## **MOR configuration with PBX**

Any PBX can be connected to MOR:



To simplify our manual we will take simplest connection to one PBX. Here in example we see Trixbox connected as PBX:



In similar way any PBX can be connected to MOR. We can simplify our diagram:



In this diagram we see that we have 1 PBX connected to MOR Billing system. 2 phones (Phone 1 and Phone 2) are connected to PBX. Now both phones can dial out to the PSTN through PBX and MOR.

## Our task is to bill each Phone separately.

In MOR we need to create 1 User/Device for PBX:

Acc	Username	User type	User	Account type	Balance								
0	admin	admin	System Admin	Postpaid	0.00	8	4	图	1	d.	Л	0	
5	mindaugas	user	Mindaugas Kezys	Postpaid	0.99	8	4	8	1	d	Л	6P	0
7	pbx_user	user	PBX User	Postpaid	0.00	8	4	8	1	山	Л		0

Now let's say PBX is connected to MOR using SIP protocol and PBX's IP is: 111.222.333.444

We need to create Device for this PBX to describe how it is connected to MOR:

	Tevices											
8	🚨 User: PBX User											
Acc	Description	PIN	Туре	Extension	Usemame	Password	CID	Last time registered	Call Flow	DIDs	CLIs	
7	🚖 рвх	862387	🎇 sip	105	some_username	2zfa3p1b		1970-01-01 01:00:00	÷	6		

Most important parts from device edit window:

You should mark this device as Trunk with ANI:

🛱 Trunk?:	O No	O <sub>Yes</sub>	$\odot$	Yes with ANI
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And enter correct IP (username/password - depends on the way you authenticate your PBX):

Network related								
Host:	111.222.333.444 Dynamic? 🗖							
Port:	5060							
Media control - canreinvite/transfer: O Yes O No								
NAT: O Yes 💿 No O Never O Route								
Qualify: 💿 No O Yes 2000 ms								

Ok. So with such configuration we can use Phone 1 and Phone 2 to dial out to PSTN. The problem is that **user\_pbx** will be billed for these calls. We want to bill Phone 1 and Phone 2 separately.

For that we need to create 2 additional users to handle such task:

Acc	Usemame	User type	User	Account type	Balance									
0	admin	admin	System Admin	Postpaid	0.00	8		\$	-	3	d	Л	0	
5	mindaugas	user	Mindaugas Kezys	Postpaid	0,99	8		4	7	5	d.	Л	-	0
7	pbx_user	user	PBX User	Postpaid	0,00	8		4	9	17	d.	Л	P	0
8	phone1	user	Phone 1	Postpaid	0.00	8	3	4	둼	3	d	JJ	is P	0
9	phone2	user	Phone 2	Postpaid	0.00	8		4	8	2	1	Л	2	0

Each of these 2 users (phone1 and phone2) should have Device to represent real device making calls.

**ATTENTION!** Device type for these Users (phone1 and phon2) can be any type – it does not matter at all! They are virtual devices not connected directly to MOR, so MOR does not care what kind of connection they use. We will make them SIP type:

2	Devices											
& ι	Jser: Phone 1											
Acc	Description	PIN	Туре	Extension	Usemame	Password	CID	Last time registered	Call Flow	DIDs	CLIs	
8	phone1_device		SIP	106	dynamic			1970-01-01 01:00:00	÷			

and

] 🖾	🖀 Devices											
<mark>8</mark> u	S User: Phone 2											
Acc	Description	PIN	Туре	Extension	Usemame	Password	CID	Last time registered	Call Flow	DIDs	CLIs	
9	phone2_device		SIP	107	dynamic			1970-01-01 01:00:00	÷			20

Now for each phone we have separate User/Device. We need to tell MOR some way how to recognize calls from Phone1 and Phone2 and bill correct User on the MOR. Authentication for such virtual users is done using ANI – Automatic Number Identification. That's why we made PBX device with type **Trunk with ANI**.

Phone 1 and Phone 2 are recognized by their CallerID. Let's say Phone 1 has CallerID: 1111111111 and Phone 2 has CallerID: 2222222222. Now lets enter these values to appropriate devices. This should be done using

CLIs icon in User Device's window near each device.

For Phone 1 device phone1\_device we will enter his CallerID:

CallerIDs User: Phone 1 Device: SIP/dynamic			
CLI	Description	Added at	
111111111	Phone 1 CallerID	2007-11-09 18:36:01	
			٢

and for Phone 2 device phone2\_device we will enter his CallerID:

🖥 CallerIDs									
🚨 User: Phone 2 🚰 Device: SIP/dynamic									
CLI	Description	Added at							
222222222	Phone 2 CallerID	2007-11-09 18:37:28 🧭 🤤							
		$\odot$							

That completes our configuration. Now when Phone 1 dials MOR sees that call is coming from PBX which is Trunk with ANI so MOR checks CallerID of the caller and if it is 1111111111 then call is assigned to User Phone 1/Device phone1\_device and same to Phone 2. If CallerID is not recognized – call is assigned to User PBX. Same way you can connect many phones.

## **DIDs to virtual devices**

In order to assign DID to virtual device you need to do following steps:

- 1. Mark virtual device as Trunk
- Assign DID to virtual device
  Go to device's Call Flow
- 4. In Before Call state Forward call to PBX device

That way when call goes to virtual device through some DID it should go through PBX Trunk.

If you do not forward call to PBX device - call will fail.

And this let's user login to GUI and see all incoming calls to his device.

ATTENTION! In order for virtual device to receive call from the DID, PBX should route call to correct device. MOR does not know about real location/connection type of virtual device, it just sends call to PBX and PBX should send call to correct device. MOR <u>CAN'T</u> influence PBX's configuration so PBX should be configured separately to handle incoming call from the DIDs.