity inverse signal coming from Legacy PBX
  - — When there is an incoming VoIP call via the FXO port to Legacy PBX, the gateway sends call connect message to Softswitch after detecting the polarity inverse signal on the FXO port.
  - — Using Polarity Inverse Signal, a accurate billing service is available.

When polarity inverse function is enabled

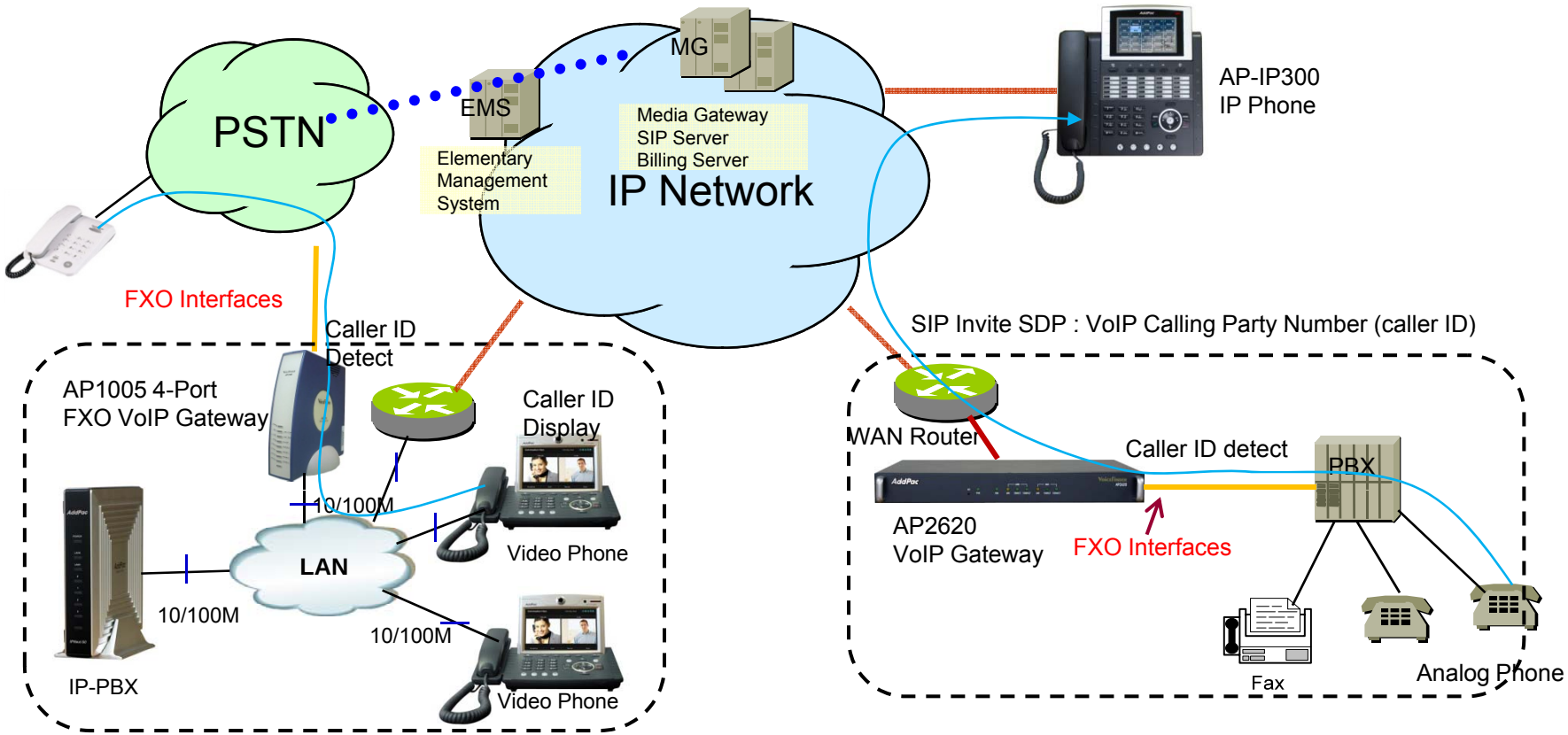
- In case of A flow, Billing is start when the director hooks off.
- In case of B flow, Billing is not start because manager port is busy or no answer

Polarity Inverse Detection Function



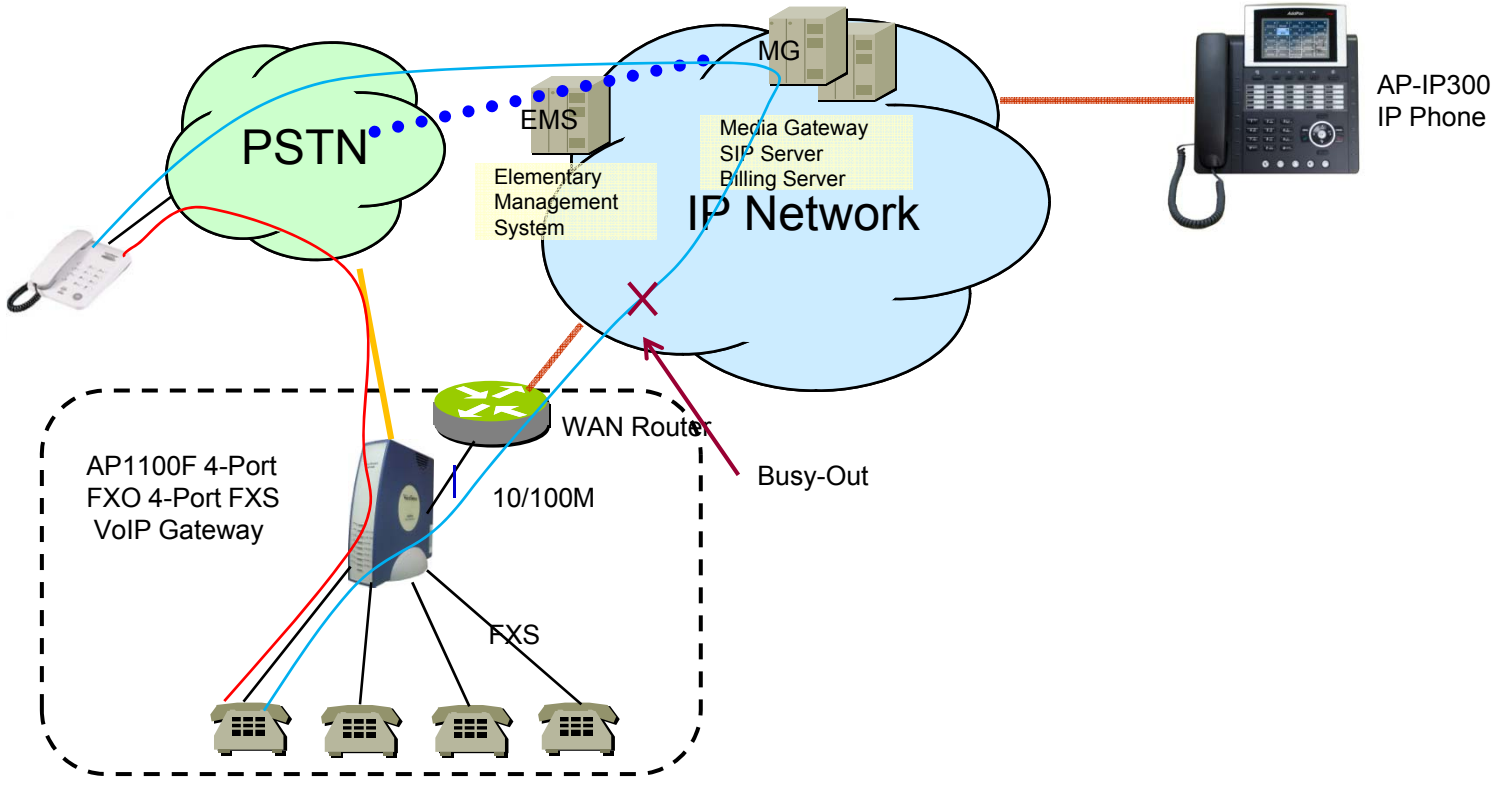
Caller ID Detect Function

- Caller-ID detection function
  - The FXO port is connected to PSTN or PBX, and is able to detect Caller-ID.
  - When a VoIP call is originated from the FXO port, the FXO port detects the caller-ID and uses the number as the VoIP calling party number.



PSTN backup or busy-out function

- PSTN backup or busy-out function
  - VoIP call can not be made when the gateway is in busy out state. User can be communicated continually using PTSN backup function.
  - Busy Out State : LAN interface is down, Softswitch is down, etc



FXO Service Description

Features	Description
Voice-confirmed connect function	When FXO port is connected to PBX extension and the subscriber does take the call, connect message is not sent to sender side and billing is not included.
Ring number setting function	Use this command to set the maximum number of rings to be detected before answering a call over an FXO voice port. In that case, the FXO interface would answer if the equipment online did not answer the incoming call in the configured number of rings.
Clear down tone registration and detect function	Clear-down-tone detects call termination of FXO port connected to and generated from PSTN or PBX. The value of clear-down-tone (busy tone, fast busy tone) is different for each PSTN and PBX. So use voice class clear-down-tone for registration process in global configuration mode.
Hook flash timing setting function	Different from call-transfer, you need to press hook-flash button twice for conference call. Basically, it takes 500 ms (0.5 sec) to recognize hook-flash button from the AddPac gateway. If you think 500ms (0.5 sec) is too short, you can change hook-flash detect timeout value when hook-flash duration time of PBX is more than 500ms.

Thank you!

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