# Zycoo IPPBX with PABX Integration

# Introduction

The migration from analog phone system (PABX) to VoIP phone system (IPPBX) is now in play. Many companies found their PABX infrastructure is still functioning well, and some of the analog endpoints may already been integrated with existing systems that cannot be easily replaced. But on the other hand they cannot resist the innovative VoIP telephony experience that an IPPBX system could bring.

The solution to this paradoxical fact would be integrating the existing PABX with ZYCOO IPPBX system.

Benefits:

- PABX and analog endpoints work the same way as they used to be
- Extension to extension calls can be made among the IP extensions of ZYCOO IPPBX and PABX extensions
- PABX extensions can make calls through the ZYCOO IPPBX SIP trunks to take the advantages of low-rate long-distance calling

Demonstration equipment:

- ZYCOO IPPBX CooVox-U60
   4 FXO
   20 FXS
   Extensions 400-499 (Max. 200)
- Panasonic PABX KX-TES824BX 8 CO lines (8 FXO) 24 extensions (24 FXS) Extensions 301-324

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# Connection

To integrate U60 with Panasonic, you need to do direct FXO to FXS port connection.

For making phone calls from Panasonic extensions to U60 extensions and trunks the connection should be:

 $\mathsf{FXO}\,\mathsf{on}\,\mathsf{Panasonic}\,\mathsf{<}\,\mathsf{--}\,\mathsf{>}\,\mathsf{FXS}\,\mathsf{on}\,\mathsf{U60}$ 

For making phone calls from U60 extensions to Panasonic extensions the connection should be: FXS on Panasonic < -- > FXO on U60

Each connected line can only carry 1 call at the same time, so how many lines you have to connect, depending on how many concurrent calls there will be.



The connection diagram as shown below:

# Configurations on U60

### Configurations of U60 extensions calling Panasonic extensions

For IP extensions 4xx being able to call extensions 3xx, you have to create FXO trunk on the CooVox-U60, and define a dial rule for dialing extensions 3xx.

Please navigate to U60 Web menu *Telphony>OutboundControl>Trunks* page,you can find the exsited FXO trunk

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|--------------------------------------|-------------------------|--------------------------------------|-----------------|---------------------------------|-------------------------|-----|
|                                      | :00 Co., Ltd.           |                                      |                 |                                 | z-mail. zycoo@zycoo.con | n   |
|                                      | User Name: <b>admin</b> | Current Time: 2019-07-03 01:59:16    |                 |                                 |                         | 8 🗭 |
| Q Search                             | Trunks                  | Dial Rules                           | Dial Permission | Outbound Fax                    | PIN Sets                |     |
| 🔁 Status 🗸                           | Physical Trunks Bulk Ed | it                                   |                 |                                 |                         |     |
| Switchboard                          | Trunk Name              | Remark                               |                 | Туре                            | Options                 |     |
| 📞 Telephony 💙                        | FXO-1                   |                                      |                 | Analog                          |                         |     |
| Extensions                           | FXO-11                  |                                      |                 | Analog                          |                         |     |
| Inbound Control                      | FXO-12                  |                                      |                 | Analog                          |                         |     |
| Audio Library                        | FXO-2                   |                                      |                 | Analog                          |                         |     |
| Advanced Featur<br>Preferences       | 0 Selected / 4 Total    |                                      |                 |                                 |                         |     |

please navigate to *Telphony>OutboundControl>*page, click on the "Dial Rules" tab.

| Dial Rule Name         | Call-Panosonic  |  |  |  |  |
|------------------------|-----------------|--|--|--|--|
| Dial Pattern           |                 |  |  |  |  |
| Time Rules 😮           | None v          |  |  |  |  |
| Prepend 😯              |                 |  |  |  |  |
| Dial Prefix 💡          |                 |  |  |  |  |
| Dial Pattern 😮         | Зхх             |  |  |  |  |
| PIN Sets 😮             | None            |  |  |  |  |
| Outbound CID 💡         | Outbound CID 1  |  |  |  |  |
| Call Time limit(Sec) 💡 | 60-3600         |  |  |  |  |
| Via Trunk/Trunks       |                 |  |  |  |  |
| Call Method 🕄          | Linear 🔹        |  |  |  |  |
| Available Trunks       | Selected Trunks |  |  |  |  |
|                        | FXO-1           |  |  |  |  |
|                        | FXO-2           |  |  |  |  |
|                        | FXO-11          |  |  |  |  |
|                        | FXO-12          |  |  |  |  |

Here you need to define a dial rule for call extensions 3xx, please click on the "New Dial Rule" button, and create a dial rule like below diagram:

All you have to do is specifying a name for this dial rule, select the FXO trunk which connects to the Panasonic, and define a pattern. In this example, the Panasonic extensions are 3xx, in the Custom Pattern field you need to write exactly "3XX" without quote. If the Panasonic extensions are 1xx, the pattern should be "1XX", if 2xxx, the pattern should be "2XXX".

Save this new dial rule and click on "Dial Permission" tab, and click on "Edit" button of the dial plan which is being using by U60 extensions.

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|------------------------------------|------------------------------------------------|-------------------------------------------|-------------------|-------------------------------------------------|---------------------------------|
| ZYCOD                              | User Name: admin                               | Current Time: 2019-07-03 02:05:21         |                   |                                                 | Apply Changes                   |
| Q Search                           | Trunks                                         | Dial Rules                                | Dial Permission   | Outbound Fax                                    | PIN Sets                        |
| Status * Dashboard Switchboard     | Add<br>Dial Permission Name                    | Dial Rules Included                       |                   |                                                 | Options                         |
| C Telephony Y                      | DialPlan1                                      | Dial Rules                                |                   | Selected Bules                                  |                                 |
| Inbound Control Outbound Control   |                                                | Promote Notes                             | ≓ =               | Call-Panosonic                                  |                                 |
| Audio Library<br>Advanced Features |                                                |                                           |                   |                                                 |                                 |
| Preferences                        |                                                | Internal Permissions                      |                   |                                                 |                                 |
| Feature Codes                      |                                                | Extension On                              | Paging & Intercom | On                                              |                                 |

In the "Include External Calling Rules" field please select the "Call-Panasonic" dial rule and click on save.

Finally click on "Activate Changes" button to make these configurations effective.

### Configurations of Panasonic extensions calling U60 extensions and calling outbound

The above settings are for CooVox-U60 extensions to make phone calls to the Panasonic extensions. For the Panasonic extensions to make phone calls to U60 extensions please follow the below instructions.

usually U60 system has another fxo for telphony lines (pstn line)directly, so you just create one more dialrule for that outgoing lines.

| Dial Rule Name         | pstn           |
|------------------------|----------------|
| Dial Pattern           |                |
| Time Rules 😧           | None v         |
| Prepend 😯              |                |
| Dial Prefix 😯          |                |
| Dial Pattern 🕄         | x.             |
| PIN Sets 🕢             | None           |
| Outbound CID 😮         | Outbound CID 1 |
| Call Time limit(Sec) 😯 | 60-3600        |
| Via Trunk/Trunks       |                |
| Call Method 😢          | Linear 🔹       |

On the *Outbound Routes* page, beneath "DialPermission" tab, please click on "Add" button to create a dial plan for the Panasonic extensions to make outbound calls through U60.

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|----------------------------------------------------------|----------------------------------------------------|-------------------------------------------------|
| ZYCOD Zycoo Co., Ltd.                                    |                                                    | E-mail. zycoo@zycoo.com                         |
| Add                                                      |                                                    | ×                                               |
| Dial Permission Name Pano                                | sonic                                              |                                                 |
| Dial Rules                                               |                                                    |                                                 |
| Avai                                                     | able Rules                                         | Selected Rules                                  |
| Call-                                                    | Panosonic                                          | pstn                                            |
|                                                          | 7                                                  |                                                 |
|                                                          |                                                    |                                                 |
| Internal Permissions                                     |                                                    |                                                 |
| Futancian On                                             |                                                    |                                                 |

In the "Include External Calling Rules" field, select the dial rules you want the Panasonic extensions to use only, the "Call-Panasonic" rule is not needed to be selected, as it's for the U60 extensions only. Click on "Save" and please navigate to *Telephony->Extensions*>*Analog extension*page,edit the extension then select correct dialpermission

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|--------------------------------|---------------------------------------------|--------------------|--------------------------|--------------------|-----------------------|------------------------------|------------------------------|-----|
| ZYCOD                          | User Name: admin                            | Current Time: 2019 | +07-03 02:15:03          |                    |                       |                              | Apply Changes                | 8 🗣 |
| Q Search                       | Departments                                 |                    | IP Extensions            | Analog Extensions  | Phone Provisio        | oning                        | Expansion Box                |     |
| Bartes     Dartesin     Status | Buik Edit                                   | Extension          | Alias                    | Department Name    | Call Recordings       | Diał Permission              | Options                      |     |
| 👟 Telephony 😪                  | <b>a</b> 3                                  | 003                | 003                      | test               | Disabled              | DialPlan1                    |                              |     |
| Extensions                     | 4                                           | 004                | Edit 003                 | ×                  | Disabled              | DialPlan1                    |                              |     |
| Tobound Control                | 7                                           | 007                |                          |                    | Disabled              | DialPlan1                    |                              |     |
| Audio Ubrary                   | 8                                           | 800                | Extension                | 003                | Disabled              | DialPlan1                    |                              |     |
| Advanced Feetures              | 🗖 11                                        | 011                | Alias                    | 003                | Disabled              | DialPlan1                    |                              |     |
| Preferences<br>Feature Codes   | 12                                          | 012                | Call Recording 😧         | Disabled           | Disabled              | DialPlan1                    |                              |     |
| lat Reports K                  | 13                                          | 013                | Language 🕤               | English 👻          | Disabled              | DialPlan1                    |                              |     |
| The Second Second              | 14                                          | 014                | Dial Permission 😧        | Panosonic          | Disabled              | DialPlan1                    |                              |     |
| t≞ system v                    | 15                                          | 015                | Input Volume 😡           | -10 0 10           | Disabled              | DialPlan1                    |                              |     |
| Maintenance      Addens        | 16                                          | 016                | Output Volume 😡          | -10 0 10           | Disabled              | DialPlan1                    |                              |     |
|                                | 0 Selected / 18 Total                       |                    |                          |                    |                       | (.H)                         | < <u>1</u> 2 >               | H   |

In "DialPlan" field you should select "Panasonic" dial plan If you have connected 2 FXS ports of U60 to Panasonic FXO, you have to create 2 extensions like this, if 3 you create 3, and so on. Now the configurations for making phone calls have been done.

# **Making Phone Calls**

### U60 extensions calling Panasonic extensions

Pickup an U60 extension and dial 301 directly you can call the Panasonic extension 301, and 302 to call extension 302, and so on.

### Panasonic extensions calling U60 extensions

Pickup a Panasonic extension, press the CO line button or dial the automatic line access number to seize the CO line, when you hear the dial tone, you dial an U60 extension number directly.

### Panasonic extension calling external number through U60 VoIP/FXO trunk

Pickup a Panasonic extension, press the CO line button or dial the automatic line access number to seize the CO line, when you hear the dial tone, you dial an external number with the prefix of calling through VoIP trunk or FXO trunk.

For example, on the U60, prefix 0 is used to make phone calls through VoIP trunk, and prefix 9 is used to call the FXO trunk. And the number you want to dial is 12345678, you dial 012345678 it will call this number through the VoIP trunk, you dial 912345678, it will call this number through the FXO trunk. Just like you use extensions on U60 to make calls, only thing is that you have to seize the CO line first and the Panasonic extension before you actually make the call.