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Hotel Integration (with xOpen) - Admin Guide - English

 In this Guide you will find information about integration with Oracle / Fidelio PMS and other hotel management systems that support FIAS protocol.

Wildix communication system integrates with FIAS protocol (Fidelio Interface Application Specification). Thanks to this integration, the PBX can interact with the hotel management software and exchange the information about such events as check-ins, check-outs, wake up calls, room status, charging of services.

In addition to this, Wildix PBX can interact with XOpen software which enables the integration with Bticino / Legrand hardware such as key card programmers and “do not disturb” / “make up room” indicators.

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Introduction and requirements

License requirements:

- One Premium license to activate the service system-wide

- A Basic license (or higher) assigned to each user


Among the hotel management systems that integrate with Wildix PBX:

- Micros Opera (FIAS is supported by the following PMS: Fidelio Suite 6, Fidelio Suite 7, Fidelio Suite 8 & OPERA PMS (not supported by Fidelio Xpress))
- Protel - Serenissima
- ASA Hotel
- Direct Holiday
- Hotsoft8 of HoistGroup
- Ericsoft

and other hotel management systems that support the FIAS protocol.

Supported Oracle and FIAS versions:

- Oracle Hospitality OPERA Version: 5.0.05.00
- Oracle Hospitality Interface IFC8 Version: 8.10.2.20
- FIAS Version: 2.20.12

 Note: the following Guide refers to the integration with Oracle / Fidelio PMS which fully integrates all the services described in this Guide. Other PMSs which support FIAS might require some additional steps for installation and configuration or might not support some features.

Integration consists of two parts.

Part 1: FIAS module

FIAS module or FIAS connector is used to connect to FIAS PMS (Property Management System), also known as Hotel Operating System (Hotel OS). Thanks to this module, it is possible to sync the following events between the Wildix PBX and the FIAS PMS:

- Room Inspecting; MuR – make up the room; DND – do not disturb
- Minibar
- Wake-up service
- Call billing
- Check-in / Check-out / call barring

Part 2 (optional): Bticino / Legrand hardware with xOpen software

Additionally, it is possible to enable xOpen integration for interaction with Bticino / Legrand hardware used in the hotel, such as guest keycard room access and power switches, and “DND / MUR” indicators. In this case it will be possible to sync the following events received from Bticino / Legrand terminals with Wildix PBX:

- DND
- MuR and Room inspecting
- Guest keycard service integration

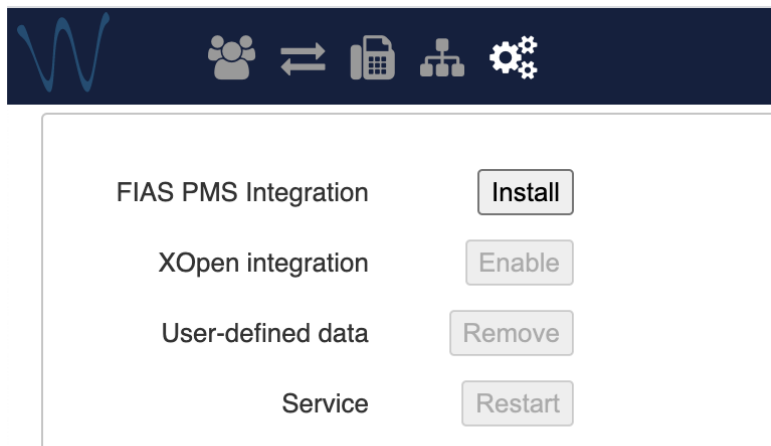


Installation

FIAS module

Step 1. Enable Hotel Integration:

- Go to *WMS Settings -> PBX -> Hotel Integration*
- *FIAS PMS Integration -> click **Install***



- After installation, there appear three new tabs: *Rooms / FIAS-PMS / PBX Services*:

Step 2. Auto generate rooms

Autogeneration is based on WMS -> *Users* configuration.

- Go to *Rooms* tab

| FIAS RN | Extension | Description | Building | Floor | Category | ID |
|---------|-----------|-------------|----------|-------|-------------|--------------------------------------|
| | | Room | 1 | 1 | Single room | 00000000-0000-0000-0000-000000000000 |
| 448 | 448 | Room 448 | 1 | 1 | Single room | 00000000-0000-0000-0000-000000000448 |
| 449 | 449 | Room 449 | 1 | 1 | Single room | 00000000-0000-0000-0000-000000000449 |
| 500 | 500 | Room 500 | 1 | 1 | Single room | 00000000-0000-0000-0000-000000000500 |
| 501 | 501 | Room 501 | 1 | 1 | Single room | 00000000-0000-0000-0000-000000000501 |
| 502 | 502 | Room 502 | 1 | 1 | Single room | 00000000-0000-0000-0000-000000000502 |

- Click **Sync rooms** to auto-recreate rooms configuration based on users data (like extension)

! Note: users created on WMS -> *Users* page will be duplicated on this page; when guests check in / check out / change info, their names will be updated on WMS -> *Users* page; to differentiate normal users from rooms, PBX administrator can create users with type “room” in WMS -> *Users*.

Explanation of fields:

- *FIAS RN* – room number identifier used in commands from FIAS interface
 - *Extension* – internal extension number inside the PBX, shown on the phone
 - *Description / Building / Floor / Category* – room description, location and category for hotel staff
 - *ID* – identifier used by XOpen interface (described in the [next chapter](#))
- Click **Apply** to save and confirm changes

Step 3. Set up connection to Fidelio software (FIAS interface)

On this page you enable the integration with Fidelios software for all the commands, except for key / badge commands.

- Go to *FIAS-PMS* tab and enable "*Telephony interface*" option
- Enter the configuration parameters where required:

| Rooms | FIAS-PMS | PBX Services | General |
|-------------------------------------|---|--|---------|
| | PMS Status ● | | |
| | Telephony interface <input checked="" type="checkbox"/> | | |
| | Host | <input type="text" value="127.0.0.1"/> | |
| | Port | <input type="text" value="2010"/> | |
| | Delimiter | <input type="text" value=" "/> | |
| | Billing Type | <input type="text" value="Duration Only"/> | |
| | Minibar Type | <input type="text" value="Article only"/> | |
| <input type="button" value="Save"/> | | | |

Configuration parameters:

- *PMS Status* – status of connection to Fidelio software
- *Host* – address for connection to software
- *Port* – port for connection to software
- *Delimiter* – delimiter used inside commands from FIAS interface
- *Billing Type* – billing type used: Duration Only / Duration and cost (see the chapter [Call Billing](#))
- *Minibar Type* – minibar charging by Cost only / Article only (see the chapter [Minibar Charges](#))

Step 4. Wake up service settings (optional)

Go to tab *PBX Services* and enter the following parameters:

| Rooms | FIAS-PMS | PBX Services | General |
|--|-----------------|--|---------|
| | Wake-up service | | |
| | Timeout | <input type="text" value="300"/> | |
| | Number of tries | <input type="text" value="3"/> | |
| | Sound | <input type="text" value="00000/RingTones/piano1"/> <input type="button" value="..."/> | |
| <input type="button" value="Save"/> <input type="button" value="Clean"/> | | | |

Parameters:

- *Timeout* – period of time during which the wake up call must be answered (in seconds)
- *Number of tries* – number of repetitive calls in case wake up call was not answered
- *Sound* – audio file to be played to the guest who answered a wake up call

(See the chapter [Wake Up Call](#) for more information).

Step 5. Restart WHotel daemon

- Go to *General* tab
- "Service" option -> click **Restart**

XOpen SW for integration with Bticino / Legrand HW

For processing of key / badge programming and sync of events from Bticino/Legrand terminals, such as DND / MuR statuses, it is necessary to enable XOpen integration.

Step 1. Enable xOpen integration

Go to *General* tab -> *xOpen integration*, click **Enable**.

In *Hotel Integration* menu there appear additional tabs which serve to enable connection to Legrand software by XOpen protocol:

- *Common Areas*
- *Workstations*
- *Xopen*

Step 2. Enable connection to the software

Go to *Xopen* tab and enter the related data:



| Rooms | Common Areas | Workstations | FIAS-PMS | Xopen | PBX Services | General |
|---|-------------------------------------|--------------|----------|--------------|--------------|---------|
| Status ● | | | | | | |
| Host | 85.238.100.162 | | | | | |
| Port | 20005 | | | | | |
| FC | 9994 | | | | | |
| UC | 2 | | | | | |
| Secret | ●●●●●● | | | | | |
| Badges control | <input checked="" type="checkbox"/> | | | | | |

Configuration parameters:

- *Status* – the status of the connection to Hotel Supervision Server
- *Host* – address for connection to software
- *Port* – a port for connection to software
- *FC* – function code as parameter for Hotel Supervision Client
- *UC* – univocal code as parameter for Hotel Supervision Client

- *Secret* – the secret for authorization with Hotel Supervision Server
- *Badges control* – enable/disable badges processing

Step 3. Upload XOpen project file

- Go to *Rooms* tab
- Click **Choose file** to load a config file from Hotel Supervision software (file with extension *.hsprj) with actual information about device identifier

| FIAS RN | Extension ^ | Description | Building | Floor | Category | ID |
|---------|-------------|-------------|----------|-------|-----------|--------------------------------------|
| 101 | 101 | Room 1 | 1 | 1 | Twin room | 00000000-0000-4001-B000-000000100001 |
| 102 | 102 | Room 2 | 1 | 1 | Twin room | 00000000-0000-4001-B000-000000100002 |

Showing 1 to 2 of 2 entries Previous 1 Next 20 ▾

Sync rooms Choose File No file chosen Apply Clear

- Common areas data (*Common Areas* tab) can be loaded from described above config from Hotel Supervision software:

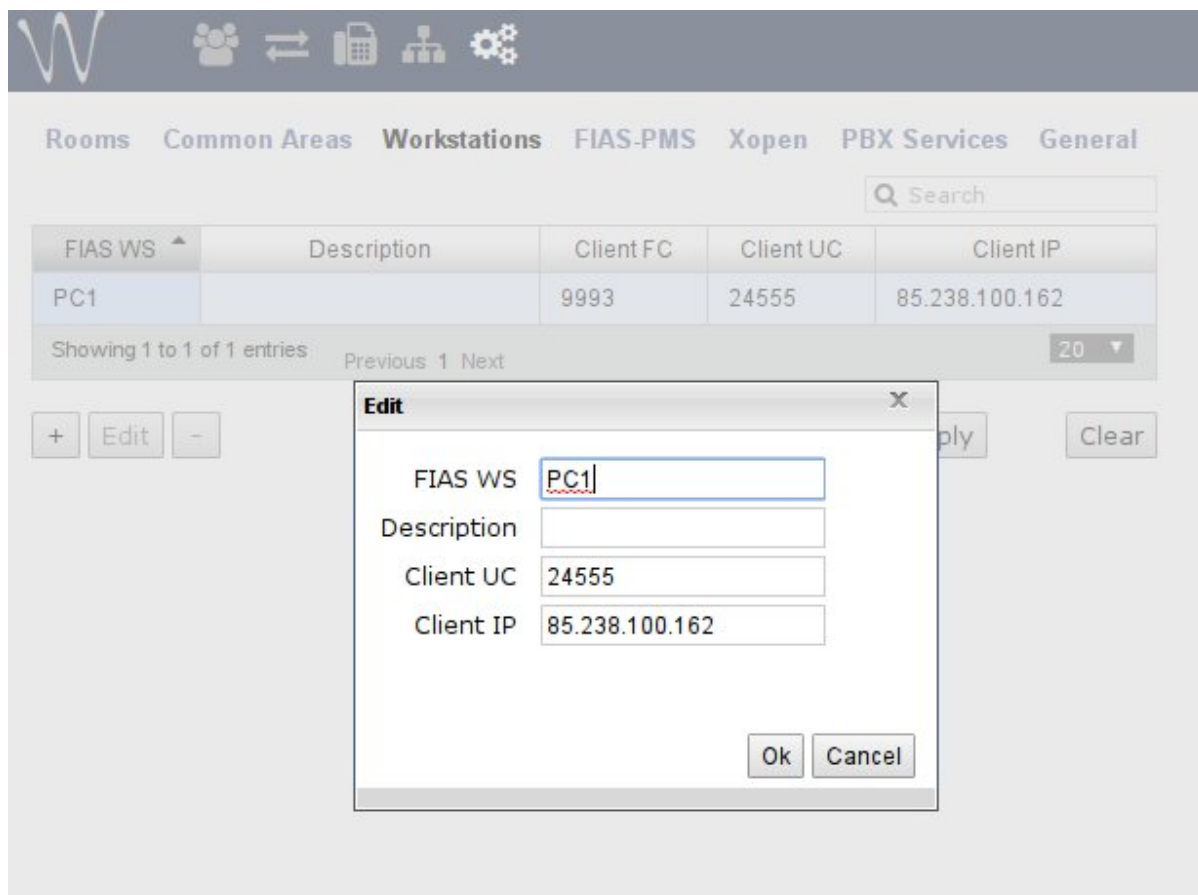
| FIAS RN | Extension ^ | Description | Building | Floor | ID |
|---------|-------------|----------------|----------|-------|--------------------------------------|
| 1 | 25 | Common area 25 | 1 | 1 | 00000000-0000-4001-B000-000000100025 |
| 2 | 26 | Common area 26 | 1 | 1 | 00000000-0000-4001-B000-000000100026 |
| 3 | 27 | Common area 27 | 1 | 1 | 00000000-0000-4001-B000-000000100027 |

Showing 1 to 3 of 3 entries Previous 1 Next 20 ▾

Apply Clear

Step 3. Set up the mapping between PMS key generators and XOpen key generators

- Go to *Workstations* tab
- Add workstation instance (like Hotel Supervision GUI) with following data:
 - *FIAS WS* – an identifier on the FIAS side
 - *Client UC* – an identifier on the XOpen side (retrieved from HS Client)
 - *Client IP* – an IP address of the workstation PC:



The screenshot shows the Wildix administration interface. At the top, there are navigation tabs: Rooms, Common Areas, Workstations, FIAS-PMS, Xopen, PBX Services, and General. The FIAS-PMS tab is selected. Below the tabs is a search bar and a table with the following data:

| FIAS WS | Description | Client FC | Client UC | Client IP |
|---------|-------------|-----------|-----------|----------------|
| PC1 | | 9993 | 24555 | 85.238.100.162 |

Below the table, it says "Showing 1 to 1 of 1 entries" and "Previous 1 Next". There are also buttons for "+", "Edit", and "-". An "Edit" dialog box is open, showing the following fields:

- FIAS WS: PC1
- Description: (empty)
- Client UC: 24555
- Client IP: 85.238.100.162

At the bottom of the dialog box are "Ok" and "Cancel" buttons.

Step 4. Extend configuration for Fidelio software by data for key service client (FIAS PMS Automation interface)

Go to *FIAS-PMS* tab.

There appears an additional section *Automation interface*.

Now it is possible to set up two FIAS-PMS interfaces:

- *Telephony interface* (PBX)
- *Automation interface* (DLS – door-lock system)



Rooms Common Areas Workstations FIAS-PMS Xopen PBX Services General

Telephony interface

| | |
|--------------|---|
| Status | ● |
| Host | <input type="text" value="85.238.100.162"/> |
| Port | <input type="text" value="5110"/> |
| Delimiter | <input type="text" value=" "/> |
| Billing Type | <input type="text" value="Duration Only"/> |
| Minibar Type | <input type="text" value="Cost only"/> |

Automation interface

| | |
|-----------|---|
| Host | <input type="text" value="85.238.100.162"/> |
| Port | <input type="text" value="5111"/> |
| Delimiter | <input type="text" value=" "/> |

Step 5. Restart WHotel daemon

- Go to *General* tab
- "Service" option -> click **Restart**

Hotel ACLs (CoS) and call barring for vacant room

There are two types of ACL in the Wildix Hotel Integration:

- Standard PBX ACL settings
- ACL (CoS – Class of Service) from FIAS (PMS) interface (they have the effect only for outgoing external calls)

They are processed in the following way:

- Room state "vacant": standard PBX ACLs are applied
- Room state "occupied": calls are processed based on ALCs set up on PMS side. Emergency call class is managed by Wildix PBX ACL

To realize the scenario of call barring for vacant room, it is necessary to restrict possibility to call externally for the ACL group to which rooms belong: when the room is in "occupied" state, CoS from PMS are applied, when the room is in "vacant" state, the possibility to call externally is disabled.

It is recommended to create a separate ACL group "WHotel" in WMS -> Users -> Groups, with default permissions set up as such:

Edit WHotel
✕

Group WHotel Inherits from --- ID 3

| Ability | Access | Group | Action |
|------------|--------------------------|-----------|--------|
| cannot | Modify public phonebooks | | - |
| cannot | Create conferences | | - |
| cannot | Intercom | Everybody | - |
| cannot | Intrusion | Everybody | - |
| cannot use | Shared Recording | | - |
| cannot use | Personal Recording | | - |
| cannot set | Status (DND/Away) | | - |

+ Ok Cancel

You can add additional restrictions to manage call barring for room in status “vacant”, for example, add such rules:

- “Cannot call” -> “All”
- “Can call” -> “Internal”

In this case it will be possible to make only internal calls from room with status “vacant”.

After you have created a dedicated ACL group for managing rooms permissions, go to *Users* page and assign this ACL group to all the rooms:

👤 ↔ 📞 🏢 ⚙️


Users Groups Phonebooks

| | Full Name | Login | Extension | Fax | Office | Email | Mobile | Dialplan | Fax dialp... | Group | Department |
|-----|-----------|-------|-----------|-----|--------|-------|--------|----------|--------------|-----------|------------|
| 👤 ● | admin | | | | | | | users | users | 🇬🇧 Admin | |
| 👤 ● | room_101 | | 101 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_102 | | 102 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_103 | | 103 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_104 | | 104 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_105 | | 105 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_106 | | 106 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_107 | | 107 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_108 | | 108 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_109 | | 109 | | | | | users | users | 🇬🇧 WHotel | |
| 👤 ● | room_110 | | 110 | | | | | users | users | 🇬🇧 WHotel | |

+ Edit -
Set passwords
Edit preferences
Send Welcome Message
Export CSV
Import

It is possible to skip CoS (Hotel ACLs) via authentication, which can be useful to allow some authorized hotel staff to make calls from the rooms which are vacant. Read the [next chapter](#) for more info.

To disable ACL checking on the PMS side and always use standard PBX ACL: set up Global Dialplan variable (*WMS Dialplan -> General Settings*): CHECKFIASACL = no.

 Note: some PMSs do not support CoS (for example, Hoist group – HOTSOFTE PMS), so for such PMS it is impossible to manage call barring for vacant room as described above.

Depending on the CoS, the PBX can correctly process external calls.

In PMS room can be assigned to one of the following CoS:

- Barred/hotel internal only
- Local
- National
- No restrictions

While in PBX there are many call classes; in the table below it is explained how they are related:

| Trunk Group Class | Class of Service |
|-------------------|----------------------------|
| Internal | block external calls |
| Local | Local |
| National | National |
| Mobile | National |
| Emergency | Barred/hotel internal only |
| Free | National |
| Premium1 | National |
| Premium2 | National |
| Premium3 | National |
| Premium4 | National |
| North America | No restrictions |
| Africa | No restrictions |
| Europe1 | No restrictions |
| Europe2 | No restrictions |
| South America | No restrictions |
| Oceania | No restrictions |
| Russia | No restrictions |

| | |
|-------|-----------------|
| Asia1 | No restrictions |
| Asia2 | No restrictions |

In a normal scenario, rooms follow the procedure “users” or some other dedicated Dialplan procedure (indicated in *WMS -> Users, Dialplan*). Usually in this Dialplan procedure “*Trunk group*” or “*Dial the trunk*” application is used for processing external calls. Note than in both applications, call class is detected by the system automatically, however, it is possible to set up the call class manually.

Take into consideration, that you can set up caller ID name to some static value, otherwise real guest’s name is displayed while making a call through trunk. Example:

00. [v] [-]

1 Set [v] Caller name [v] MY HOTEL Set

2 Trunk group [v] test [v] Number (called number) Set Class Auto [v] Strategy Crescent [v]

[Add application](#)

Skip call barring via authentication

In this chapter it is explained how to skip hotel ACL (CoS) in case call barring is enabled for the room which is in status “vacant”. This scenario can be useful to allow authorized hotel staff to place calls from vacant rooms after successful authentication.

As explained in the previous chapter, it is possible to skip hotel ACL check by adding the Global Dialplan Variable: CHECKFIASACL = no.

In our example we will see how to skip hotel ACL just for one call:

55 [v] [-]

1 Set [v] CHECKFIASACL [v] no [v]

2 Authenticate user [v] 2(caller number-3) Set Options Set

3 Jump to [v] Procedure users (Internal dial) [v] Number default Set

[Add application](#)

In this example an authorized staff, suppose, a housekeeper, can call any destination by:

- Calling an extension 55 <housekeeper account> <destination number>
- Enter the password for housekeeper account

Call will be processed without checking hotel ACL for current room and without billing.

! Limitation: account length must be the same for all the staff who is using this feature (for example, three digits).

Sync of events between FIAS PMS and PBX

PBX can communicate with PMS to sync the following events:

- Guest check in / check out / change data
- DND
- MuR
- Call inspection
- Call billing
- Minibar charges
- Wake up call
- Data synchronization

These services require “check-in” events to work:

- Call barring (block outgoing calls)
- Minibar (allow to bill minibar items or other expenses)
- Alarm Clock (room wake up calls set from PMS)

These services are always active if supported by PMS:

- Make Up Room
- Call inspection
- Call billing

Below we will see in detail how each event is processed.

Guest check in / check out / change data

Events must be sent from FIAS-PMS.

When on FIAS-PMS side room status or guest data changes, the following changes take place on PBX side:

- Room is marked as "occupied" / "vacant"
- User name is updated in *WMS* -> *Users*
- User language is updated in *WMS* -> *Users*
- When the status changes to “occupied”, any command can be executed such as setting DND, wake up call, minibar charging
- When the status changes to “vacant”, all wake up calls are removed for this room and guest data is removed from the internal database

DND

Event must be sent from FIAS-PMS.

Oracle / Fidelio PMS does not support setting DND on PBX side, this is why this possibility should be disabled via ACL groups! (ACL rule “cannot set” -> “status DND / Away” can be changed in case other PMS which supports setting DND on PBX side is used).

When on FIAS-PMS side room status changes to DND, on PBX side:

- User status is updated
- Status on the phone is updated

MuR / Call inspection

Events must be sent from PBX via Feature codes on the phone by hotel staff (see the chapter [Hotel Feature Codes](#)).

MuR statuses:

- Dirty / Vacant
- Dirty / Occupied
- Clean / Vacant
- Clean / Occupied

Call inspection statuses:

- Inspected / Vacant
- Inspected / Occupied

Call billing

Call billing is sent only for external outgoing calls (calls via trunks) with duration more than 0 seconds.

Call billing information can be sent with different mapping:

- Telephone charge (PTT): info about destination number and duration
- Direct charge (PTC): info about duration and total amount depending on pricelist configuration

Billing type parameter can be modified in *Hotel Integration -> General*, "Billing type": Duration only / Duration and cost.

Minibar charges

Minibar charges must be sent via feature codes on the phone by hotel staff (see the chapter [Hotel Feature Codes](#)).

Minibar charges information can be sent with different mapping:

- Minibar charge (PTM): info about minibar article and minibar items count
- Direct charge (PTC): info about total amount


Minibar type parameter can be modified in *Hotel Integration -> General*, "Minibar type": Article only / Cost only.

Wake Up Call

This service is available only for rooms with "occupied" status.

Event can be set up both on PBX and on FIAS-PMS side.

On PBX side: wake up call can be set up by guest via feature code on the phone (see the chapter [Hotel Feature Codes](#)).

 Note: it is allowed to set up only one alarm during one day.

On FIAS-PMS side: hotel personnel can set up / clear wake up calls for specific rooms.


Processing of responses on wake up calls is sent to FIAS-PMS.

The call timeout, the number of tries and the audio file to be played in case the call is answered, can be specified in *Hotel Integration -> PBX Services*.

Sync of events with XOpen integration (Bticino / Legrand equipment)

In case xOpen integration is enabled, additionally to the scenarios of events sync described in the previous chapters, new scenarios are supported in order to sync the events sent from Bticino / Legrand equipment installed in the hotel.

DND from xOpen

 Note: on Oracle/Fidelio PMS “DND” events can be sent only from PMS itself.

In case BTicino/Legrand PMS (or other PMSs which accept DND events from xOpen software) is used, DND can be sent from xOpen interface and from the phone (via phone graphical menu or via Feature Code).

To make it possible, it is necessary to make sure the ACL rule “cannot set” -> “Status DND / Away” is not present in the ACL group configuration assigned to rooms.

MuR and Call Inspection from xOpen

MuR events can be sent both from PBX via Feature codes or from Bticino/Legrand equipment via xOpen interface.

Hotel Feature Codes

Feature Codes can be looked up and changed in *WMS Dialplan -> Feature Codes*.

Hotel Feature Codes (FC) allow users (guests / hotel staff) to manage different services by placing a call from the hotel room number to a specified Feature Code and following audio instructions.


MuR and Room Inspecting FC

Make Up Room FC (771 by default) should be used by hotel staff (maids, housekeepers), to set the room status to:

- 0 – Clean with related guest state (Vacant/ Occupied)
- 1 – Dirty with related guest state (Vacant/ Occupied)

Room Inspecting FC (774 by default) should be used by hotel staff to set the room status to:

- 0 or empty – Inspected with related guest state (Vacant/ Occupied)
- 1 – Inspected with guest state Vacant

 Note: Room Inspecting FC + 1 is used as notification about guests who leave the hotel without check-out procedure.

Minibar service FC

Minibar FC (772 by default) should be used by hotel staff (maids, waiters) to send a minibar charge posting. Depending on the configuration on the *Hotel Integration* page -> *FIAS-PMS*, the service can be implemented in two different ways:

- make a request with minibar article
- make a request with the total amount of the minibar article

The caller is invited to enter the product article / the total amount and the amount of items.

Wake Up call service FC

FC Wake up call FC (773 by default) should be used by guests to set / clear alarm clock for their rooms.

During the call, the current alarm clock state is checked (activated / deactivated), the caller is invited to enter:

- 1 – to check the information about the nearest wake up call
- XXXX – enter the time for the wake up call in four digit format
- 0 – to remove the nearest wake up call

Other PMS integration matrix

As stated at the beginning of this Guide, the document describes the integration with FIAS / Oracle PMS, however other PMSs supporting FIAS protocol can be integrated with Wildix PBX.

This chapter of the Guide describes some special configurations and limitations which these PMSs might have in contrast to FIAS / Oracle PMS (only known limitations are described).

Full matrix of integration with different PMSs is provided in the table below: [Wildix Hotel FIAS PMS integration matrix](#).

Custom configuration parameters

Some custom configuration parameters can be changed in the file `/etc/wildix/whoteld_manager_custom.conf`.

Information about these parameters is available in [Custom config parameters List](#).