

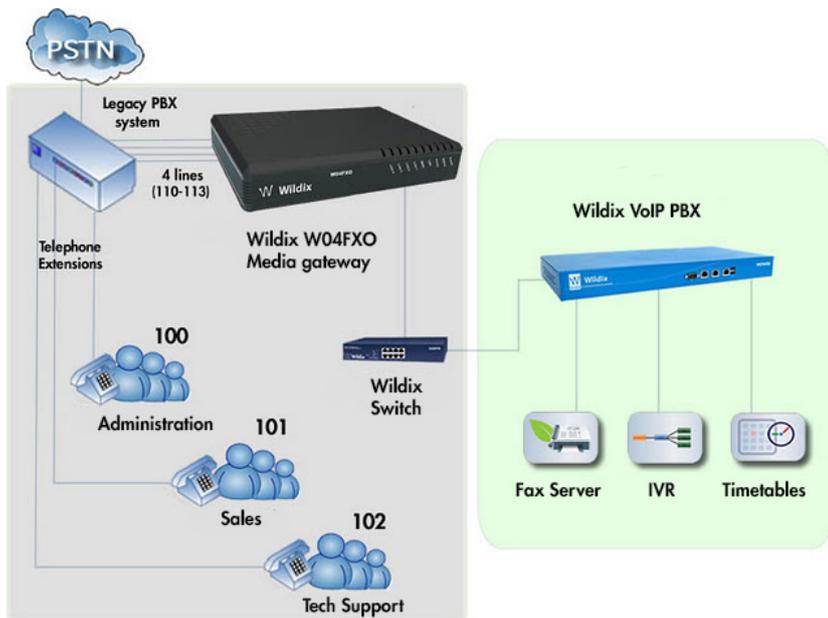
Wildix W04FXO Whitepaper

Thanks to Wildix W04FXO gateway, you can enhance your legacy PBX with Unified Communications capabilities.

You can connect up to 4 lines to the W04FXO, each of them can be set up to manage incoming and outgoing calls and Flash Hook feature.

This White Paper explains how to enable the following UC features on your legacy PBX with W04FXO:

- IVR service (Interactive Voice Response)
- Fax Server (fax to mail)
- Timetables features (courtesy messages to callers at night/during vacation period)
- Enhance legacy PBX users with advanced features (customer reception via response groups, mobility and voice-mail)
- Integrate a legacy PBX into the WMS network



IVR

For instance, a company has 3 call groups: Administration (user 100), Sales (101) and Technical Support (102).

1. An incoming call to W04FXO is sent to the IVR of the Wildix PBX, enabling the customer to choose the destination.
2. W04FXO routes the call to the analog PBX and then to the extension, using the same line employed for call reception.
3. After this operation is complete, the line is free again and can manage other calls.

How can I do it?

- W04FXO is connected to 4 analog lines of the legacy PBX;
- The legacy PBX receives calls from the landline network and sends them to the group consisting of 4 analog ports connected to the W04FXO;
- The IVR function is performed;
- Based on the choice of the user, the call is routed to the Call Group (or a user) defined on the old PBX

Rule name	Description
users	Internal dialplan
main	External dialplan
Tech_Support	3
Sales	2
Administration	1

2. Create the IVR (in our example it's called "welcome") which enables the caller to choose the user and routes the call to the associated Dialplan procedure.

Edit welcome

welcome

1 Go to: Administration | 101 | Edit -

2 Go to: Sales | 102 | Edit -

3 Go to: Tech_Support | 103 | Edit -

3. Configure the FXO trunk parameters:

- enable the lines connected to the gateway
- enter the extension numbers assigned to lines provided by the analog PBX
- indicate the default tone

Edit trunk

Default Tone Italy

Country Code Italy

	Port 1	Port 2	Port 3	Port 4
Pricelist	---	---	---	---
Local Area Code				
Dialplan	main (External dialpla	main (External dialpla	main (External dialpla	main (External dialpla
Hotline Number	110	111	112	113
Detect caller ID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Caller ID type	ETSI FSK	ETSI FSK	ETSI FSK	ETSI FSK
Flash time	300	300	300	300
Dialing answer delay time	1	1	1	1
FAX type	T38	T38	T38	T38
Gain RX FXO	32	32	32	32
Gain TX FXO	32	32	32	32
Hang up cause				
Polarity reversal detection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Silence detection	<input type="checkbox"/> 60 seconds			

Save Cancel

4. Modify the Dialplan "main" procedure (procedure used by W04FXO)

Add

Procedure name: main Description:

called number 11X

1 IVR welcome

Included procedures (analyzed after the content of this procedure) +

5. Set up the created procedures to route the call to the analog PBX, in such a way only one line is used for the call: the call should be answered, put on hold (Generate Flash Hook), sent to the desired analog user (Generate DTMF) and hang up.

The image displays three screenshots of the 'Edit' procedure configuration interface. Each screenshot shows a procedure with a specific name and description, a called number, and a sequence of four steps:

- Procedure 1: Administration** (Description: 1, Called number: 100)
 - 1 Answer the call
 - 2 Generate Flash Hook
 - 3 Generate DTMF (1w0w0)
 - 4 Hangup
- Procedure 2: Sales** (Description: 2, Called number: 101)
 - 1 Answer the call
 - 2 Generate Flash Hook
 - 3 Generate DTMF (1w0w1)
 - 4 Hangup
- Procedure 3: Tech_Support** (Description: 3, Called number: 103)
 - 1 Answer the call
 - 2 Generate Flash Hook
 - 3 Generate DTMF (1w0w3)
 - 4 Hangup

Note: to introduce a delay between sending one DTMF and another one, use w (wait) which represents a pause of 0,5 seconds.

FAX Server

Enable fax to mail services for legacy PBX users.

- Connect the W04FXO to the legacy PBX in order to manage the flow of faxes using IP technology.
- Thanks to "Detect fax" Dialplan application, the PBX can recognized if an incoming call is a fax or a voice call.
- If it's fax, it is sent to the destination user email address; if it's a voice call, it's routed to the destination number and the line is free again to manage other calls.

How can I do it?

1. Configure the main procedure in such a way that the calls are handled based on the line from which they come.
 - If the call arrives from the first analog line (110), and it's not a fax, the gateway routes the call to the analog user 100
 - If the call comes from the second line (111) the company fax server answers

The image shows the 'Edit' procedure configuration interface for a main procedure. The procedure name is 'main' and the description is 'External dialplan'. The called number is 110. The steps are:

- 1 Detect fax (fax detect time 4 seconds, Procedure -, Number default Set)
- 2 Generate Flash Hook
- 3 Generate DTMF (1w0w0)
- 4 Hangup

Below the main procedure, a second called number 111 is shown with the following step:

- 1 Fax to e-mail (email@example.com, Set, format pdf, ID Fax: WILDIXFAX, Set)

Timetable

Thanks to W04FXO the flow of the calls can be managed by the Wildix PBX Timetable, based on the parameters chosen by the company.

For example, it's possible to route the incoming calls to the user only during the working hours (specified in the timetable), and in other times (for instance, at night), play a courtesy message.

How can I do it?

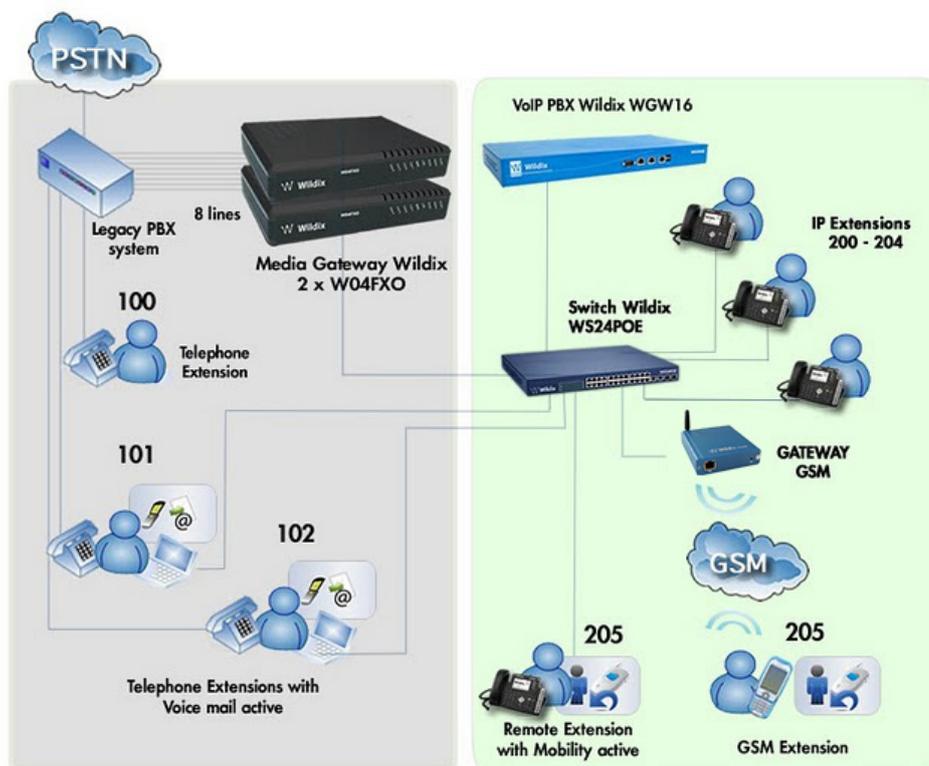
1. Create a new timetable Day that is active from 8.00 to 19.00. If the call comes within this timetable, it's forwarded to an analog user 100, otherwise the courtesy message is played

Edit							
Procedure name:	main		Description:	External dialplan			
called number	11X						
1	Verify timetable	if matched	Working_hours	Procedure:	main (External di	Number 100	Set
2	Play sound		00000/message	...			
3	Generate DTMF		1w0w0				
4	Hangup						

Enhance some users with advanced services

This example illustrates how to increase the operational capabilities of some users of the analog system:

- customers' reception via response groups
- mobility service and Voicemail



Customer reception

- incoming calls to the W04FXO gateway are routed to the Call Group with the music on hold enabled, the call is picked up by the first available operator.
- if no operator picks up the call within the timeout, the gateway uses the same channel to transfer the call again to the analog PBX.
- when this operation is terminated, the line is free again and can manage other calls.

How can I do it?

1. Create the Call Group with 3 call agents to receive the calls

The 'Add' dialog box shows the configuration for a new Call Center. The name is 'CallCenter'. A search bar contains the number '6'. Below the search bar is a list of available agents: 111 - Elena, 123 - Otto, 124 - Rudi, 223 - Maria Sokolova, 224 - Anna, and 324 - Elena Kornilova. To the right, a 'Selected' list contains three agents: 111 - Elena, 123 - Otto, and 224 - Anna. Navigation buttons '>>' and '<<' are located between the two lists.

The callers on hold are informed about their position in the queue every 30 seconds. The system verifies every 15 seconds the availability of call agents.

The 'Edit CallCenter' dialog box displays the following settings: Timeout is 15; Announce frequency is 30; Announce hold time is yes; Seconds before recalling all the members again is 1; Wrap up time is 2; Max length is 5; Dialplan is empty; Strategy is 'Call All: call all available users until one answers'. 'Save' and 'Cancel' buttons are at the bottom right.

2. Configure the Main procedure to route the calls to the Call Group and then (after the timeout of 180 seconds, for example), to route to the analog user 100

The 'Edit' dialog box shows a procedure named 'main' with the description 'External dialplan'. The called number is '11X'. The procedure steps are: 1. Call group (CallCenter) with a timeout of 180 seconds; 2. Generate Flash Hook; 3. Generate DTMF (1w0w0); 4. Hangup. The 'Message for operator' field is empty and the 'Music on hold class' is set to 'default'. Navigation buttons are on the right of each step.

Mobility

Thanks to W04FXO, for instance the sales department, are often on the move, and they can receive a call to an IP phone while in the office, and a concurrent call to their mobile device, wherever they are at the moment. In case the user fails to respond within a specified time, the call is transferred to a voicemail, to minimize the possibility of losing the calls.

How can I do it?

1. Add a mobile phone number to the user's profile
2. Enable the Mobile Extension in user preferences
3. As an option you can also enable the feature Confirm Mobility to inform the user on who is contacting him

The call is forwarded to the voicemail of the user if he doesn't respond within a Timeout (for instance, 60 seconds). Missed calls are notified via an email or an SMS.

Features

Classes internal ▾

Do not disturb

Busy call forward

Unavailable call forward

Force call forward

Call waiting

Call timeout

Mobility extension management
 Activate mobility extension for Mobile [+3938067123456] 60

Mobility confirmation

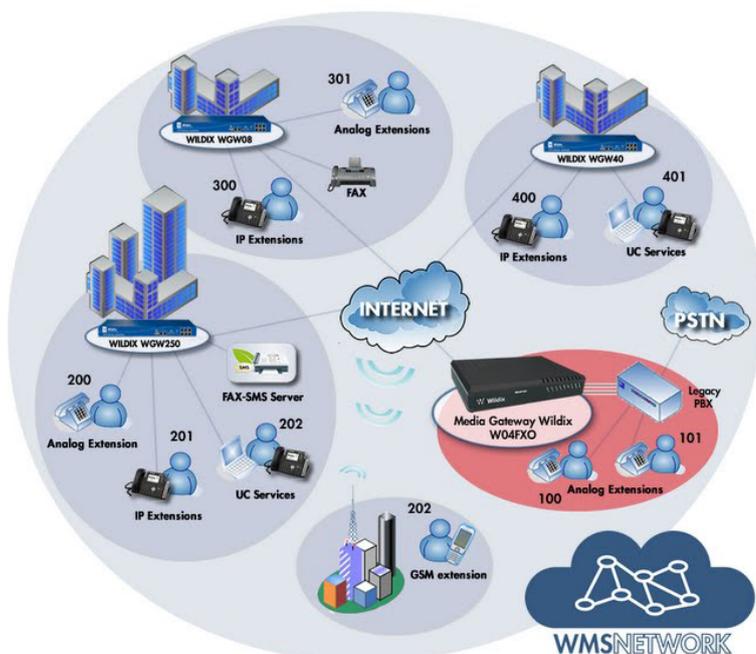
Notify missed calls via email

via sms

Custom Ring Ring1 ...

Integrate an analog PBX into the WMS Network

With the help of W04FXO you can connect an office with a legacy PBX to your Wildix WMS Network.



How can I do it?

1. Set up the procedure associated to the W04FXO Gateway (in our example, main) to play a message to the operator calling via the legacy PBX, inviting him to insert the number of the desired extension of the WMS Network.
2. Set up XXX as a called number (any number of 3 digits) and add the application "Dial the phone": it routes the call to the extension number that the caller has entered previously.

Edit x

Procedure name: Description:

called number

1

called number

1

Included procedures (analyzed after the content of this procedure)

Note: [2-4]XX indicates that the users of the WMS Network that you can dial, have the numeration type 2XX – 3XX – 4XX (as on the WMS Network scheme).

3. Create a trunk group containing 4 FXO lines and set up every line to support only one call at a time.

Priority	Trunk	Remove	Prepend	Max concurrent calls allow
1	FXO MEDIA GATEWAY 0 PORT 1			1
2	FXO MEDIA GATEWAY 0 PORT 2			1
3	FXO MEDIA GATEWAY 0 PORT 3			1
4	FXO MEDIA GATEWAY 0 PORT 4			1

4. Modify the Users procedure associated to the users of the WMS Network, by setting as a called number, 1XX to be able to contact the analog users, through the created hunt group

Edit

Procedure name: users Description: Internal dialplan

called number +XXXX.

called number 0. : 0 followed by any digit (external)

called number 1XX

1 Trunk group fxo Number (called number) Set Class Auto Strategy Crescent

Included procedures (analyzed after the content of this procedure)