

Onboarding Cisco ATA 19x with Microsoft SIP Gateway

1 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.

2 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.

3 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.

4 Introduction

This document describes how to onboard Cisco ATA 191MPP & 192MPP [Multiplatform] Analog Telephone Adapter with Microsoft SIP Gateway.

This is required for the up-and-coming release of a Microsoft service that pairs SIP endpoints with their Microsoft Teams account, enabling Teams users to make and receive Teams calls on their SIP endpoint.

Cisco ATA 190 series includes the following models:

Model	Rear view	LAN	FXS ports
ATA191-MPP		✗	2
ATA192-MPP		✓	2

5 Compatible models and firmware

Model	Minimum Firmware	Approved Firmware
ATA191-MPP (Multiplaform)	11.2.2	11-2-2MPP0101-013
ATA192-MPP (Multiplaform)	11.2.2	11-2-2MPP0101-013

6 Enabling Web Admin Configuration

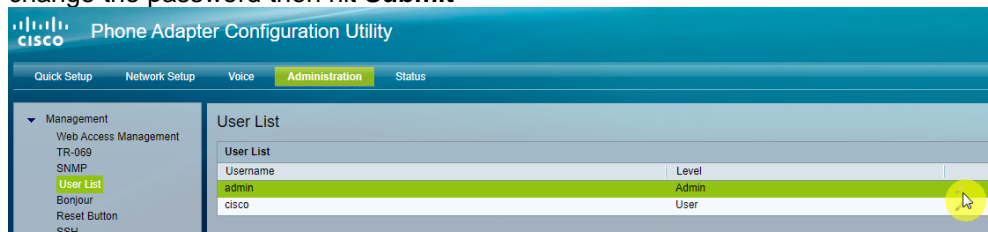
By default, web access from WAN is disabled, to enable web access please follow these steps.

1. Plug the ATA into your local NETWORK port.
2. Plug a PC into ETHERNET port of ATA 192
3. Navigate to 192.168.15.1 (default LAN IP address).
4. Log-in using: **admin/admin**



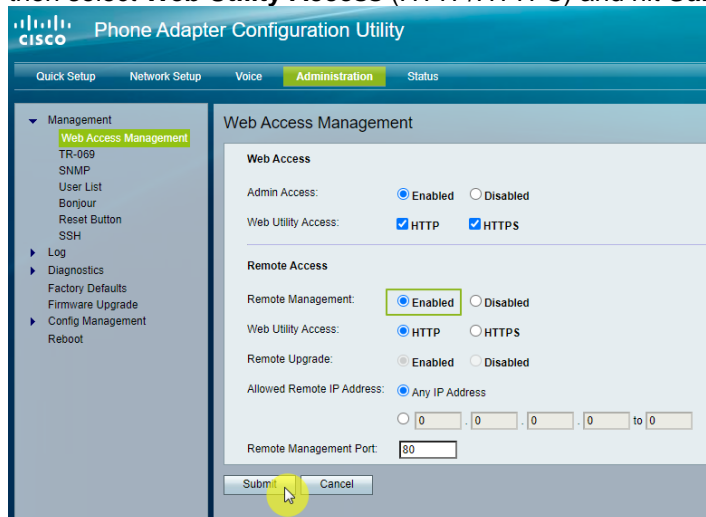
The screenshot shows the login page of the Cisco Phone Adapter Configuration Utility. The page has a dark blue header with the Cisco logo and the text "Phone Adapter Configuration Utility". Below the header, it says "Version: 11-2-2MPP0101-013" and "Model: ATA192-MPP". On the right side, there are two input fields: "Username:" with "admin" entered and "Password:" with "*****" entered. Below these fields are two buttons: "Log In" and "Remember Username".

5. Navigate to **Administration** → **User List** → select 'admin' and click on pencil icon, change the password then hit **Submit**



The screenshot shows the "User List" page in the Cisco Phone Adapter Configuration Utility. The page has a blue header with the Cisco logo and the text "Phone Adapter Configuration Utility". Below the header, there are tabs for "Quick Setup", "Network Setup", "Voice", "Administration", and "Status". The "Administration" tab is selected. On the left side, there is a navigation menu with "Management" expanded, showing "Web Access Management", "TR-069", "SNMP", "User List", "Bonjour", "Reset Button", and "SSH". The "User List" page shows a table with two columns: "Username" and "Level". The table has two rows: "admin" with level "Admin" and "cisco" with level "User". A pencil icon is visible next to the "admin" row.

6. Navigate to **Web Access Management** → Change **Remote Management** to **Enabled** then select **Web Utility Access** (HTTP/HTTPS) and hit **Submit**.



The screenshot shows the "Web Access Management" page in the Cisco Phone Adapter Configuration Utility. The page has a blue header with the Cisco logo and the text "Phone Adapter Configuration Utility". Below the header, there are tabs for "Quick Setup", "Network Setup", "Voice", "Administration", and "Status". The "Administration" tab is selected. On the left side, there is a navigation menu with "Management" expanded, showing "Web Access Management", "TR-069", "SNMP", "User List", "Bonjour", "Reset Button", and "SSH". The "Web Access Management" page shows the following settings:

- Web Access: Admin Access: Enabled Disabled
- Web Utility Access: HTTP HTTPS
- Remote Access: Remote Management: Enabled Disabled
- Web Utility Access: HTTP HTTPS
- Remote Upgrade: Enabled Disabled
- Allowed Remote IP Address: Any IP Address
- Remote Management Port:

At the bottom of the page, there are two buttons: "Submit" and "Cancel".

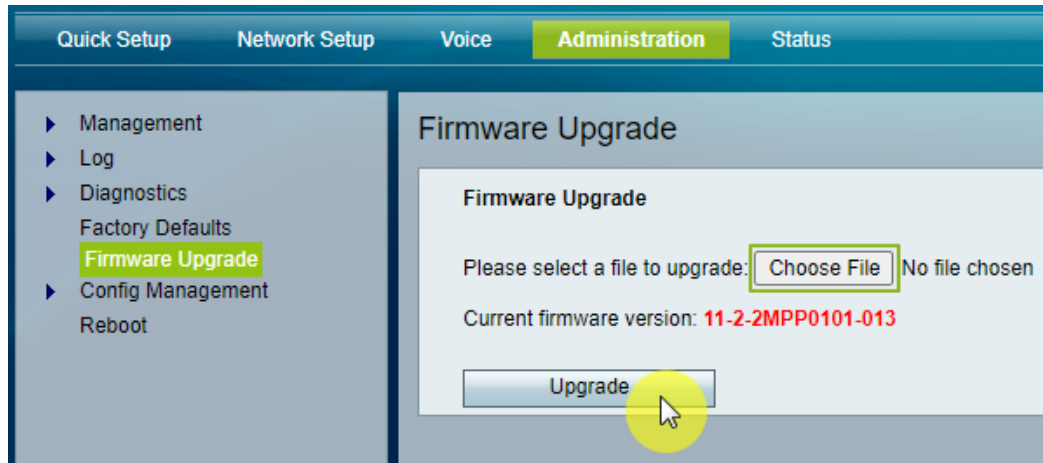
7. Device is now accessible from WAN

7 Firmware version requirement

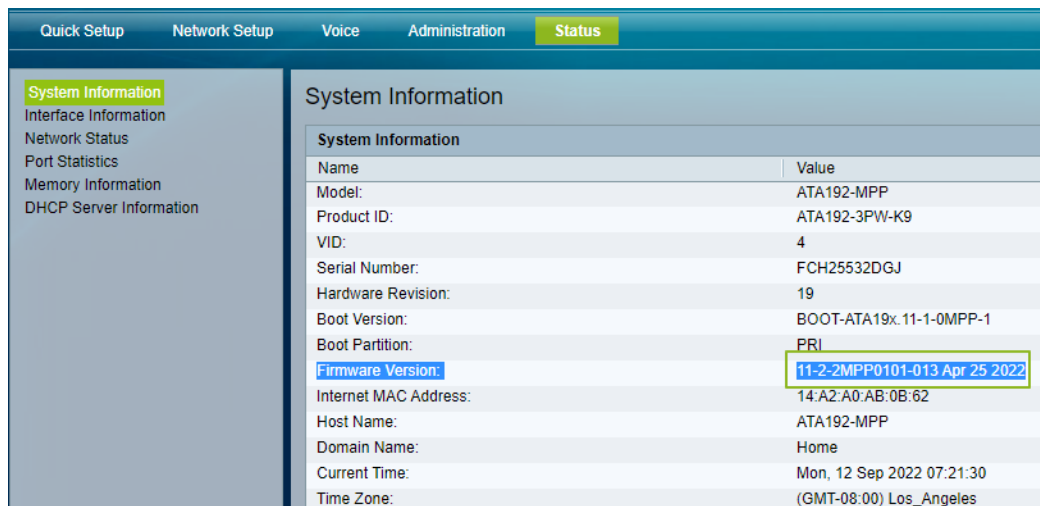
Approved firmware version for Cisco ATA190 series is: [11.2.2 MSR1](#)

To update the firmware, follow the steps below:

1. Login to the web interface of the device.
2. Select **Administration**
3. On the left pane select **Firmware Upgrade** → [Choose File] then click on **Upgrade**.



4. After the device recovers from reboot, verify Firmware Version by selecting **Status** → **System Information** → **Firmware Version:** [11-2-2MPP0101-013 Apr 25 2022]

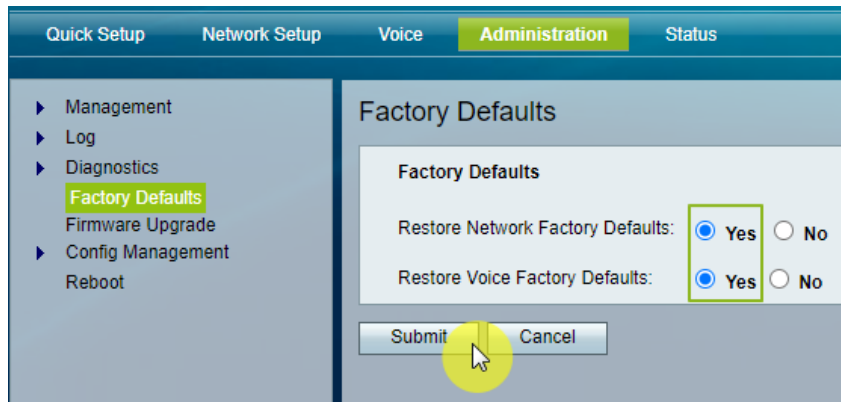


8 Configuring Provisioning Server URL

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

First please restore the device to factory defaults

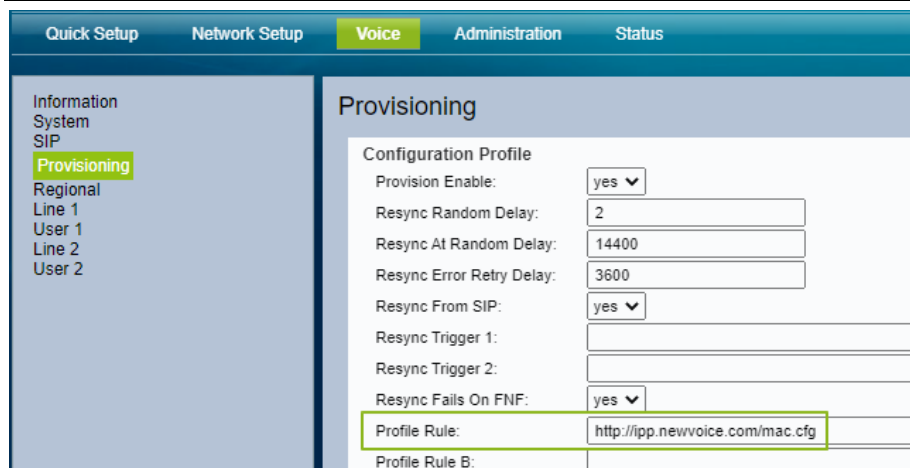
1. Access the web interface
2. Navigate to **Administration** → **Factory Defaults** → Select **Yes** for Network and Voice as shown below and hit **Submit**



3. When device recovers from boot, navigate to **Voice** → **Provisioning** → **Configuration Profile** section and set SIP Gateway provisioning URL under Profile Rule

For example, if you are provisioning in NoAM region, use the below URL. For EMEA, and APAC regions, edit the provisioning URL string given below to include "emea" and "apac" respectively.

Parameter Name	Value
Profile Rule	http://noam.ipp.sdg.teams.microsoft.com



Notes:

- URL above points to SIP Gateway production system
- URL MUST be appended with **/mac.cfg**

1. Analog Telephone Adapter obtains the onboarding configuration and reboots

When device recovers from reboot, access the device and verify it is SIP registered with onboarding account.

[Voice → Information → Line 1/2 Status → Registration Status = Registered]

The screenshot shows the 'Information' page in the device's web interface. The navigation tabs at the top are 'Quick Setup', 'Network Setup', 'Voice', 'Administration', and 'Status'. The left sidebar contains a menu with 'Information' selected, along with 'System', 'SIP', 'Provisioning', 'Regional', 'Line 1', 'User 1', 'Line 2', and 'User 2'. The main content area is titled 'Information' and is divided into three sections: 'Product Information', 'System Status', and 'Line 1 Status'. The 'Product Information' section includes fields for Product Name, Software Version, MAC Address, Customization, Serial Number, Hardware Version, and Client Certificate. The 'System Status' section includes Current Time, RTP Packets Sent/Recv, SIP Messages Sent/Recv, and External IP. The 'Line 1 Status' section includes Hook State, Last Registration At, Message Waiting, Registration State, Next Registration In, and Mapped SIP Port. The 'Registration State' is highlighted with a green box and shows the value 'Registered'.

Product Information			
Product Name:	ATA192-MPP	Serial Number:	FCH25532DGJ
Software Version:	11-2-2MPP0101-013	Hardware Version:	19
MAC Address:	14A2A0AB0B62	Client Certificate:	Installed
Customization:	Aborted		

System Status			
Current Time:	9/12/2022 07:10:51	Elapsed Time:	00:00:22
RTP Packets Sent:	0	RTP Bytes Sent:	0
RTP Packets Recv:	0	RTP Bytes Recv:	0
SIP Messages Sent:	6	SIP Bytes Sent:	4615
SIP Messages Recv:	6	SIP Bytes Recv:	2823
External IP:			

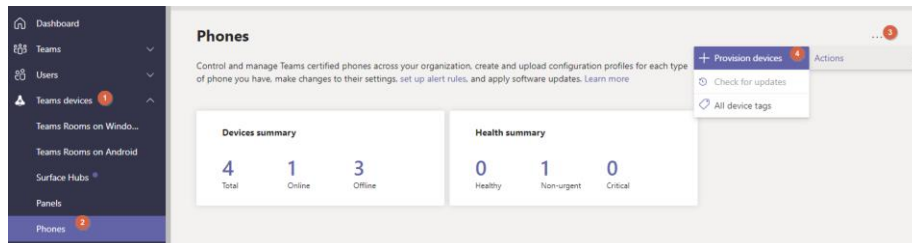
Line 1 Status			
Hook State:	On	Registration State:	Registered
Last Registration At:	9/12/2022 07:10:30	Next Registration In:	33 s
Message Waiting:	Yes	Mapped SIP Port:	

9 Provisioning ATA in Teams Admin Center

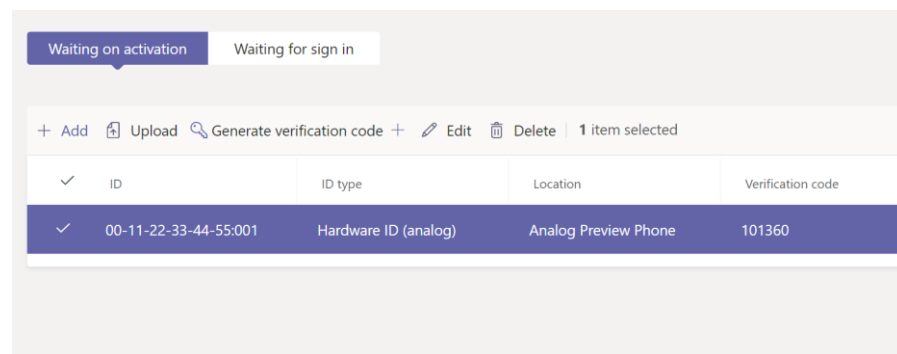
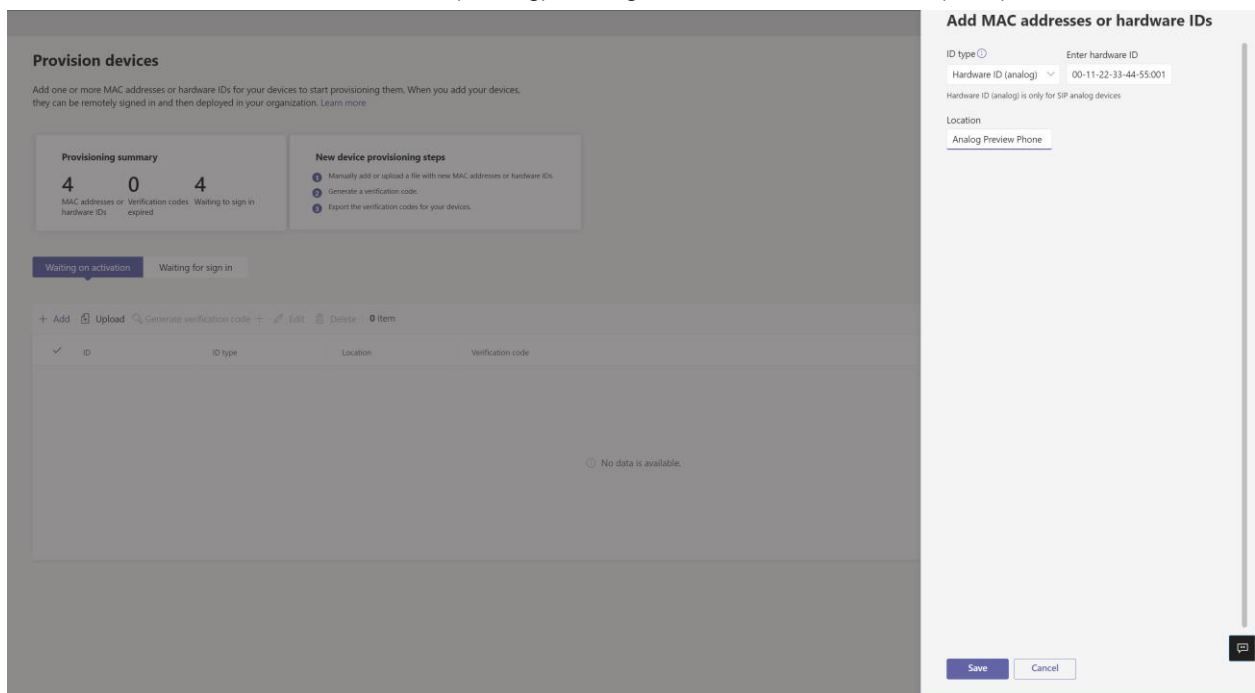
9.1.1 Pairing Procedure: Remote Sign-in

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**

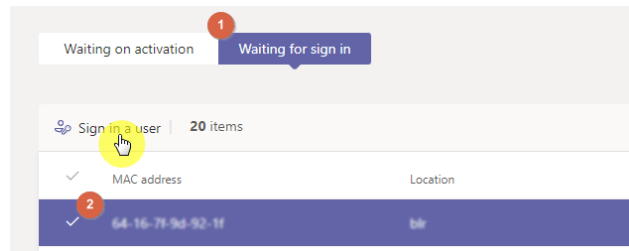


3. Add the Hardware ID (analog), then generate verification code (OTP)



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.

- In TAC switch to **Waiting for sign in** tab, select the MAC address and press **Sign in a user**

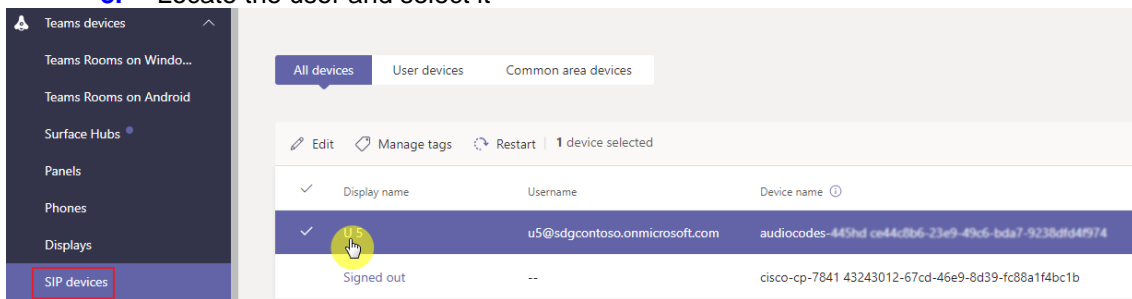


- Complete the web sign-in process by following the instructions on screen, use the account you want to be assigned to FXS port.

9.1.2 Unpairing Procedure: Remote Sign-out

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

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



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

