Onboarding Analog Telephone Adapters to Teams SIP Gateway

Overview

An **analog telephone adapter** (**ATA**) is a device for connecting traditional analog devices to a digital telephone system. In context of SIP GW, it connects these analog devices via SIP GW to Teams.

A single ATA can connect N devices via N ports (RJ11 interface). Each port represents a SIP device from TAC (Teams Admin Center) perspective and there is no notation for ATA. However, the hardware ID of each device is composed of the MAC address of the ATA and a port number. For example, "00-90-8F-49-28-78:001" which represents ATA MAC address 00-90-8f-49-28-78 and port number 001.

TAC (Teams Admin Center) doesn't have a notion of ATA and each ATA port is abstracted as an independent device. However, ATA onboarding to SIP Gateway is done per ATA instance versus port. In other words, ATA as a "box" MUST be factory reset and Server URL of ATA MUST be set with appropriate regional HTTP URL, as documented in Configure SIP Gateway. The capacity (i.e., maximum number of ports that can be supported per ATA), is a device attribute and documented for each ATA model. In other words, if ATA has N ports, then the maximum number of ports that can be provisioned to satisfy SIP GW security requirements (i.e., TLS and SRTP) may be less than or equal to N (please check link to OEM documentation for exact number of ports that can be onboarded to SIP Gateway for a given ATA model).

Analog devices are supported only for CAP (Common Area Phone) accounts; hence Admin MUST use remote sign-in/sign-out from TAC, for analog devices as they would for any other CAP accounts. Before remote sign-in admin must enroll the port of the ATA by dialing the feature code + verification code from an analog device connected to that port to validate that it is a trusted device. "Add device" menu in TAC remote provisioning now includes an option to select in addition to existing MAC address, Analog device and populate Hardware ID in the MAC + port # format, as described above.

ATA Settings are to be managed via OEM tools or Web interface of ATA. However, user's settings are sent to the device by SIP GW device manager, similar to every SIP Phone, for each port in case of analog devices connected to an ATA.

ATA port will be listed as a regular SIP device in TAC. Admin can activate it via OTP and sign in/out, as done for any other device. However, if admin will try to restart this device, then the command will be ignored, since there is no option to restart a single port on an ATA, and Admin should use ATA management tool to perform this command. Furthermore, all accounts that are signed in MUST be within same region, since there is no option to "transfer" a port to another region due to regulations, such as EUDB.

Roadmap for Bulk Provisioning

We are aware of challenge to migrate large number of analog ports from another system to Teams, hence we plan to enable bulk Provisioning that will avoid the need to OTP each port and afterwards remote sign in manually. Instead, we plan to have a tool that will accept a list of devices (including Analog ports) as input and will complete the all process with a single transaction.

Disclaimers – Known Issues

- TAC Restart command (i.e., per port), currently restarts the entire ATA, hence do not use it unless you are aware of the side effects.
- Device enrollment tone is “fast busy” for both success and failure scenarios, this will be fixed by October 10th.

Supported ATAs

AudioCodes

The MediaPack series includes the following models:

MediaPack Model		FXS	FXO	Combined FXS and FXO*	Number of Channels
MP-112		✓	×	×	2
MP-114		✓	✓	2 + 2	4
MP-118		✓	✓	4 + 4	8
MP-124		✓	×	×	24
MP-1288		✓	×	×	288

Ports Capacity

Since SIP Gateway requires the use of secured RTP (SRTP), thus resulting in some channels reduction.

When using SRTP, these are the available channels per MediaPack model.

MP-1288	No reduction
MP-124	18 channels from 24
MP-118	6 channels from 8
MP-114	3 channels from 4
MP-112	No reduction

Firmware version requirement

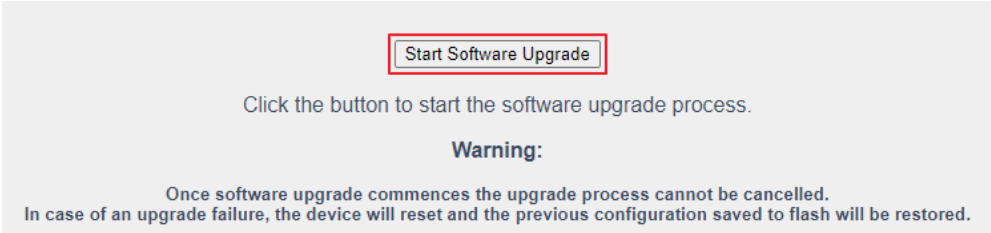
- Minimum firmware version for MP-11x/MP-124 is: **6.60A.367.001**
- Minimum firmware version for MP-1288 is: TBD

To install the firmware to MP-11x/M-P124:

1. Login to the web interface of the device.
2. Open the Software Upgrade wizard, by performing one of the following:
   a. Select the **Maintenance** tab, click the **Software Update** menu, and then click **Software Upgrade Wizard**.
   b. On the toolbar, click **Device Actions**, and then choose **Software Upgrade Wizard**:

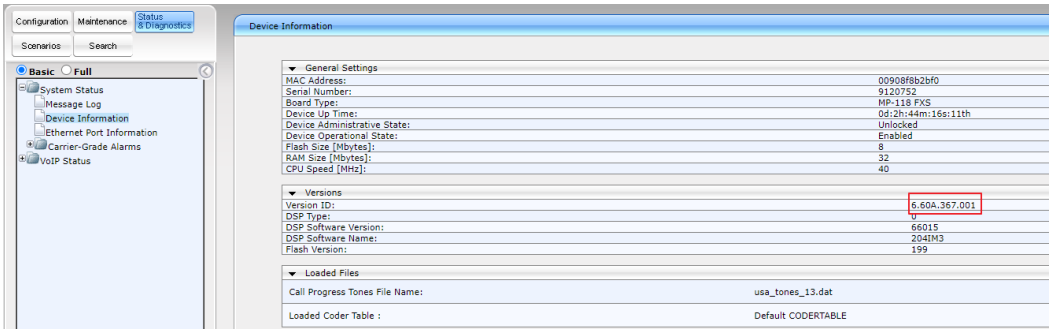
Figure 1: Start Software Upgrade Wizard

Figure 2: Software Upgrade Wizard Screen



3. Click the **Start Software Upgrade** button; the wizard starts, requesting you to browses to a .cmp file for uploading.
4. Click the **Browse** button, navigate to the .cmp file, and then click **Load File**; a progress bar appears displaying the status of the loading process.
5. Click the **Reset** button to reset the device with the newly loaded .cmp file.
6. After the device resets, the End of Process wizard page appears displaying the new .cmp file loaded to the device. Verify this by viewing the firmware version:

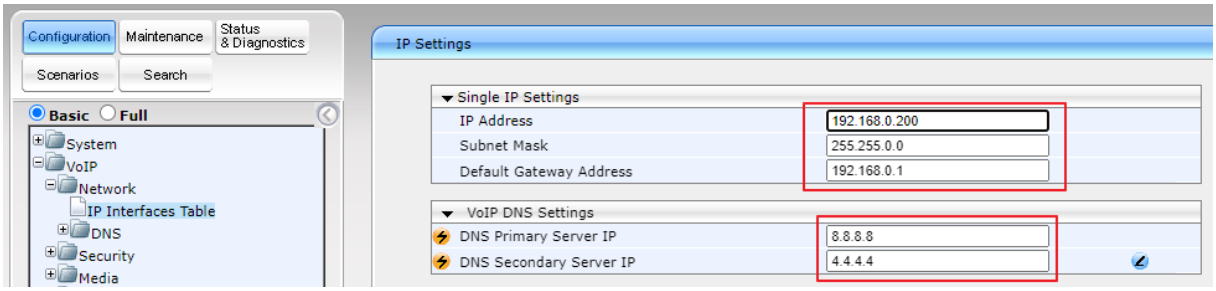
Figure 3: Device Information Web Page



Setting IP address

MediaPack series support static IP addressing, therefore a proper working static IP address/netmask/gateway/DNS are needed to be setup for the device to establish IP network connectivity prior to applying provisioning settings for Microsoft SIP Gateway.

Figure 4: Sample IP Network Settings



Configuring Provisioning Server URL

This section describes how to restore the device to factory defaults and apply SIP Gateway provisioning server URL through the phone's web interface.

1. Access the Admin Page (by appending "AdminPage" to the device's IP address in the Web browser's URL, for example: http://10.13.4.13/AdminPage).
1. Press the **ini Parameters on the left pane.**
2. Apply the following parameters, one-by-one:

```
Set Parameter name and value then hit 'Apply New Value' button
```

Parameter Name:	**Enter Value:**
inifileurl	''
 AUPDResetURLOnWebConfig	1
setdefaultoninifileprocess	1

3. Press **Back to Main** on the left pane
4. Upload empty .ini [] file to reset the device to factory defaults (**Maintenance→ Software Update→ Configuration File→ Choose File** – select an empty.ini→ press the **'Load INI File'**)
5. Access AdminPage → Press the **ini Parameters on the left pane**
6. Apply the following parameter:

```
Set Parameter name and value then hit 'Apply New Value' button
```

Parameter Name:	**Enter Value:**
inifileurl	http://noam.ipp.sdg.teams.microsoft.com/mac.ini

Notes:

- URL above points to NoAM region, please use SIP Gateway URL for your region as given in SIP Gateway documentation.
- URL MUST be appended with **/mac.ini**

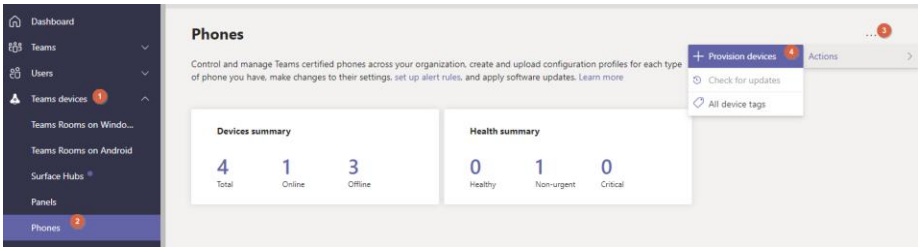
7. Analog Gateway obtains the onboarding configuration and reboots

Pairing Procedure: Remote Sign-in

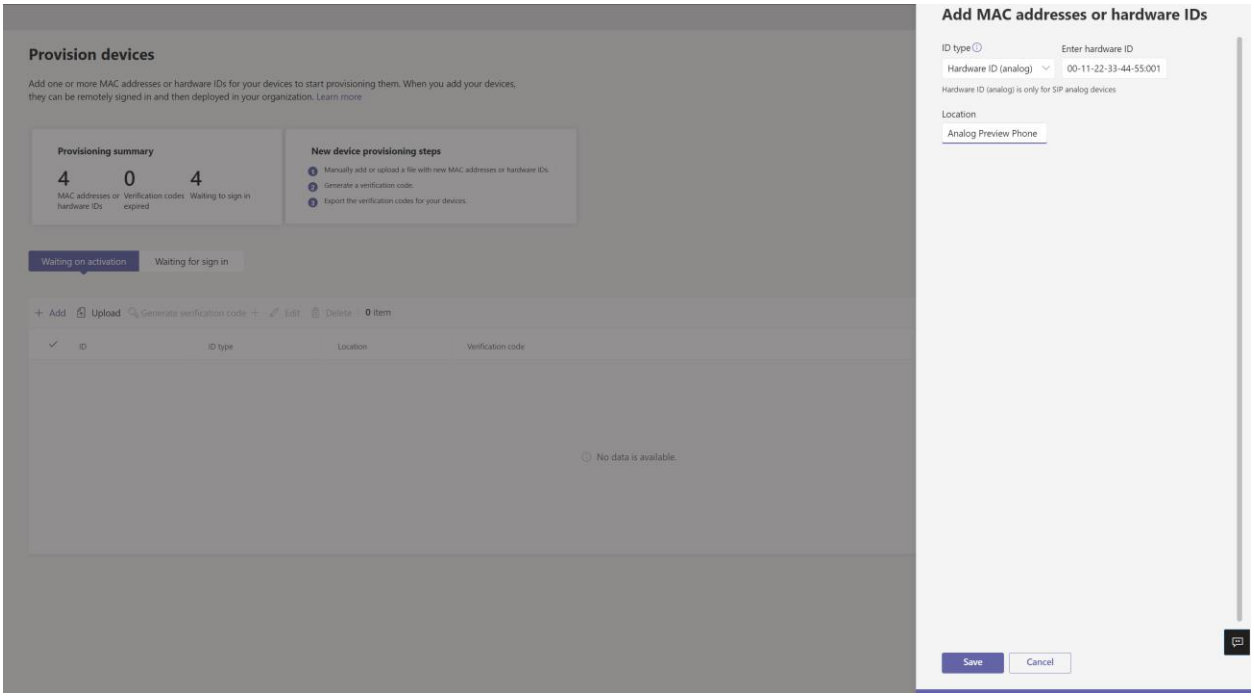
This section describes how to pair FXS port on Analog Gateway with Teams user using OTP.

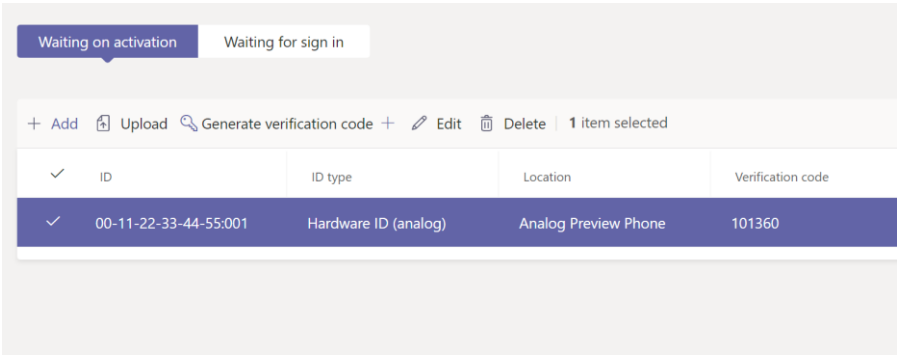
Procedure described below needs to be performed per FXS port.

1. Access TAC (https://admin.teams.microsoft.com) using the tenant admin's credentials.
2. Select **Teams devices→ Phones→ Actions→ Provision devices**

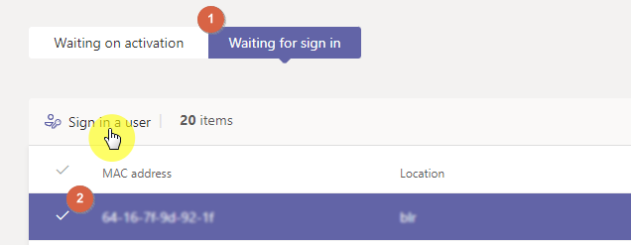


3. Add the Hardware ID (analog), then generate verification code (OTP)





4. Plug analog phone to FXS port of MP-11x, off hook and dial ***55*<Verification Code from TAC>**
5. The system will play confirmation tone – on hook.
6. In TAC switch to **Waiting for sign in** tab, select the MAC address and press **Sign in a user**

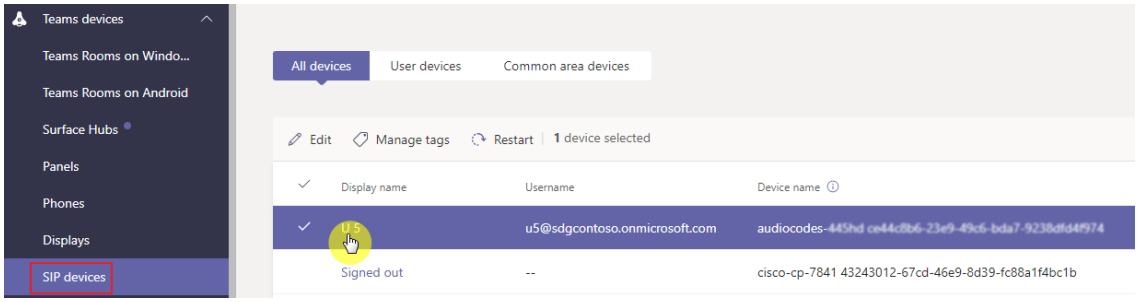


7. Complete the web sign-in process by following the instructions on screen, use the account you want to be assigned to FXS port.

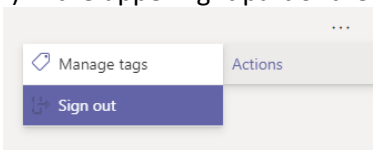
Unpairing Procedure: Remote Sign-out

This section describes how to unpair device/FXS port on Analog Gateway.

1. Access TAC (https://admin.teams.microsoft.com) using the tenant admin's credentials.
2. Select Teams devices→ SIP devices
3. Locate the user and select it



4. Click on three dots (…) in the upper right part of the web page→ **Actions→ Sign Out**



Compatible models and firmware

Model	Minimum Firmware	Approved Firmware
MP-118FXS	6.60A.367.001	6.60A.367.001

MP-118FXS/FXO	6.60A.367.001	6.60A.367.001
MP114FXS	6.60A.367.001	6.60A.367.001
MP114FXS/FXO	6.60A.367.001	6.60A.367.001
MP112FXS	6.60A.367.001	6.60A.367.001
MP124	6.60A.367.001	6.60A.367.001
MP1288		