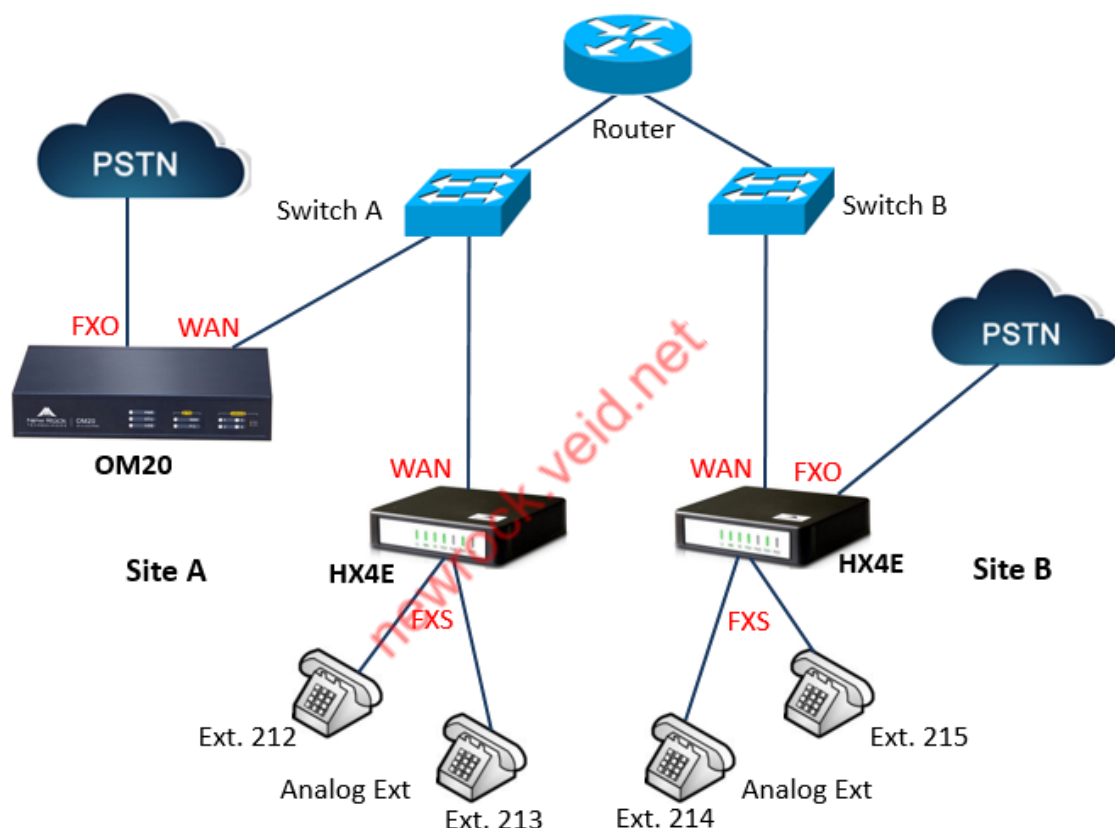


How to Integrate MX Gateway with OM IP-PBX

This note shows how to configure MX series VoIP gateways with FXS and FXO ports to interconnect with OM series IP-PBX.

Scenario

In this scenario, two or more extension lines on two FXS gateways located at different sites need to be interconnected through IP network with OM IP-PBX.



In this diagram, each gateway is installed with the FXS ports connected with analog phones while the WAN port connected to the switch in the local office. Both gateways' are interconnected over the IP network with SIP protocol in registration mode (FXS ports register to OM IP-PBX) for call set-up.

Note: A static public IP address is required for OM and both gateways if the IP network is Internet.

Configuration on Site A: MX Gateway FXS ports register to OM IP-PBX

1. Login OM web GUI. On **Extension > IP** page, take note of the extension number and password to be used on MX.

Under the current [security level](#) , a registrar server from internet will be rejected if the password is the same as the extension number.
 Your device is behind the NAT. If extensions are allowed to register from internet, please go to [Remote access](#) page to set the external IP address.

+ Add + Quick Addition + Batch adding Batch configuration Delete Registrar OPTIONS Input Ext. number

<input type="checkbox"/>	ID	Enable	Online status	Number *	Password *	PIN *	Display as	Group	Call restriction	Email	Mobile phone	Call transfer to outside	Delete Setting
<input type="checkbox"/>	1	<input checked="" type="checkbox"/>	Online	212	447669	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	Offline	213	824005	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	Offline	214	116008	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	4	<input checked="" type="checkbox"/>	Offline	215	467464	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	5	<input checked="" type="checkbox"/>	Offline	216	050026	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	6	<input checked="" type="checkbox"/>	Offline	217	757877	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	7	<input checked="" type="checkbox"/>	Offline	218	024096	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	8	<input checked="" type="checkbox"/>	Offline	219	132968	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	9	<input checked="" type="checkbox"/>	Offline	220	399357	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	10	<input checked="" type="checkbox"/>	Offline	221	371225	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	11	<input checked="" type="checkbox"/>	Offline	222	841116	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	12	<input checked="" type="checkbox"/>	Offline	223	412674	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	13	<input checked="" type="checkbox"/>	Offline	224	040048	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	14	<input checked="" type="checkbox"/>	Offline	225	686819	.....			Domestic			<input checked="" type="checkbox"/>	
<input type="checkbox"/>	15	<input checked="" type="checkbox"/>	Offline	226	046733	.....			Domestic			<input checked="" type="checkbox"/>	

2. On **Trunk > Analog trunk** page, set **Inbound route** field to IVR and then click **Save**.

Batch configuration Input phone number

<input type="checkbox"/>	Connection status	Port	Enable	Number *	Polarity reversal detection	Inbound route	Greeting	DID number	Outbound call	Recording	Caller ID detection
<input type="checkbox"/>	Unconnected	3	<input checked="" type="checkbox"/>	1001	<input type="checkbox"/>	IVR	Default	<input checked="" type="checkbox"/>	--	Allowed	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Unconnected	4	<input checked="" type="checkbox"/>	1002	<input type="checkbox"/>	IVR	Default	<input checked="" type="checkbox"/>	--	Allowed	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Unconnected	7	<input checked="" type="checkbox"/>	1003	<input type="checkbox"/>	IVR	Default	<input checked="" type="checkbox"/>	--	Allowed	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Unconnected	8	<input checked="" type="checkbox"/>	1004	<input type="checkbox"/>	IVR	Default	<input checked="" type="checkbox"/>	--	Allowed	<input checked="" type="checkbox"/>

Advanced →

Save

3. Login **MX web GUI**. On **Basic > SIP** page, fill in both **Registrar** and **Proxy server** fields using OM IP address and then click **Save**.

The screenshot shows a configuration page with tabs: Basic, Line, Trunk, Routing, Advanced, Call Status, Logs, Tools. The 'SIP' sub-tab is active. Fields include: Local signaling port (5060), Increments of port number (5), Registrar server (192.168.110.246:5060), Proxy server (192.168.110.246:5060), Subdomain name, Registrar mode (Per line), User name, Registrar password, Registration expiration (600 s). A 'High availability' section has Mode (Primary-Standby), Backup SIP proxy, and Primary server heartbeat detection (checkbox). A 'Save' button is at the bottom right.

4. On **Line > Configuration** page, fill in the **Sip Account Name**, **Auth User name** and **Registrar password** fields using the OM's IP extension and password. Enable the **Registration** button and click **Save**.

The screenshot shows the 'Line' configuration page with tabs: Basic, Line, Trunk, Routing, Advanced, Security, Call Status, Logs, Tools. The 'Configuration' sub-tab is active. Fields include: Phone Line (FXS-1), SIP Account Name (213), Caller ID Text, Registration (checked), Auth User Name (213), Registrar password (masked), Hot line (Disable), Color ringback tone, Set up speed dial, Call forwarding, Call forking. A 'Save' button is at the bottom right.

Configuration on Site B: MX Gateway FXS ports register and FXO port binding to OM IP-PBX

1. Login MX web GUI. On **Basic > SIP** page, fill in both **Registrar** and **Proxy server** using OM IP address and then click **Save**.

The screenshot shows the 'SIP' configuration page in the MX Gateway web GUI. The 'Registrar server' and 'Proxy server' fields are highlighted with a red box. The 'Save' button is also highlighted with a red box.

Local signaling port	5060	(Range: 1 - 9999, Default: 5060)
Increments of port number	5	
Registrar server	192.168.110.246:5060	
Proxy server	192.168.110.246:5060	e.g. 168.33.134.51:5000 or www.sipproxy.com:5000
Subdomain name		
Registrar mode	Per line	
User name		
Registrar password		
Registration expiration	600	s

High availability

Mode	Primary-Standby	
Backup SIP proxy		
Primary server heartbeat detection	<input type="checkbox"/>	

Save

2. On **Line > Configuration** page, fill in the **SIP Account Name**, **Auth User Name** and **Registrar password** fields using the OM's IP extension and password. Enable the **Registration** button and click **Save**.

The screenshot shows the 'Configuration' page for a line in the MX Gateway web GUI. The 'SIP Account Name', 'Auth User Name', and 'Registrar password' fields are highlighted with a red box. The 'Save' button is also highlighted with a red box.

Phone Line	FXS-1	
SIP Account Name	213	
Caller ID Text		
Registration	<input checked="" type="checkbox"/>	
Auth User Name	213	
Registrar password	.....
Hot line	Disable	
Color ringback tone	<input type="checkbox"/> --	
Set up speed dial	<input type="checkbox"/>	
Call forwarding	<input type="checkbox"/>	
Call forking	<input type="checkbox"/>	

Save

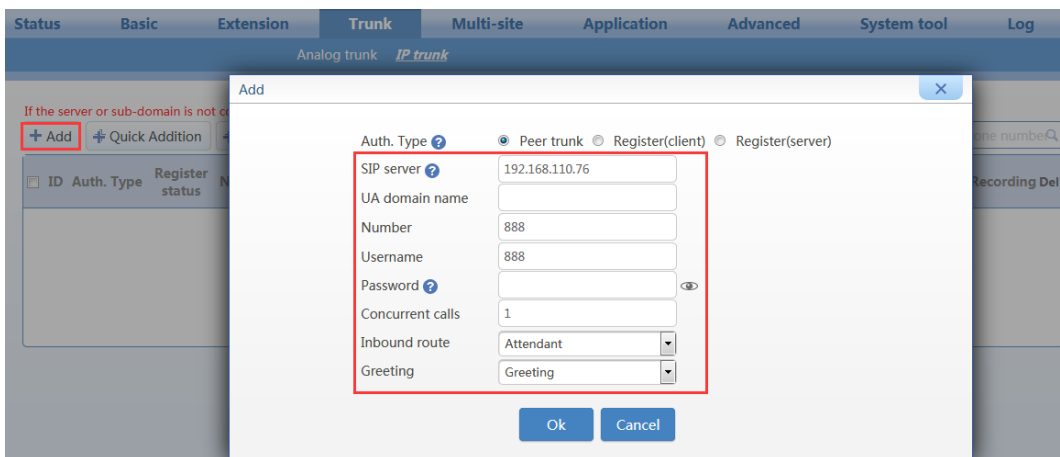
3. On **Trunk > Feature** page, select **Binding** in the inbound handle field and set the binding number (It can be any number you like, just remember it and use it for OM's IP trunk number) and then click **Save**.

The screenshot shows the 'Trunk' configuration page in the OM web GUI. The 'Trunk' tab is active. The configuration includes:
Trunk ID: FXO-4
Phone number: 8003
Display as: (empty field)
Registration:
Password: (masked with dots)
Inbound handle: Binding
Number: 888
RFC6913:
Additional options: Polarity reversed signal detection, Caller ID detection, Outgoing call barring, Echo cancellation, Connect signal delay, Recording.
A 'Save' button is located at the bottom right.

4. On **Routing > Routing table** page, setup the routing rules for directing call from FXS port to IP side.

The screenshot shows the 'Routing table' configuration page in the OM web GUI. The 'Routing' tab is active. A routing rule is added to the table:
FXS 888 ROUTE IP 192.168.110.246:5060
Buttons for 'Save' and 'Refresh' are at the bottom.

5. Login **OM web GUI**. On **Trunk > IP Trunk** page, create the virtual IP trunk (this IP trunk number is needed in accordance with the MX FXO port binding number). Fill in **SIP server** using MX's IP address and **Number** with the binding inbound number. Enable the **Peer Trunk** button and click **Ok**.



Call Procedure

Test1 Outbound call through PSTN

Follow the following steps to make an outbound call:

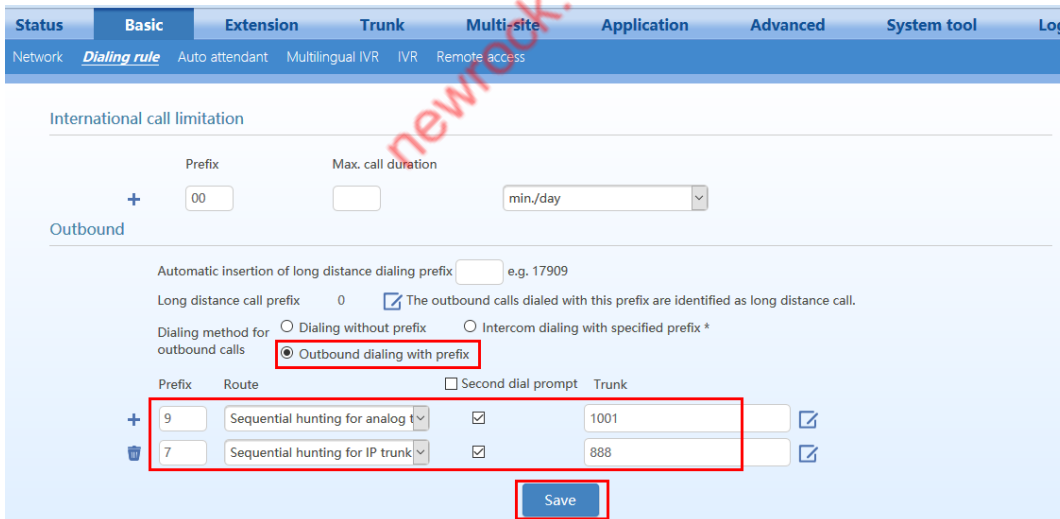
Log in OM web GUI, go to **Basic > Dialing rule**.

Select **Outbound dialing with prefix** as your dialing method for outbound calls.

Assign **prefix 9** for all outgoing calls through PSTN line and choose the **Analog trunk line number**.

Assign **prefix 7** for all outgoing calls through IP trunk and choose the **IP trunk number** and click **Save**.

Note: IP trunk is outgoing from the MX's PSTN line on site B.



For making an outgoing call through OM's PSTN line, dial 9 and outside number. For example: Extension 215 calls to mobile number 12345678901 through OM's PSTN line, **dials 912345678901**.

For making an outgoing call through IP trunk (the MX's PSTN line on site B), dial 7 and outside number. For example: Extension 215 calls to mobile number 12345678901 through MX's PSTN line, **dials 712345678901**.

Test2 Incoming call from outside number to extensions

If an incoming call to PSTN lines on OM and MX, the caller will hear an IVR after that the caller need to dial the extension number. For example: Incoming call from mobile number 12345678901 to PSTN line number 1001 or MX's PSTN line number. When the call is established, an IVR will be played and the caller **should dial the extension number (212 or 213 or 214 or 215).**

Test3 Internal Call between two extensions

If you want to make an internal call to another extension number on the same or another site, you need to dial the extension number. For example: Extension 212 internal call to 215, **should dial 215.**

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