

Internet Telephony PBX System

IPX-2000/1800 Series



This installation guide introduces several practical configuration examples of IP PBX deployment.

The configuration of IP PBX is very flexible and the expressiveness of usergroups, routegroups, and trunks are scalable enough to support various network architectures.

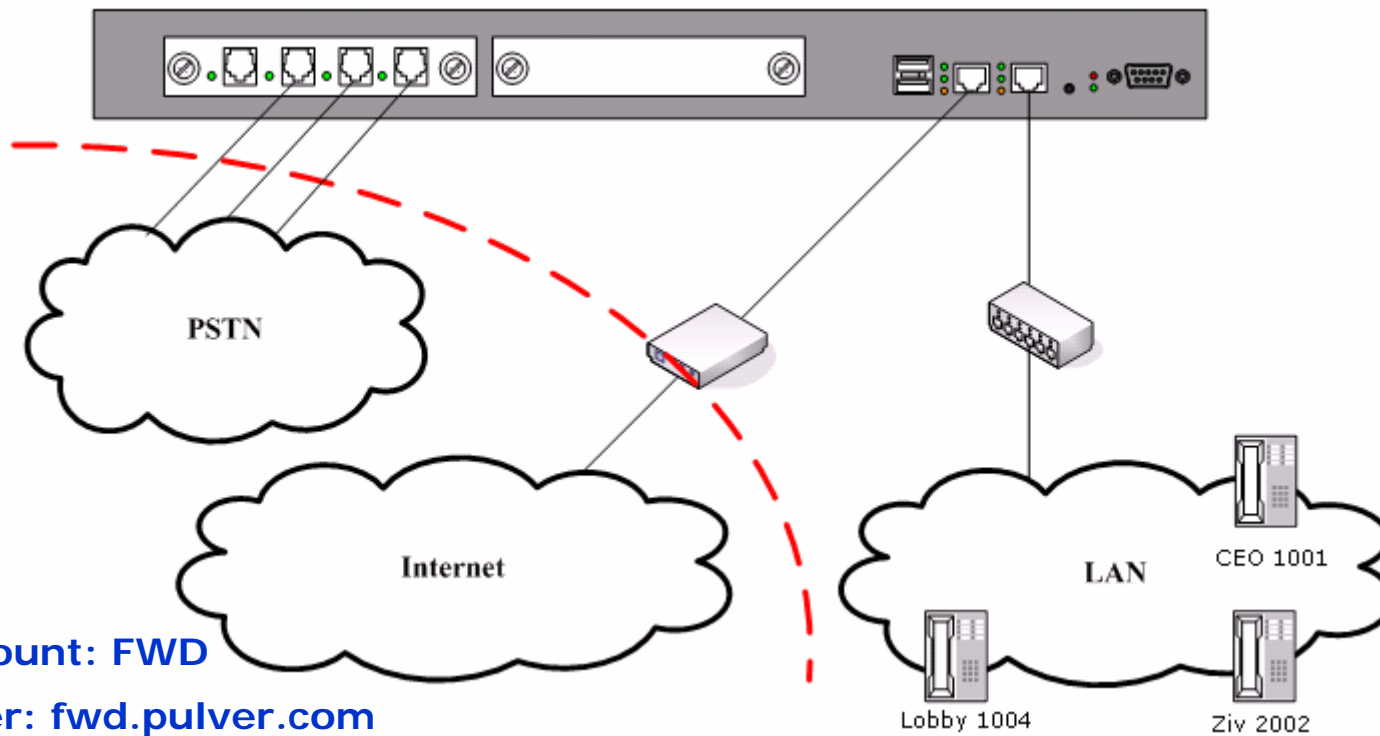
Users could refer to these examples and build a larger network involving multiple sites and advanced services.



Case 1: Single-Site Configuration

Company A has a DSL connection for Internet access, 3 PSTN subscriber lines, 1 ITSP SIP account, and three extensions. The ISP provides a static IP 210.66.155.83 to company A.

- One of the extension is a utility phone in the lobby, other two phones belong to the individual staff.
- Each phone has one extension and it can call any other extension without limitation.
- Only staff phones can call out via PSTN or ITSP with prefix 9. But only the local call will pass through PSTN trunk, long distance and the cell phone call will pass through the ITSP SIP trunk.
- Jeff is the CEO of the company, the third PSTN line is dedicate for him, no other staffs can use this PSTN line.
- Incoming PSTN calls are answered by auto attendant and could be transferred to any extension.



ITSP Account: FWD

SIP server: fwd.pulver.com

SIP Proxy: fwd.pulver.com

SIP Port no: 5060

SIP ID: 288937

Password: 123

www.planet.com.tw



1

After logging in the IP PBX, Click the [User Management -> User Group] to add usergroups **CEO**, **Staff**, **Utility**, and **ext_all**

Group ID: CEO

Description: [] SET

Associated Trunks: [] Group ID Weight: 0 [] ADD [] DEL

Reachable User Groups: UG_DEF: CEO ADD DEL

Associated PBX Features: mm, parkedcalls, vm ADD DEL

Member List: []

BACK

Group ID: **CEO**
Associated PBX feature: **Mm, Parkedcall, Vm.**

2

Group ID: Staff

Description: [] SET

Associated Trunks: [] Group ID Weight: 0 [] ADD [] DEL

Reachable User Groups: UG_DEF: CEO, Utility, Staff ADD DEL

Associated PBX Features: mm, parkedcalls, vm ADD DEL

Member List: []

BACK

Group ID: **Staff**
Associated PBX feature: **Mm, Parkedcall, Vm.**

3

Group ID: Utility

Description: [] SET

Associated Trunks: [] Group ID Weight: 0 [] ADD [] DEL

Reachable User Groups: UG_DEF: CEO, Utility, Staff ADD DEL

Associated PBX Features: mm, parkedcalls, vm ADD DEL

Member List: []

BACK

Group ID: **Utility**
Associated PBX feature: **Mm, Parkedcall,**

4

Group ID: Ext_all

Description: [] SET

Associated Trunks: [] Group ID Weight: 0 [] ADD [] DEL

Reachable User Groups: UG_DEF: CEO, Utility, Staff, Ext_all ADD DEL

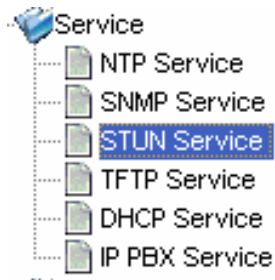
Associated PBX Features: mm, parkedcalls, vm ADD DEL

Member List: []

BACK

Group ID: **Ext_all**
Associated PBX feature:

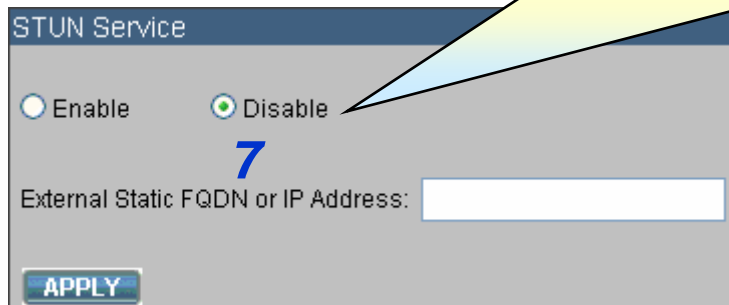
5



6

If the IP PBX is not under a NAT, it will be better to turn off the STUN service, Click the [**Service ->STUN Service**] to disable the STUN server

Check the disable then click the [**APPLY**] bottom



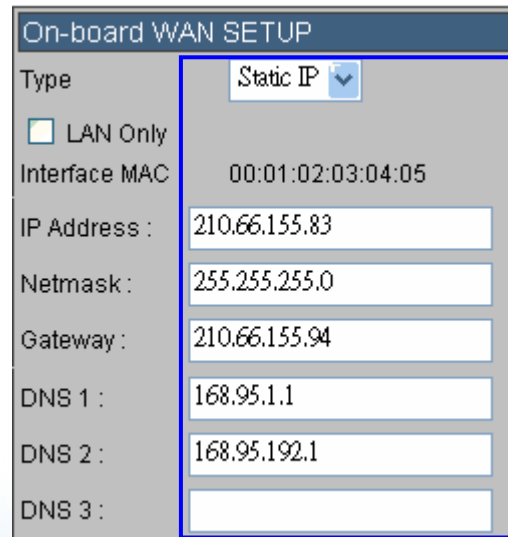
STUN Service configuration window. It features two radio buttons: 'Enable' (unselected) and 'Disable' (selected). Below the radio buttons is a text input field labeled 'External Static FQDN or IP Address:'. At the bottom left of the window is an 'APPLY' button.

7



8

Click the [**System->On-board WAN setup**] to set up the WAN



On-board WAN SETUP	
Type	Static IP
<input type="checkbox"/> LAN Only	
Interface MAC	00:01:02:03:04:05
IP Address :	210.66.155.83
Netmask :	255.255.255.0
Gateway :	210.66.155.94
DNS 1 :	168.95.1.1
DNS 2 :	168.95.192.1
DNS 3 :	

9

Input the ISP provides information of IP to the corresponding field.
In this case:
Type: **STATIC IP**
IP address: **210.66.155.83**
Netmask: **255.255.255.0**
Gateway: **210.66.155.94**
DNS 1: **168.95.1.1**

Case 1: Single-Site Configuration

Group ID: Ext_all

Description: [] [SET]

Associated Trunks: [] Group ID: 0 Weight: [] [ADD] [DEL]

Reachable User Groups: UG_DEF: CEO, Utility, Staff [ADD] [DEL] **CEO, Utility, Staff, Ext_all**

Associated PBX Features: rrr, parkedcalls, vrn [ADD] [DEL]

Member List: []

[BACK]

Include **CEO, Staff, and Utility** in the Reachable usergroup of ext_all

Select [User Management ->User] to create a user account for each staff and assign it to the corresponding usergroup



USER ADD

Login ID: jeff

Name: jeff

Password: []

Description: jeff

E-mail Address: jeff@test.com.tw

Attach Voicemail in E-mail Notification

Usergroup: CEO

Extensions: []

Create a user account for **Jeff** and assign him to the usergroup **CEO**

USER ADD

Login ID: Ziv

Name: Ziv

Password: []

Description: Ziv

E-mail Address: Ziv@test.com.tw

Attach Voicemail in E-mail Notification

Usergroup: Staff

Extensions: []

Create a user account for **Ziv** and assign him to the usergroup **Staff**

USER ADD

Login ID: Lobby

Name: Lobby

Password: ●●●●

Description: Lobby

E-mail Address: Lobby@test.com.tw

Attach Voicemail in E-mail Notification

Usergroup: Utility

Extensions:

ADD **BACK**

14

Create a user account for **Lobby** and assign him to the usergroup **Utility**

Device

- IP Phone
- Extension of IP Phone
- Analog Phone

15

Select [**Device->IP Phone**] to Create a device for each physical phone and designate an extension

Device ID: _____ Device Administration URL: _____ **ADD**

DEL

Device ID	Associated Extension	Device Administration URL	Auto Client Conf
<input type="checkbox"/> Jeff_1001	1001	<input type="text"/> LINK	Disabled
<input type="checkbox"/> Ziv_2002	2002	<input type="text"/> LINK	Disabled EDIT APPLY
<input type="checkbox"/> Lobby_1004	1004	<input type="text"/> LINK	Disabled EDIT APPLY

16

Create three device **Jeff_1001**, **Lobby_1004**, **Ziv_2002**

Extension Number	1001
Associated Device	Jeff_1001
Password	••••
User	jeff(jeff)
Pickup Group	CEO
Line Type	Wired
Language	English
Voicemail	Enable
Voicemail PIN	••••
Unavailable Timeout	30 sec.
<input type="checkbox"/> Allow LAN Use Only	
<input type="checkbox"/> Disable NAT Traversal	
Try Peer-to-peer RTP	NO
DTMF Mode	inband

17

The details of the extension 1001. Pickup group **CEO**, User **Jeff**, enable Voice mail

Extension Number	1004
Associated Device	Lobby_1004
Password	••••
User	Lobby(Lobby)
Pickup Group	Utility
Line Type	Wired
Language	English
Voicemail	Disable
Voicemail PIN	
Unavailable Timeout	30 sec.
<input type="checkbox"/> Allow LAN Use Only	
<input type="checkbox"/> Disable NAT Traversal	
Try Peer-to-peer RTP	NO
DTMF Mode	inband

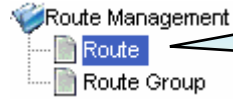
18

The details of the extension 1004. Pickup group **Utility**, User **Lobby**, Disable Voice mail

Extension Number	2002
Associated Device	Ziv_2002
Password	••••
User	Ziv(Ziv)
Pickup Group	Staff
Line Type	Wired
Language	English
Voicemail	Enable
Voicemail PIN	••••
Unavailable Timeout	30 sec.
<input type="checkbox"/> Allow LAN Use Only	
<input type="checkbox"/> Disable NAT Traversal	
Try Peer-to-peer RTP	NO
DTMF Mode	inband

19

The details of the extension 2002. Pickup group **Staff**, User **Ziv**, enable Voice mail



20

Select [**Route Management->Route**] to create a route configuration.

Route ID	Description	Destination Number Pattern	Number of Stripped Digits	Prefix	
PSTN_12	PSTN_PORT_1_2	9Z.	1		ADD

21

Create a Route **PSTN_12** with pattern **9Z.** Number of digits stripped **1**, no prefix.

Route ID	Description	Destination Number Pattern	Number of Stripped Digits	Prefix	
PSTN_3	PSTN for CEO	9Z.	1		ADD

22

Create a Route **PSTN_3** with pattern **9Z.** Number of digits stripped **1**, no prefix.

Create a Route **SIP_ITSP_FWD** with pattern **90.** Number of digits stripped **2**, no prefix.

23

Route ID	Description	Destination Number Pattern	Number of Stripped Digits	Prefix	
SIP_ITSP_FWD	FWD	90.	2		ADD

24



Select [**Route Management->Route Group**] to assign the routes in the corresponding routegroup

ROUTE GROUP ADD

Group ID: RG_for_Staff

Description: SET

Associated Routes: 25

PSTN_12, PSTN_3, SIP_ITSP_FWD

ADD, DEL

BACK

Create a Routegroup **RG_for_Staff**, and it contains the SIP_ITSP and PSTN_12 trunk

ROUTE GROUP ADD

Group ID: RG_for_CEO

Description: SET

Associated Routes: 26

PSTN_12, PSTN_3, SIP_ITSP_FWD

ADD, DEL

BACK

Create a Routegroup **RG_for_CEO**, and it contains the SIP_ITSP_FWD, PSTN_3 and PSTN_12 trunk

Trunk

27

- SIP Trunk
- FXO PSTN Trunk**
- ISDN PSTN Trunk
- Terminal Trunk
- POTS Setting

Select [Trunk->FXO PSTN trunk] to create the PSTN trunk

Create the first PSTN trunk with the Trunk group: **1**, the Trunk ports: **1-2** (The third PSTN line is reserve for CEO) , the Outbound routegroup is **RG_for_Staff**, the Usergroup of privilege is **ext_all**

Trunks Add New

Trunk Group: 1

Trunk Ports: 28

Description: PSTN trunk for Staff

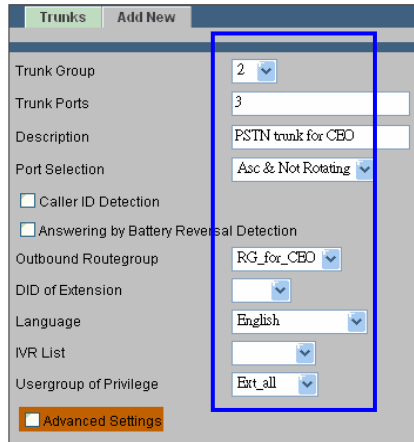
Port Sel: Asc & Not Rotating

Outbound Routegroup: RG_for_Staff

Language: English

Usergroup of Privilege: Ext_all

Advanced Settings



Trunks Add New

Trunk Group: 2

Trunk Ports: 3

Description: PSTN trunk for CEO

Port Selection: Asc & Not Rotating

Outbound Routegroup: RG_for_CEO

Usergroup of Privilege: Ext_all

29

Create the second PSTN trunk with the Trunk group: **2**, the Trunk ports: **3**, the Outbound routegroup is **RG_for_CEO**, the Usergroup of privilege is **ext_all**

Create a SIP trunk and enter the parameter that ITSP provides.

Trunk identifier: **288937**

SIP Proxy IP: **fwd.pulver.com**

SIP proxy port: **5060**

SIP registrar IP: **fwd.pulver.com**

SIP registrar port: **5060**

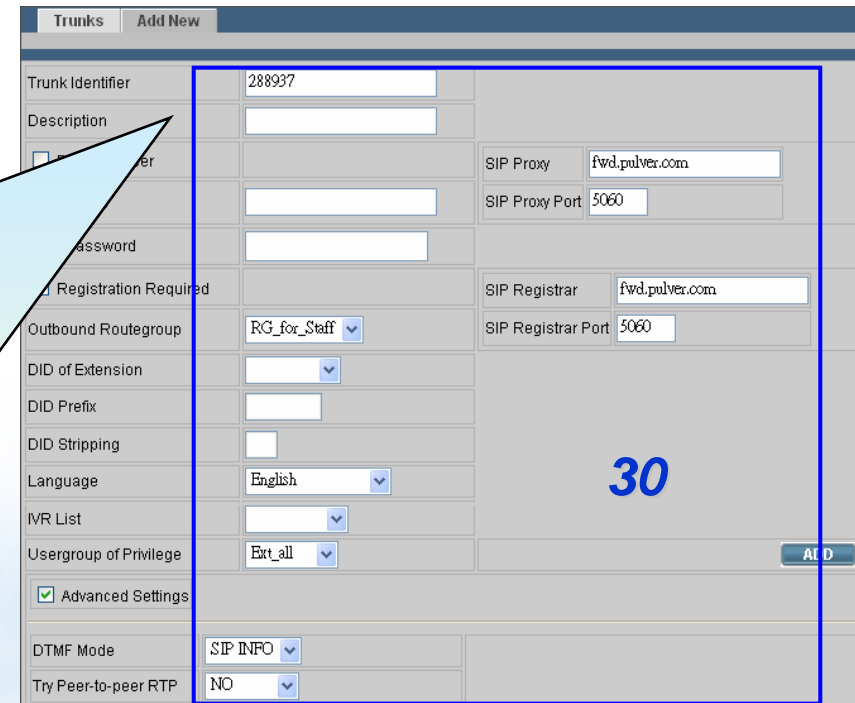
Auth Name: **288937**

Auth Password: **123**

Outbound routegroup: **RG_for_Staff**

Usergroup of privilege: **ext_all**

DTMF Mode: **SIP INFO**



Trunks Add New

Trunk Identifier: 288937

Description: [Empty]

SIP Proxy: fwd.pulver.com

SIP Proxy Port: 5060

SIP Registrar: fwd.pulver.com

SIP Registrar Port: 5060

Outbound Routegroup: RG_for_Staff

Usergroup of Privilege: Ext_all

DTMF Mode: SIP INFO

Try Peer-to-peer RTP: NO

30



31

Select [**User->User Group**] to assign the associated trunks and the reachable usergroup of each usergroup.

Assign SIP trunk **288937**, **pstn2**, and **pstn1** to Usergroup CEO.
Add reachable usergroup **staff** and **utility** to the usergroup CEO

Group ID: CEO

Description: [] SET

Associated Trunks: 288937, pstn1, pstn2

Group ID Weight: 0

Reachable User Groups: UG_DEF (CEO, Utility, Staff), ADD, DEL

Associated PBX Features: mm, parkedcalls, vm, ADD, DEL

Member List: User:jeff, Callers_from_PSTN_Trunk:pstn2

32

Group ID: Staff

Description: [] SET

Associated Trunks: 288937, pstn1, pstn2

Group ID Weight: 0

Reachable User Groups: UG_DEF (CEO, Utility, Staff), ADD, DEL

Associated PBX Features: mm, parkedcalls, vm, ADD, DEL

Member List: User:ziv

33

Assign SIP trunk **288937** and **pstn1** to Usergroup Staff.
Add reachable usergroup **staff** and **utility** to the usergroup Staff.

34

Group ID: Utility

Description: [] SET

Associated Trunks: 288937, pstn1, pstn2 | Group ID: 0 | Weight: [] | ADD | DEL

Reachable User Groups: UG_DEF [] | ADD | DEL | CEO, Staff, Utility

Associated PBX Features: mm, parkedcalls, vm | ADD | DEL | mm, parkedcalls

Member List: User:Lobby

BACK

Add reachable usergroup **Staff** and **CEO** to the usergroup Utility.

35

Select [**Service-> IP PBX service**] to reload the IP PBX service

- Service
 - NTP Service
 - SNMP Service
 - STUN Service
 - TFTP Service
 - DHCP Service
 - IP PBX Service**

Service & Configuration | **Advance**

IP PBX Configuration Reload | **RELOAD**

IP PBX Configuration Backup | **BACKUP** | PBX Settings Only

IP PBX Configuration Restore | **RESTORE** | []

IP PBX Service Restart | **RESTART**

IP PBX Configuration Revert to Factory Default | **REVERT**

36

Click the [**Reload**] button to reload the IP PBX service

ACTIVATING IP POWER

