Zoom with MiVoice Border Gateway and MiVoice 5000 (BYOP/BYOC)

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ADMINISTRATOR DOCUMENTATION

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CONTENTS

1 ABOUT THIS DOCUMENT

1.1 PURPOSE OF THIS DOCUMENT

This document describes how to connect MiVoice 5000 and MiVoice Border Gateway to Zoom, in a Bring Your Own PBX (BYOP)/Build Your Own Carrier (BYOC) configuration.

1.2 TARGET AUDIENCE OF THIS DOCUMENT

This document is meant for installers in charge of configuring MiVoice 5000, MiVoice Border Gateway and Zoom, and integrating the telephony system associated with Zoom.

1.3 TERMINOLOGY

BYOC	Bring Your Own Carrier
BYOP	Bring Your Own PBX
IP	Internet Protocol
	Protocol used to route packets on networks. IP is an OSI model Level 3 protocol that offers a single addressing service for all connected terminals.
MBG	MiVoice Border Gateway
PSTN	Public Switched Telephone Network
SSO	**Single Sign On**
	Function which enables a user to open one TWP and MiCollab Client session with the login/password defined for Windows.

1.4 RELATED DOCUMENTS

For more information, refer to the following documents and pages:

- Zoom:
  - o [Zoom-Mitel Phone System Integration support](#)
- MiVoice 5000:
  - o [MiVoice 5000 Document Center Page](#)
- MiVoice Border Gateway:
  - o [MiVoice Border Gateway Document Center Page](#)

2 ZOOM PHONE WITH MIVOICE 5000

This document explains how to configure MiVoice 5000 and MiVoice Border Gateway in order to use Zoom Phone via generic SIP trunks. Interoperability conformity tests consist in checking incoming and outgoing call flows between MiVoice Border Gateway/MiVoice 5000 and Cloud Zoom.

Thanks to this hybrid integration model, businesses can take advantage of the Zoom Cloud platform and still use their MiVoice 5000 infrastructure for telephony features and PSTN connectivity.

This integration allows Zoom Phone to connect to MiVoice 5000 via a generic SIP trunk MiVoice 5000 and MiVoice Border Gateway manage communications between Zoom and external networks, including the PSTN:

- MiVoice 5000 processes messages and routes calls, and thus ensures communication between Zoom Phone and external networks such as the PSTN.
  MiVoice 5000 provides signalling paths to Zoom Phone data centres and PSTN providers, and manages call flows to and from Zoom Phone and the PSTN.

- Zoom Phone manages cloud communication features.

- MiVoice Border Gateway serves as the link between Zoom Phone and MiVoice 5000, and ensures that integration works properly.

After configuration, users can use SBC to route calls, secure communications, and manage traffic between Zoom Phone and the PSTN.
For more information about Zoom Phone settings and configuration, refer to the official Zoom documentation:

- In the Zoom Phone settings and configuration section,

- On Page 5 of the document Zoom Web Portal Configuration

3 PREREQUISITES

3.1 GENERAL

For this installation, check that:

- The installer has installed a fully operational MiVoice 5000;

- The installer has installed a fully operational Mitel Border Gateway;

- The administrator has an Administrator account with the right to modify account settings on the Zoom portal.

To configure Zoom Phone with MiVoice 5000, you will need the following items:

- A Trunk licence for MiVoice Border Gateway

- A Zoom Phone Basic licence for each Zoom Phone user.

Software releases

Application	Minimum release
Zoom Workplace Client	6.3.6
MiVoice 5000	8.2 SP3
MiVoice Border Gateway	12.1.0.110

3.2 NETWORK

For Zoom, open the following ports:

- TCP Port 5061 for SIP signalling

- UDP port range 20000 – 64000 for traffic from Zoom trunks.

- The ports mentioned on the Zoom support page Firewall rules for Zoom Phone

For more information on the other ports to be opened, refer to the document **MiVoice 5000 Solution – List of TCP and UDP Ports.**

3.3   CONFIGURATION CHECKLIST

You can set up Zoom Phone by following a few key steps:

- Configure MiVoice Border Gateway.

- Configure MiVoice 5000.

- Configure Zoom via an administrator account.

Here is a step-by-step checklist for deploying Zoom Phone:

Task	Performed by	Date
On Zoom		
Add the MBG to Zoom.		
Add routing groups.		
Add the SIP group.		
Add routing rules.		
Add Zoom users.		
Assign licences and packages to Zoom users.		
Add and assign BYOC phone numbers.		
Add BYOP numbers.		
On MiVoice Border Gateway		
Import the Zoom CA root certificate into the MBG.		
Create the SIP trunks required for the configuration.		
Retrieve the IP address provided by Zoom. Configure the SIP adapter with the IP address provided by Zoom.		
On MiVoice 5000		
Configure the SIP trunks on MiVoice 5000.		

4 CONFIGURING ZOOM

4.1 ADDING THE MBG TO ZOOM

Prerequisites:

- The administrator must have a Zoom Administrator account with user management rights.

- The initial Zoom Phone configuration must have been completed. Refer to the Zoom Phone Quick Start guide (for administrators).

- The administrator must have correctly configured the firewall rules. See Section **3.2 – Network**.

- The administrator must have a public IP address for SIP trunk connectivity.

Log on to the Zoom web portal.

Menu **Phone System Management > Company Info > Account Settings > Routing**

- In the **Session Border Controllers** section, click the **Manage** hyperlink.

  The web portal displays the list of SBCs associated with Zoom.

- Click **Add**.

- Enter the following information:

  o **Display name**: enter a name for MBG, for example MITEL_MBG_ZOOM.

  o **IP address**:

    In the **Public IP address** field, enter the IP address of the MBG interface to Zoom.

    In the **Port Number field**, enter the Zoom signalling port (by default 5061).

  o **In-service**: enable

  o **Settings**: tick the following boxes:

    Integrate an on-premises PBX(Bring Tour OWN PBX-Premises) with Zoom.

    Send OPTIONS ping messages to the SBC to monitor connectivity status.

    Include diversion headers in the sip signaling messages for forwarded calls.

- Click **Save**.

4.1.1 ADDING ROUTING GROUPS

Menu **Phone System Management > Company Info > Account Settings > Routing**

- In **Routing group**, click **Manage**.

  The web portal displays the list of trunk groups created in Zoom.

- In the Common tab, click **Add**.

- Enter the following information:

  o **Display name**: enter a name for the trunk group, for example MV5000-MBG.

  o **Type**: select BYOC-P.

  o **Region**: select US01 (GO).

  o **Distribution**: select Sequential.

    A new setting appears.

  o In the new **Session Border Controllers** setting,

    Select the MBG of MiVoice 5000.

    Click **Add**.

- Click **Save**.

- Check in the **Sequential** column that the status indicator beside MBG is green.

4.1.2 ADDING A SIP GROUP

Menu **Phone System Management > Company Info > Account Settings > Routing**

- In the **SIP groups** section, click **Manage**.

  The web portal displays the list of SIP groups created in Zoom.

- Click **Add**.

- Enter the following information:

  o **Display name**: enter a name for the SIP group, for example MV5000.

  o **Route group**: select the trunk group of the MBG created earlier.

- Click **Save**.

4.1.3 ADDING THE ROUTING RULE

Menu **Phone System Management > Company Info > Account Settings > Routing**

- In the **Routing rules** section, click **Manage**.

  The web portal displays the list of routing rules.

- Click **Add** to add a rule for outgoing calls.

- Enter the following information:

  o **Rule name**: enter a name for the rule, for example MV5000.

  o **Number matching and translation**: in the **Number Pattern** field, enter the following pattern: **^91806755[0-9]{4}$|^91806756[0-9]{4}$|^918067570000**

  o **Routing path**: select the MV5000 trunk group created earlier.

- Click **Save**.

4.2 ADDING ZOOM PHONE USERS

Prerequisites:

- The administrator must have a Zoom Phone Pro, Business, or Enterprise account.

- The administrator must have an Administrator account with user management rights.

- The initial Zoom Phone configuration must have been completed. Refer to the [Zoom Phone Quick Start guide (for administrators)](#).

4.2.1 ADDING A ZOOM PHONE USER

To add a new Zoom user:

- Log on to the Zoom web portal.

- In the **Administrator** section, go to Menu **User Management > Users**.

- Click **+ Add users**.

  A window opens, with fields to fill in.

- In the **Add users with their email addresses** field, enter the e-mail address of the user to add.

  To add several users at the same time, use commas to separate the e-mail addresses.

Note: **Check that the e-mail addresses are correctly written. E-mail addresses are used to associate MiVoice 5000 subscriber records with Zoom users.**

- In the **Zoom Workplace** dropdown list, select the available Zoom Workplace licences, for example Zoom Meetings.

- In the **Licences and Add-ons** section, tick the **Zoom Phone Basic** box.

- Click **Add**.

The window closes, displaying the list of users.

Newly added users appear in the Waiting tab:

- New users in Zoom will get an activation e-mail.

- Existing Zoom users will be prompted to approve the account transfer and assignment to the new Zoom account.

4.2.2 ASSIGNING LICENSES TO ZOOM PHONE USERS

The administrator can assign licences to users. After purchasing Zoom One licences, the administrator may choose, while configuring Zoom Phone, to:

- Automatically assign Zoom Phone licences to users, or to

- Manually assign Zoom Phone licences to users.

Before manually assigning a licence to a phone user, check that automatic Zoom One licence assignment is disabled for the administrator account. For more information, see the [official Zoom support page](#).

To manually assign licences to Zoom Phone users, refer to the Zoom support page [Assign a Licence](#).

4.2.3 ASSIGNING A PACKAGE TO A USER

The administrator can assign packages to users so they can make outgoing calls.

Menu **Telephony system management > Users & rooms**

To assign a package to one user only:

- Click on the user in question.

  The Zoom web portal redirects you to the user's account page.

- On the **Package** line, click the **Assign** hyperlink.

  A dropdown list is displayed.

- From the dropdown list, select **Unlimited U.S./Canada plan**.

- Click **Confirm**.

To assign a package to several users at the same time:

- Choose the users that should be assigned a package.

- Click **Assign packages**.

  A window opens with a dropdown list.

- From the dropdown list, select **Unlimited U.S./Canada plan**.

- Click **Confirm**.

📝 **Note:** **If no package is assigned, the user cannot make outbound calls via SIP trunks for BYOC/BYOP.**

4.3 ADDING AND ASSIGNING BYOC PHONE NUMBERS

Prerequisites:

- The administrator must have a Zoom Administrator account with user management rights.

4.3.1 ADDING BYOC PHONE NUMBERS

Menu **Number manager > Phone numbers**

- From the **Add number** dropdown list, select **BYOC Number**.

  A window opens with the BYOC number settings.

- From the **Product** dropdown list, select **Phone**.

- From the **Country/Region** dropdown list, select the country of origin for phone numbers, for example **France**.

- In the **Numbers field**, enter the phone numbers separated by commas.

- In the **SIP group** field, select the SIP group created in Section **4.1.2 – Add a SIP Group**.

- Tick the attestation box.

- Click **Submit**.

4.3.2 ASSIGNING BYOC PHONE NUMBERS

Menu **Number manager > Phone numbers**

- On the line of the number to be assigned, click **…**

  A list of options is displayed.

- Select **Assign**.

  A new window opens.

- In the second field, select the user to whom you want to assign the number.

- Click **Save**.

The BYOC number has now been assigned to the selected user.

4.4 ADDING BYOP NUMBERS

Administrators can add MBG users as external contacts in the contact directory. These external contacts will be accessible in the Zoom applications.

To add BYOP numbers:

Menu **Phone system management > Company Info > Account settings**, **External contacts** tab

- Click Add.

- A new window opens.

- Enter the following information:
  - **Name**: enter the MiVoice 5000 user name.
  - **Extension Number**: enter the extension number of the MiVoice 5000 subscriber.
  - **Routing path**: select the SIP group created in Section **4.1.2 – Add a SIP Group**.

- Click **Save**.

5 CONFIGURING MBG

5.1 IMPORTING THE ZOOM CA ROOT CERTIFICATE

The configuration requires a trusted root certificate from a certification authority. This certificate is available on the Zoom web portal.

For information on how to download the root certificate, see the support page [Updating root certificates for Zoom services](#).

After downloading the root certificate from the Zoom web portal:

Menu **Security > Web server** > **Certificate Authority Trust > Root CA Certificate**

- Click the button next to **Root CA Certificate** to open the file manager and select the certificate downloaded from the Zoom web portal.

5.2 CREATING SIP TRUNKS

Menu **MiVoice Boarder Gateway** > **SIP trunking** > **SIP trunks**

- Click the + icon to add a new SIP trunk.

  A window opens with the settings to define for the SIP trunk.

- Enter the following information:

Section	Field	Task
Profile	Name	Enter a name for the SIP trunk, for example ZOOMTLS1
Connection	Transport protocol	Select **TLS**
	Remote trunk endpoint address	Enter the IP address provided by Zoom. For more information, see Section 6.3 – Retrieving the Zoom IP address.
	Remote trunk endpoint port	Enter **5061**
	Outgoing TLS trust profile	Select **MTLS using the installed Web certificate**.
Trunk-side RTP security	Inbound	Select **SRTP only**
	Outbound	Select **SRTP only**
	Preferred cipher	Select **AES_CM_128_HMAC_SHA1_32**
ICP-side RTP security	Inbound	Select **SRTP or RTP**
	Outbound	Select **RTP**
	Preferred cipher	Select **AES_CM_128_HMAC_SHA1_32**

- Click **Save** to save the SIP trunk settings.

- At the bottom of the page, click the **Quick add rule** button.

- A window opens on MBG with the message: To add a rule, click the '**+**' icon.

- Click **Add rule +**.
- Enter the following information:
  - **Header match**: select Request URI
  - **Rule**: leave blank.
  - **Primary ICP**: select the SIP trunk created earlier.
- Click on **Click to save** to save the settings for the rule.
- Click **Done**.

5.3 RETRIEVING THE ZOOM IP ADDRESS

To retrieve the IP address provided by Zoom:

Log in to the Zoom portal with an Admin account.

In the **Administrator** part, go to Menu **Phone system management > Company information > Account settings > Routing**.

- In the **Routing groups** section, click **Manage**.
- In the **Display name** column, place the cursor over the ⓘ icon for the relevant region to view the IP address provided by Zoom.

5.4 CONFIGURING SIP ADAPTATION

A SIP adapter is required on MBG so Zoom calls to MiVoice 5000 subscribers can work via the SIP trunk.

To configure the SIP adapter:

- On Zoom:
  - Retrieve the SIP trunk IP address. See Section **6.3 – Retrieving the Zoom IP address**.
- On MBG:
  - Go to Menu **MiVoice Boarder Gateway** > **SIP Trunking > Adaptation**.
  - Click **Manage plugins**.
  - From the **Sample Plugins** section, download the file **txPassThroughHostInToHeader.lua**
  - Open the file **txPassThroughHostInToHeader.lua** with a compatible software release.
  - On the line with the **local host** parameter, replace the IP address with the IP address provided by Zoom.

```lua
-- here is the real logic
function runMain()
        -- Value to replace contents of From header with
    local host = "                    "

    if string.len(host) > 0 then
        if checkDirection( msg ) and
            checkMsgType( msg ) and
            checkMethod( msg )
        then
            if msg:existsHeader( "From" ) ~= true then
                msg:log( "runMain: error, From header not exist in msg" )
                return
            end
```

  - Back up the file **txPassThroughHostInToHeader.lua**.
  - Return to MBG, in Menu **MiVoice Boarder Gateway > SIP Trunking > Adaptation**, **Manage plugins** hyperlink.

o   In the **Installed plugins** section, click **Upload** to open the file manager and select the modified file **txPassThroughHostInToHeader.lua.**

o   Click **Install** to install the plugin in MBG.

After installation, the new plugin is visible in the **Installed plugins** section.

o   Click the **Back to pipelines** hyperlink.

o   In the **Pipeline information** section, click the **+** icon.

MBG displays the configuration page for a new pipeline.

o   Enter the following information:

Name: choose a name for the Pipeline, for example SIP_adaptator_MV5000

Direction: select **Send**.

In the window on the right side of the screen, locate the previously installed plugin and drag it below the pipeline settings.

o   Click **Save** to save the changes.

The new pipeline is visible in the **Pipeline information** section.

- Menu **MiVoice Boarder Gateway** > **SIP trunking -> Sip trunks**

o   Select the SIP trunk created for Zoom.

o   In the **SIP adaptation** section:

From the **Send pipeline** dropdown list, select the pipeline created for Zoom.

Note: If there are several SIP trunks for Zoom, the administrator must configure the SIP adapter for all SIP trunks.

6 CONFIGURING MIVOICE 5000

6.1 CONFIGURING THE TRUNK

Menu **Telephony service>Network and links>Network>Trunks>Names**

- Enter a name in any of the fields to create a trunk group.

- Click the hyperlink next to the field and select Trunk groups > Characteristics.

- Enter the following information:

  o In the **PROXY No. 1** field, enter the IP address provided by Zoom.

  A new field appears.

  o In the new **Port** field, enter **5061**.

  o From the **Local proxy** dropdown list, select **YES**.

  A new field appears.

  o In the new **Address** field, enter the MBG IP address.

  A new field appears.

  o In the new **Port** field, enter **5061**.

Note: Create several SIP trunks to Zoom if distribution is sequential.

During routing group configuration, these SIP trunks prompt for the IP address provided by Zoom for the selected region.