

LENOVO THINKSMART MICROSOFT TEAMS ROOM DEPLOYMENT GUIDE

(DRAFT)

Version 17 – 08 July 2024 – Lenovo Smart Collaboration WW Technical Team

MTR app version 5.0.x.x

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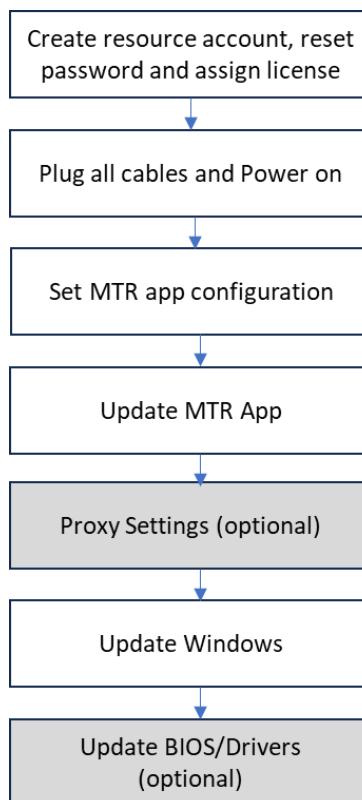
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DOCUMENT PURPOSE

This document describes the steps required to deploy a Microsoft Teams Room on Windows system based on the Lenovo ThinkSmart products.

The guidelines described in this paper are quite generic. More complex rooms may have different requirements that should be handled on a case-by-case basis.

HIGH-LEVEL FLOW



REQUIRED DEPLOYMENT TOOLKIT

This section lists all required or recommended tools a technician deploying the system should bring on-site as best practice.

ESSENTIAL

Item	Notes
USB keyboard and mouse	Also wireless if USB dongle is available
2x spare HDMI cables	Please note HDMI cables for connection to the Front-Of-Room display/s and for HDMI-ingest content sharing are not included in the products [only the ThinkSmart IP Controller includes an HDMI-ingest

Item	Notes
	cable]. HDMI spare cable are also required to verify functioning of HDMI cables already present in the room.
1x USB memory stick (at least 16 GB)	Used to locally transfer files to system or to install recovery images, if required. The USB stick should contain already a copy of the latest MTR app version (you can download from https://go.microsoft.com/fwlink/?linkid=2151817) (it's a .ps1 file)
cutter	
1x small screwdriver + 1x medium screwdriver	Small screwdriver used to secure cables on the rear of the ThinkSmart IP controller; medium screwdriver used for cable management in ThinkSmart Core and Hub
Bunch of narrow zip ties (width ≤ 3.6 mm)	Essential for ThinkSmart One, useful to secure cables in general

OPTIONAL

Item	Notes
1x spare USB-B to USB-A cable	For connection to interactive touch displays, or to extend Inogeni Toogle to the room table (5 meters at least required length)
1x USB memory stick (at least 16 GB) already containing the iso recovery image of the system	
2x spare Full HD EDID minders	for example https://evanlak.com/products/hdmi-edid-emulator-128080060hz-718 available also on Amazon for less than 20 euros each. EDID minders may be required in case there are issues in the handling of the Front-Of-Room displays by the Windows system

BEST PRACTICE FOR CABLING

Please follow the Quick Start Guide enclosed in the box for cable connections.

In particular:

- [for ThinkSmart Core with IP Controller] connect the USB cable from the IP controller Link/Transcoder to the “blue” USB-A port on the ThinkSmart Core:

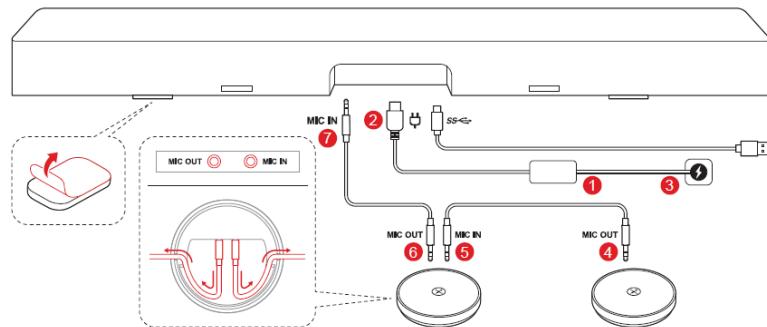
For optimal performance on ThinkSmart Core

Connect the IP Controller (transcoder) to the USB-A 3.2 Gen1 "blue" port

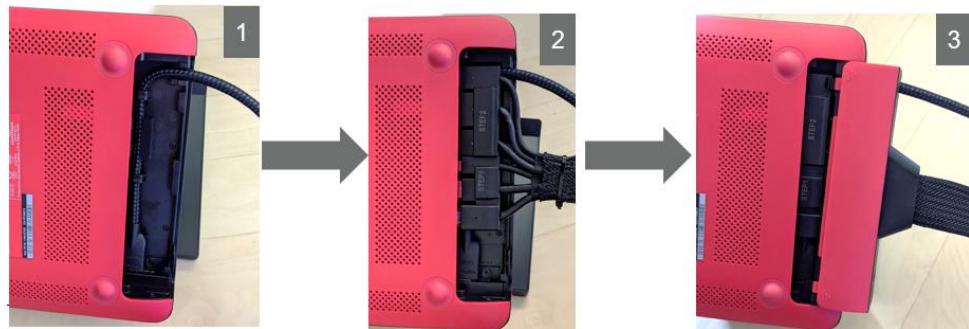


For the connection to the ThinkSmart One any USB-A port can be used.

- [ThinkSmart Core Full Room Kit] pay attention to the ThinkSmart Bar XL cabling for the table mic pods:



- [ThinkSmart Core/One] the (USB) Controller must be connected to dedicated USB-C port
- [ThinkSmart Core/One] in case of IP Controller, avoid using the USB-C port dedicated to the (USB) Controller
- [ThinkSmart Hub] make sure the HDMI-ingest cable for content sharing is inserted in its location before the One-Cable enclosure is inserted



For network connection please use a wired LAN link. A WiFi connection is recommended only for labs/demos.

On the ThinkSmart One, any RJ-45 port can be used.

ACCOUNT REQUIRED

Each MTR device requires a M365 **resource account** with type=room. Microsoft 365 resource accounts are Exchange mailbox associated to a Teams account that are dedicated to specific resources, such as a room or shared desk. This resource account is the account the Teams Rooms device logs into and is what users in your organization invite to book the Teams Room.

Every resource account is unique to a single Microsoft Teams Rooms installation.

If using Microsoft Teams panels (outside-room scheduling panel), you do not need any separate resource account for the panel since the Teams Rooms resource account signs in to both Teams Rooms and associated Teams panels.

After the resource account has been created in M365 Admin go to Users > Active users, and select the room you created to open the properties panel. Select Reset password. Please note requiring users to change the password on a shared device will cause sign in problems. Uncheck Require this user to change their password when they first sign in, and select Reset password.

Please make sure password expiration is disabled.

In case the room exists already (= it can be booked already), there is no need to create a new resource account nor to reset its password (but of course you need to know the room username and password).

Then assign the license to the user, either **Microsoft Teams Room – Basic** or **Microsoft Teams Room – Pro**.

Account Preparation

Microsoft Teams Rooms: Create Resource Account (if room does not exist yet)

The screenshot shows the Microsoft 365 Admin Center interface. The left sidebar has a 'Rooms & equipment' section highlighted with a red box. The main area shows a 'Rooms & equipment' list with a '+ Add resource' button highlighted with a red box. Below it, 'Edit booking options' are shown with a 'Auto accept meeting requests' checkbox selected. To the right, an 'Add resource' dialog box is open, prompting for a resource type (Room), name (Demo Room 26), email (demoroom26), domain (M365B812323.onmicrosoft.com), capacity (8), and location (London). A 'Save' button is at the bottom of the dialog.

Account Preparation

Microsoft Teams Rooms: Create Resource Account (if room does not exist yet)

The screenshot shows the Microsoft 365 admin center interface. On the left, the 'Active users' section is highlighted with a red box. In the center, a 'Demo Room 26' user card is displayed, also with a red box around its title. On the right, a 'Reset password' dialog box is open for the same user, with a red box around the 'Reset password' button. The bottom of the screen shows a note: 'Note: Set password to not expire and no MFA' with a red box around it.

For a detailed comparison between Teams Rooms Basic and Teams Rooms Pro licenses see
<https://learn.microsoft.com/en-us/microsoftteams/rooms/rooms-licensing#teams-rooms-license-service-plan-comparison>

Important: User licenses aren't supported for use with meeting devices. User licenses that have been assigned to Teams Rooms devices need to be replaced by an approved Teams Rooms license. As of September 30, 2023, Meeting devices that do not have a Team Rooms license are blocked from signing in until a Teams Rooms license is assigned.

START OF THE OUT-OF-THE-BOX (OOBE) EXPERIENCE

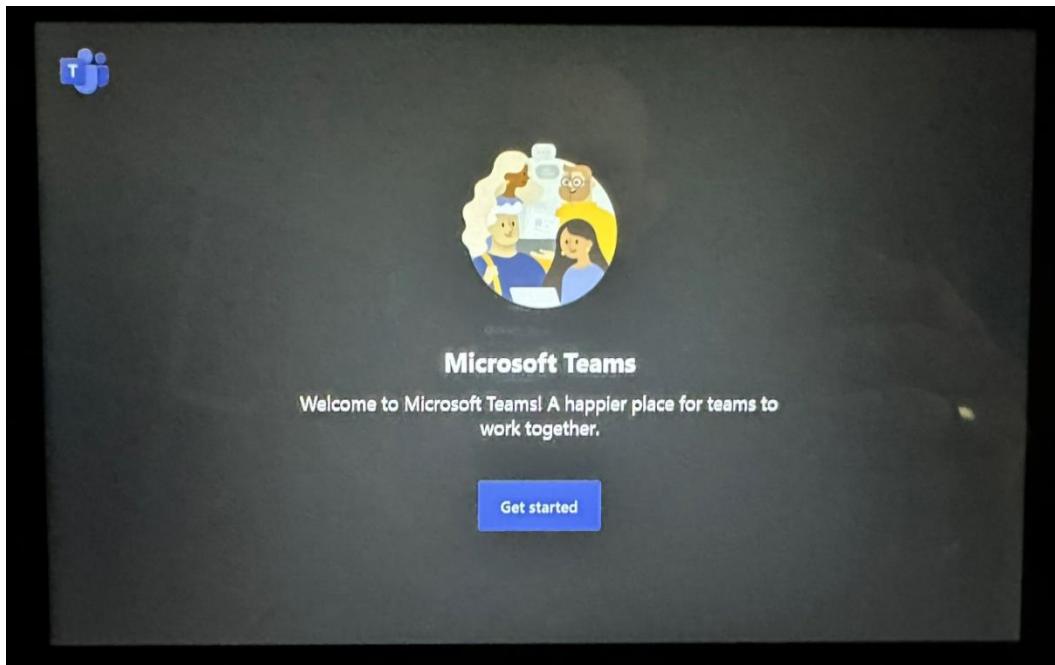
1. Progress through the blue windows screens to configure relevant Region and Keyboard Layout, Skip second keyboard:



- When you reach the black page with a QR code and Machine info you can “claim” the device to your ThinkSmart Manager account or press skip (you will be able to claim the device to ThinkSmart Manager later, if needed). If you get any error about ThinkSmart Manager, press “skip for now”



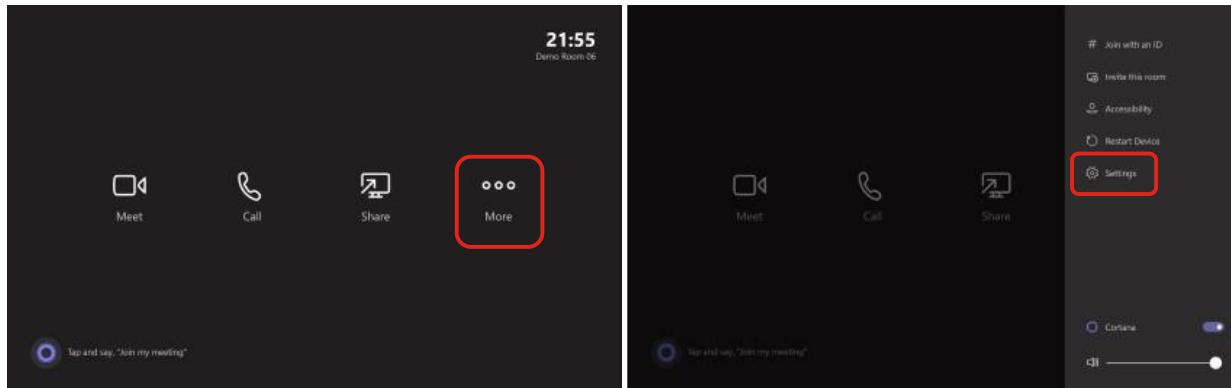
- On the next screen set the local admin password (must be a minimum of eight characters). In case the device has been claimed to ThinkSmart Manager then the windows admin password is automatically defined by ThinkSmart Manager and can be changed in the portal



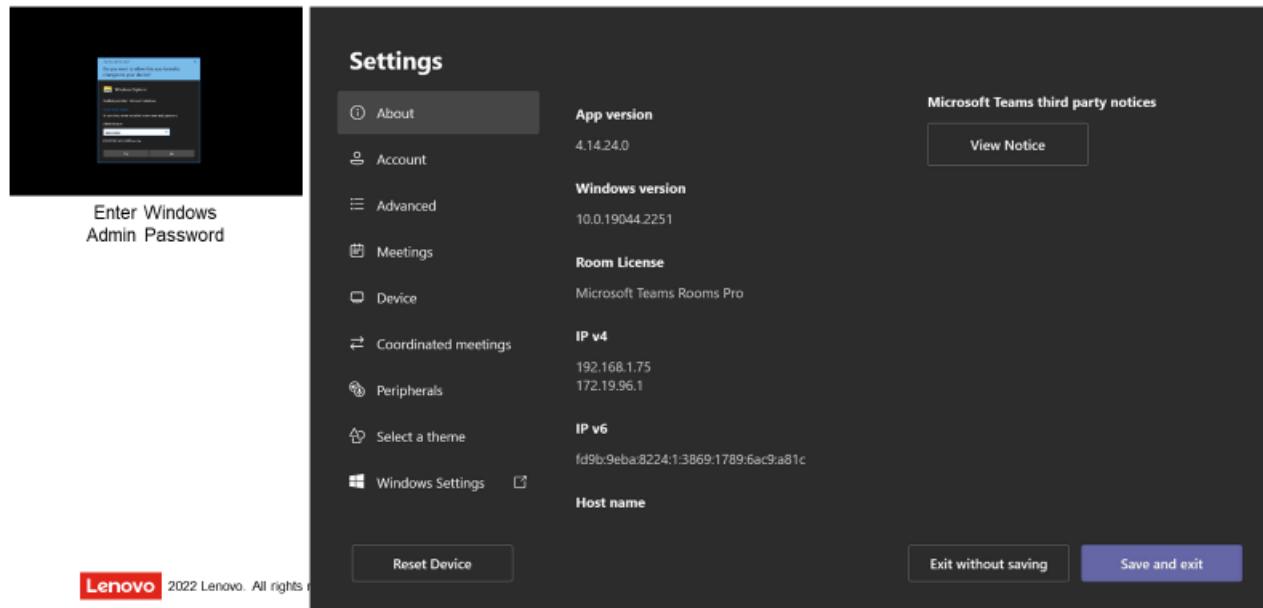
- Then accept End User License Agreement
- Select Manual Setting (unless you have created an OTP/Verification Code in Pro Management Portal)

- Enter resource account credentials
- Click Finish

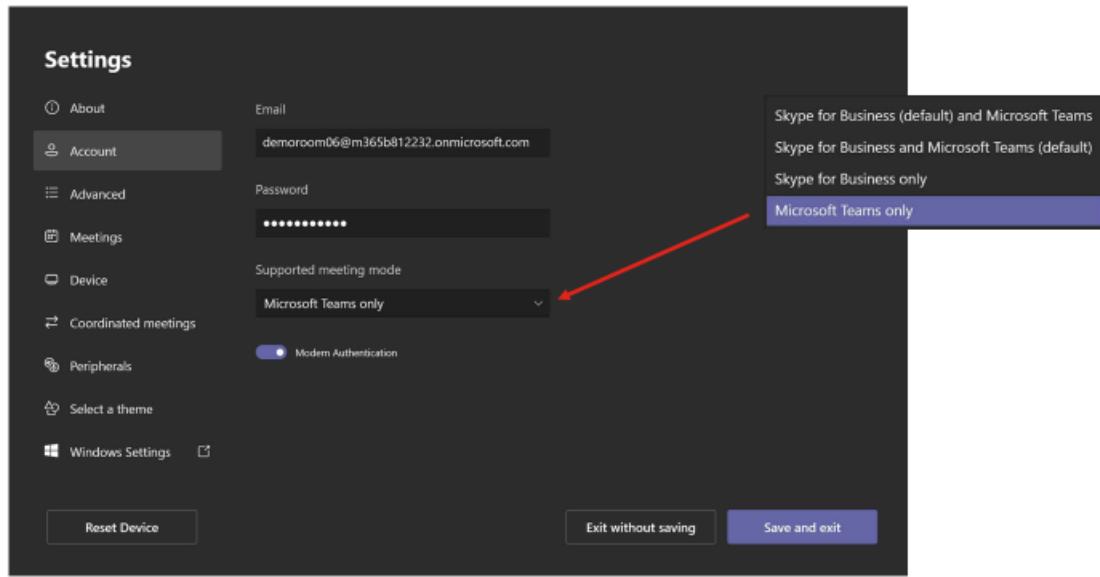
How to access MTR settings



How to access MTR settings



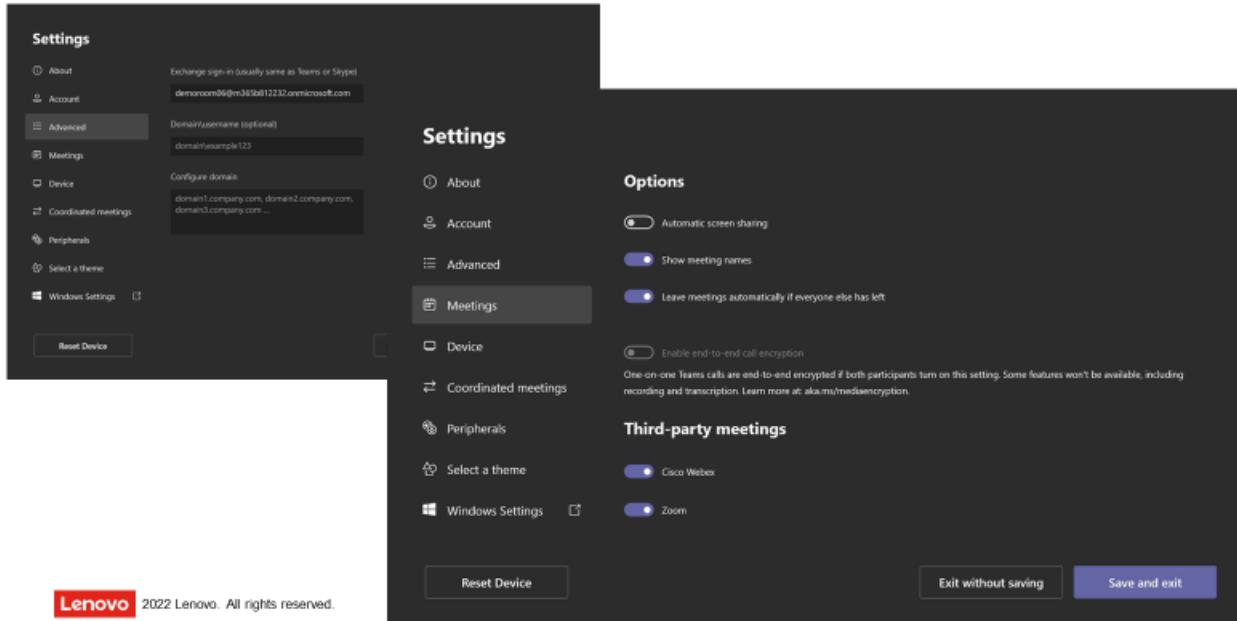
MTR settings: Account



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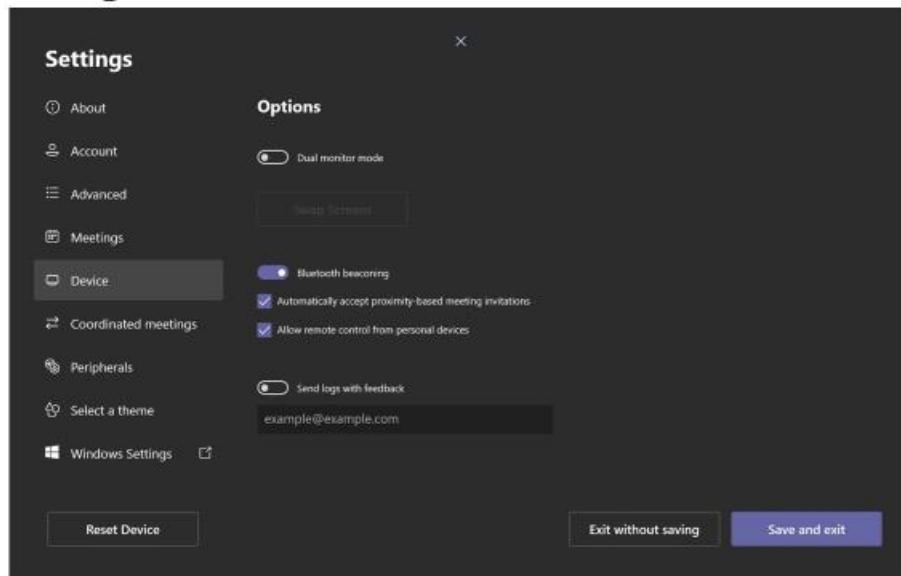
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MTR settings: Advanced and Meetings



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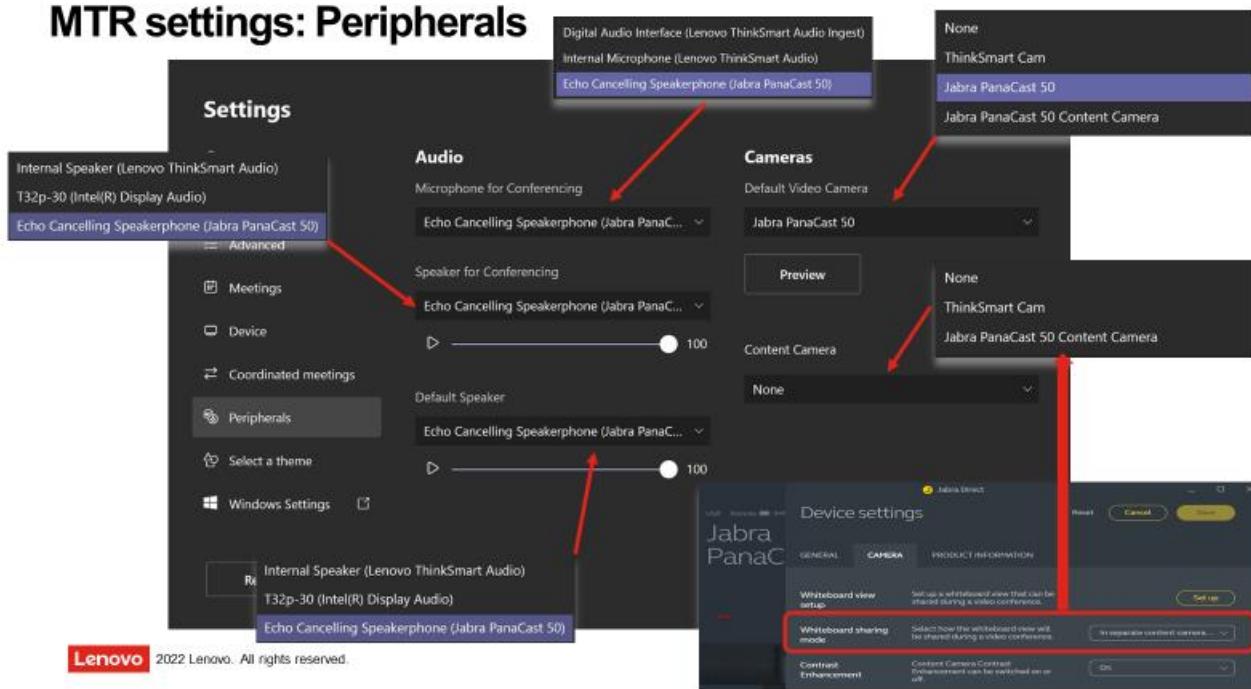
MTR settings: Device



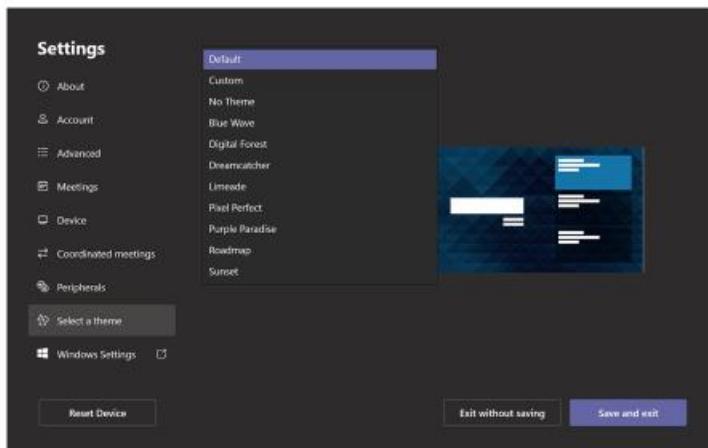
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MTR settings: Peripherals



MTR settings: Themes



Both files have to be placed at:

C:\Users\Skype\AppData\Local\Packages\Microsoft.SkypeRoomSystem_8wekyb3d8bbwe\LocalState

A good video on the whole process by Microsoft: <https://www.youtube.com/watch?v=ub9z3Pe19xQ>



How to use a custom background:
the custom background and the
SkypeSettings.xml files pointing to it have to be
placed in a specific directory on the MTR. The
procedure is described at
<https://learn.microsoft.com/en-us/microsoftteams/rooms/xml-config-file>

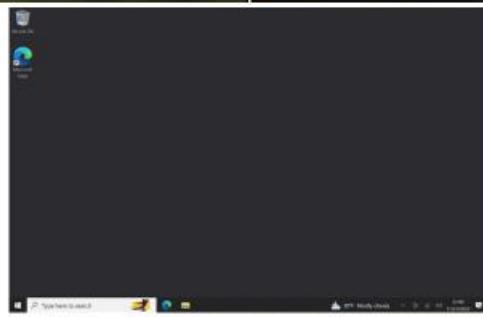
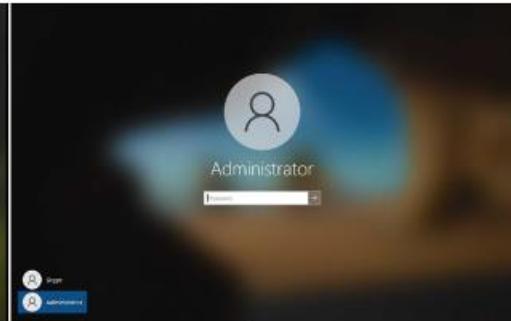
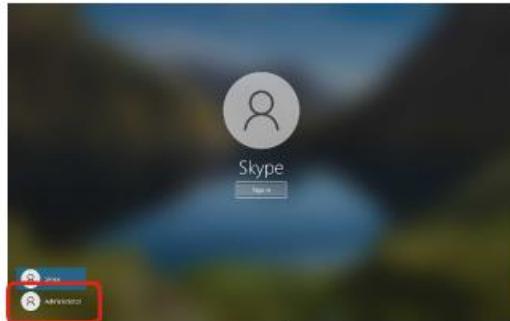
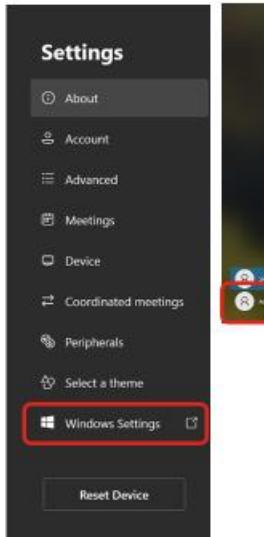
<https://learn.microsoft.com/en-us/microsoftteams/rooms/xml-config-file#custom-theme-images>

The Microsoft template is available at
https://learn.microsoft.com/en-us/microsoftteams/downloads/themingtemplate_microsoftteamsrooms_v2.1.psd
You can use photoshop or Gimp:
<https://www.gimp.org/>

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MTR settings: Windows Settings

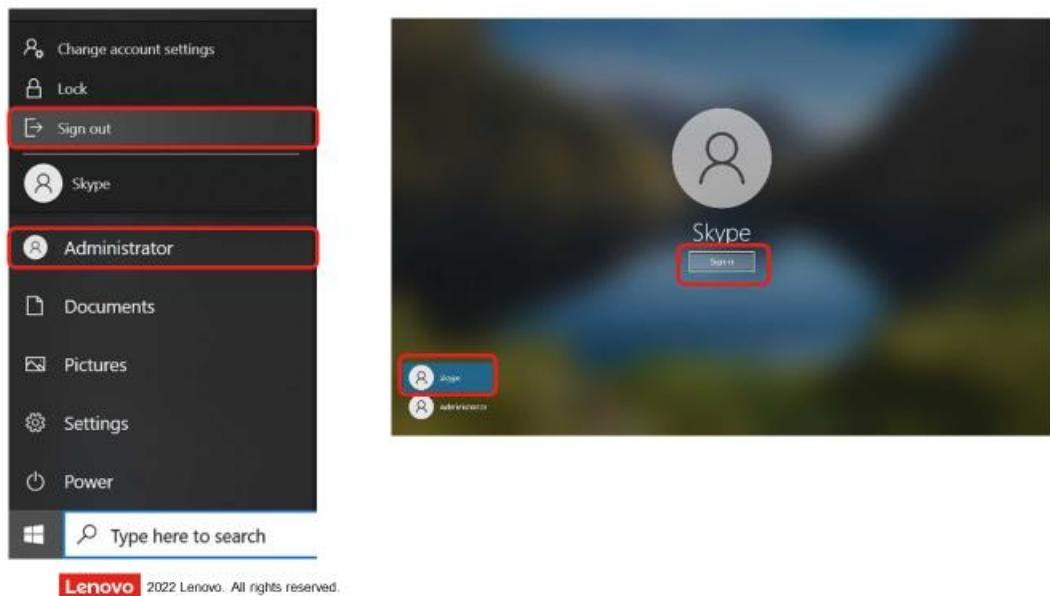


Enter Windows
Admin Password

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MTR settings: Return to MTR from Windows Settings



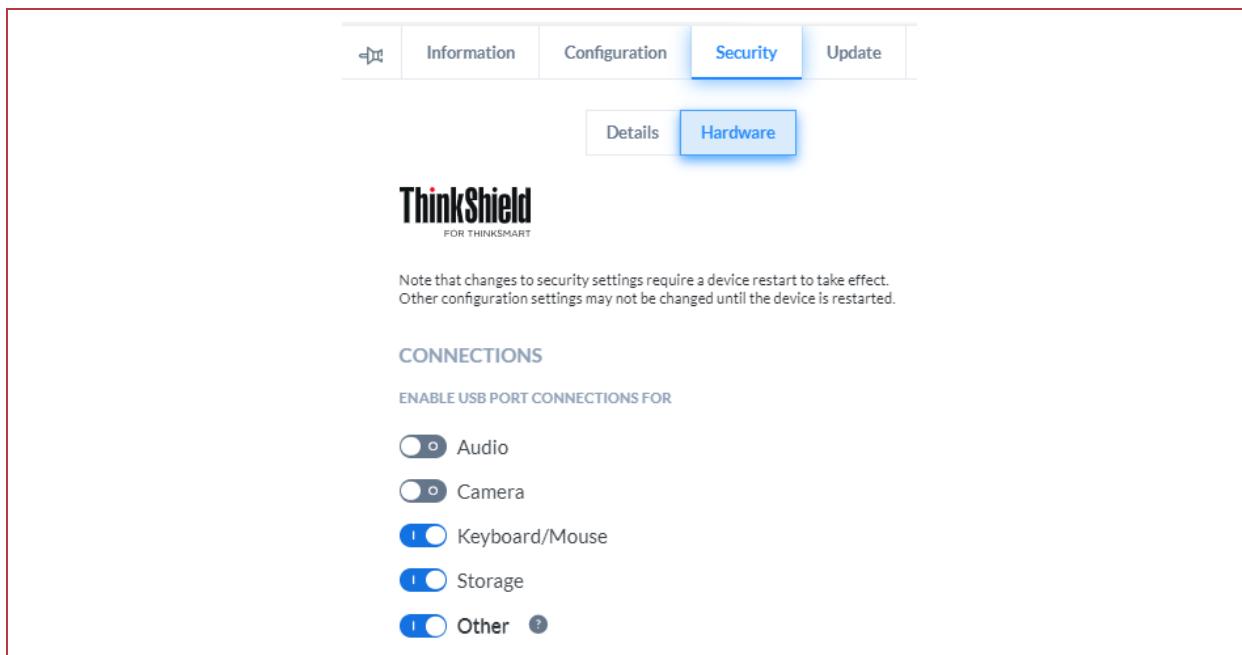
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UPDATE THE MICROSOFT TEAMS ROOM (MTR) APP FIRST!!!

The device must be connected to network, HDMI (display) and Touch Controller. Requirements: USB Keyboard, USB Key with stored the MTR manual update powershell script (you can download from <https://go.microsoft.com/fwlink/?linkid=2151817>) (it's a .ps1 file).

4. After the initial OOB (and some automatic restarts) the system should start booting into Teams (logo should be seen) and you will reach the black EULA page
5. Disconnect from network (unplug Ethernet cable)
6. Press the windows key on your keyboard 5x times (this allows to access the admin account while the Skype user is still signed in)
7. You will see the windows login screen; login as admin using the local password you just set
8. Then insert a USB stick and copy the MTR-Update-x.y.z.w.ps1 file to the Downloads folder

In case the device has been claimed to ThinkSmart Manager with the Activation Code during the OOB, ThinkSmart Manager automatically sets the USB port so that no memory stick can be connected. In that case you need to access ThinkSmart Manager and re-enable Storage option for USB connection.



9. Install the Teams App running the update script from the command prompt (CMD) run as administrator, execute the command:

```
powerShell -executionpolicy unrestricted  
"C:\Users\Admin\Downloads\MTR-Update-x.y.z.w.ps1"
```

(replace x.y.z.w with proper ID, e.g. 5.0.111.0).

10. Once the script has finished exit PowerShell and reboot the device
11. The device will reach the black EULA page again
12. Reconnect to network
13. Press the windows key 5 times and enter windows desktop as admin again and go to windows update, download/install all the OS, firmware and device updates available (including optional). Those updates include latest versions of product BIOS, firmware and drivers

PROXY SETTINGS (OPTIONAL)

Microsoft Teams Rooms does not support proxy authentication as it may interfere with regular operations of the room. Ensure that Microsoft Teams Rooms have been exempted from proxy authentication before going into production.

Microsoft Teams Rooms does not support proxies inspecting TLS.

If your proxy server utilizes internally signed certificates, you must install the internal certificate chain, including the root CA, on the Microsoft Teams Rooms device.

Proxy settings are configured in 4 sections:

- Windows Settings
- Skype User Registry Hive
- Bitsadmin (only in case of MTR Pro license)
- netsh (in case ThinkSmart Manager is used)

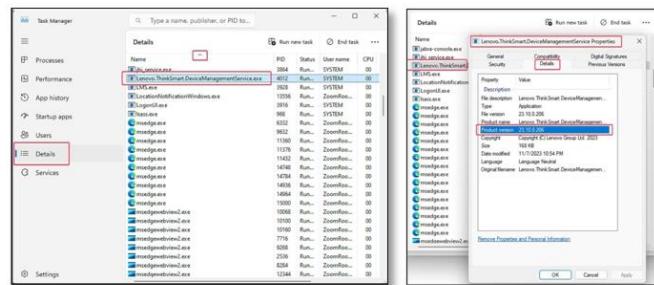
NOTE

Please make sure the ThinkSmart Manager client running on the device has been updated to a version at least as old as 23.7, prior to setting the proxy. In case you are setting the device on a separate staging network with direct access to internet the client will automatically update to the latest version. Otherwise you need to manually install the latest version of the ThinkSmart Manager client (download from <https://support.lenovo.com/ph/en/downloads/ds542392>).

How to check which version of the ThinkSmart Manager client is running on your device (3 methods):

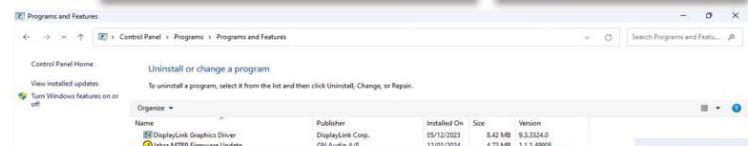
1 – Task Manager

- Details tab
- Sort by Name
- Find **Lenovo.ThinkSmart.DeviceManagementService.exe**
- confirm it is running
- right-click on this process > Properties > Details



2 – Control Panel

- Programs
- Find **Lenovo ThinkSmart Software**



3 – WMIC

• In Command Prompt:
`wmic datafile
name="C:\Windows\System32\drivers\lenovo\ThinkSmart\Management\service\Lenovo.ThinkSmart.DeviceManagementService.exe" get Version /value`

In older versions of TSM you can see the version in Device Manager under System Devices

PRELIMINARY STEPS

- With the MTR app running, press the windows logo key on your keyboard 5x times (this allows to access the admin account while the Skype user is still signed in)
- You will see the windows login screen; login as admin using the local password
- Go to Task Manager, select Users tab
- Right-click on the Skype user and select “Sign Off”

WINDOWS SETTINGS

As Windows Administrator > Settings > Network & internet > Proxy:

- Configure your proxy settings depending on the method chosen by your organization:
 - **Automatically:** Windows detects the proxy server settings automatically through the WPAD protocol on the basis of info from DNS/DHCP
 - **Set up PAC script:** you need to set the location of the proxy setup script for your organization
 - **Manually:** you need to set the proxy server name or IP address and port (optional)
- Close Settings

SKYPE USER REGISTRY HIVE

- As Windows Administrator, in the Search Windows box type in regedit (either long press the screen or right select and choose Run as administrator)
- Select on the HKEY_USERS folder (you'll see a list of machine user SIDs) ensure the root folder HKEY_USERS is selected
- Select on File and then choose Load Hive
- Browse to the C:\Users\Skype folder and type in the File name box NTUSER.dat and press the open button
 - You need to enable "View Hidden Items" in File Explorer to see the NTUSER.dat file
 - In case you get an error that the NTUSER.dat file is in use
- You'll be prompted for a Key Name for your newly loaded Hive; type in Skype (you should now see the registry settings for the Skype User)
- Open the Skype key and browse to HKEY_USERS\Skype\SOFTWARE\Microsoft\Windows\CurrentVersion\Internet Settings then ensure these settings are entered:

```
"MigrateProxy"=dword:00000001  
"ProxyEnable"=dword:00000001  
"ProxyServer"="xx.xx.xx.xx:8080" (string) or  
"AutoConfigURL"="http://.../proxy.pac (string) (replace proxy.pac with the name of your PAC  
file) depending on the proxy configuration method chosen by your organization.
```

If a field above does not exist you may have to add it.

- Once you're finished making your changes highlight the Skype User key (root folder for Skype) and choose unload Hive from the Registry file menu (you'll be prompted for confirmation - select Yes)
- You can now close the registry editor

PRO MANAGEMENT AGENT PROXY (BITSADMIN)

- As Windows Administrator, in the Windows Search field, enter cmd (either long press the screen or right select, and choose Run as administrator).
- Run the following command (double quotes at end of command are important):
 - If using single proxy server:

```
bitsadmin /Util /SetIEProxy LOCALSYSTEM MANUAL_PROXY  
<proxyserver>:<port> ""
```

Example:

```
bitsadmin /Util /SetIEProxy LOCALSYSTEM MANUAL_PROXY  
contosoproxy.corp.net:8080 ""
```

- If using a pac file:

```
bitsadmin /Util /SetIEProxy LOCALSYSTEM AUTOSCRIPT <pac file url>
```

Example:

```
bitsadmin /Util /SetIEProxy LOCALSYSTEM AUTOSCRIPT  
http://contosoproxy.corp.net/proxy.pac
```

NETSH

- As Windows Administrator, in the Windows Search field, enter cmd (either long press the screen or right select, and choose Run as administrator).
- Run the following command:

```
netsh winhttp import proxy source =ie
```

FINAL REBOOT

- Reboot the system for all proxy settings to take effect

NOTE

After claiming the device to ThinkSmart Manager, please apply the proxy configuration in ThinkSmart Manager as well:

PROXY SETUP

Proxy Settings

Autoconfig

Proxy Script URL

<https://your.proxy.url>

UPDATE WINDOWS

After updating the MTR app you can now update Windows through Windows Settings > Windows Update

Please run Windows Update until no further update is offered. The whole process may require several launches of Windows Updates, especially in case the running OS version is old.

Please install optional updates as well.

UPDATE DRIVERS/FIRMWARE

By default all Lenovo/Intel drivers/firmware are installed as part of the Windows Update process.

Nevertheless, in some rare circumstances it may be possible that a manual installation is required, as described in the following sections.

ROTATION APP (ONLY FOR THINKSMART CORE/ONE)

Systems manufactured before October 2023 require a manual installation of the Rotation App.

If, when you access the Windows system as admin, you see two command prompt pages that do not close automatically, then you need to install the Rotation App.

Download:

- ThinkSmart One (u1rot02us14wt.exe): <https://smartsupport.lenovo.com/us/en/products/smart/smart-collaboration/thinksmart-one-microsoft-teams-rooms/12bs/downloads/ds559859-rotation-app-driver-for-windows-iot-10-64-bit-version-21h2-thinksmart-one-microsoft-teams-rooms?category=Graphics%20Processing%20Units%20%28GPU%29%20and%20Server-AI%20Accelerators>
- ThinkSmart Core (u1rotbeus14lcfc.exe): <https://smartsupport.lenovo.com/us/en/products/smart/smart-collaboration/thinksmart-core-controller-full-room-kit-microsoft-teams-rooms/11s2/downloads/ds563349-rotation-app-for-aux-display-for-windows-iot-10-64-bit-thinksmart-core?category=Graphics%20Processing%20Units%20%28GPU%29%20and%20Server-AI%20Accelerators>

After downloading, run the .exe file as administrator.

THINKSMART ONE AUDIO FIRMWARE

Latest audio firmware for ThinkSmart One has been distributed yet through Windows Update. Therefore a manual installation is required.

Download:

Audio Driver for Windows 11 IoT 64-bit (version 22H2) - ThinkSmart One MTR

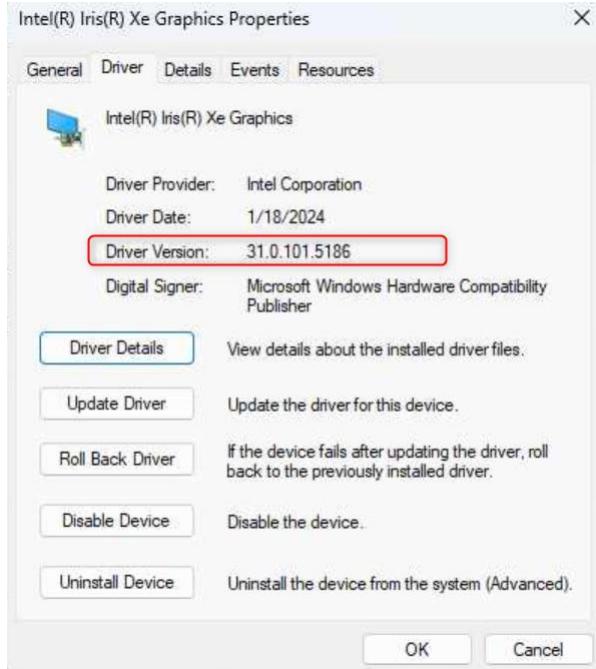
<https://smartsupport.lenovo.com/us/en/products/smart/smart-collaboration/thinksmart-one-microsoft-teams-rooms/12bs/downloads/driver-list/component?name=Audio&id=3AA7F1C4-5B2A-453C-9CE2-B8FCDA8B69BA>

After downloading, run the .exe file as administrator.

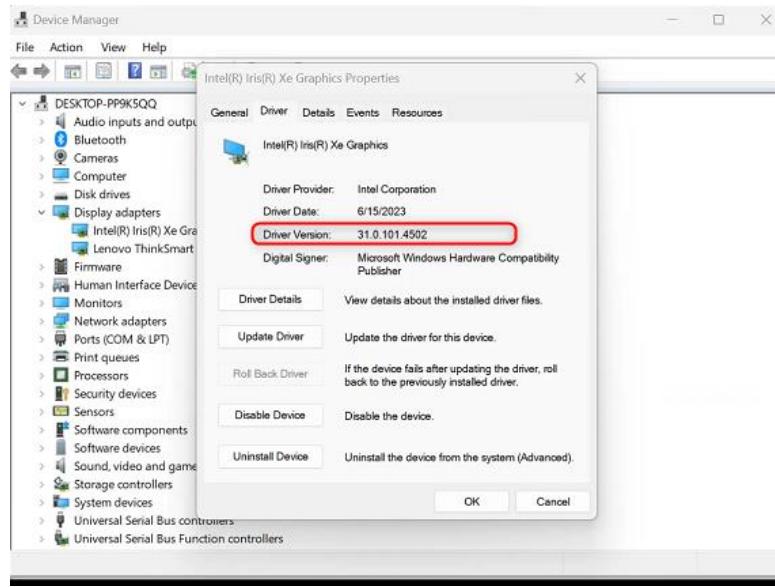
For optimal audio performance you can disable the Noise Suppression in the MTR app by setting:
<NoiseSuppressionDefault>0</NoiseSuppressionDefault>
in the *SkypeSettings.xml* file as described in one of the following sections.

ROLLBACK INTEL IRIS XE GRAPHIC DRIVER

We have received reports of ThinkSmart Core devices displays not waking up after inactivity after receiving Intel Corporation - Display - 31.0.101.5186 driver through Windows Update.



Microsoft/Intel have removed the update from Windows Updates but it is possible that old devices have received that update before it was removed. In that case, it is suggested to roll back this driver to its previous version if you're experiencing the issue described above regarding attached displays not waking up properly after device inactivity. The previous version of the driver is version 31.0.101.4502 shown in the below screenshot:



Roll back instructions:

1. Open "Device Manager" on the impacted device
2. Under "Display Adapters" right click "Intel(R) Iris (R) Xe Graphics"
3. Select Properties->Driver->Roll Back Driver
4. Ensure the driver is showing version 31.0.101.4502 after roll back.
5. reboot device

UPDATE BIOS

It's best practice to always update the system BIOS to the latest available version.

Go to Lenovo Support website <https://support.lenovo.com/us/en/>, select Smart > Smart Collaboration.

Select your product and the Machine Type (MT are the first 4 characters of the Model ID on the label on your device).

Driver & Software > Manual Update > BIOS/UEFI

Download the "BIOS flash utility package for Windows" .exe file. After downloading, run the .exe file as administrator.

THINKSMART BAR XL BLUETOOTH AND DRIVER

Please make sure any ThinkSmart Bar XL is updated in terms of Bluetooth and Driver:

1. **Bluetooth Firmware Update Tool for Windows 11 (Version 21H2 or later), 10 (Version 19H2 or later) - ThinkSmart Bar XL**

<https://smartsupport.lenovo.com/it/en/products/smart/smart-collaboration/thinksmart-bar/11rs/downloads/driver-list/component?name=Bluetooth%20and%20Modem>

2. ThinkSmart Bar Driver for Windows 11 (Version 22H2 or Later) - ThinkSmart Bar, ThinkSmart Bar XL

<https://smartsupport.lenovo.com/it/en/products/smart/smart-collaboration/thinksmart-bar/11rs/downloads/driver-list/component?name=Software%20and%20Utilities>

SET RESOLUTION AND SCALING

With version 5.x.x.x the MTR app is now capable of handling 4k resolution. In some cases it may be useful to downgrade resolution to Full HD 1080p.

In any case scaling has to be set to 100%.

WINDOWS DISPLAY SETTINGS

- In Windows Settings: Display > Select front-of-room display > set scaling 100% and resolution to 1920x1080. Then “Advanced display settings” > Display Adapter Properties > List All Modes > select 1920x1080 true color 60 Hz
- Repeat for second front of room display if present
- (repeat for Controller) In Windows settings: Display > Select controller display > set scaling 100% and resolution to 1280x800. Then “Advanced display settings” > Display Adapter Properties > List All Modes > select 1280x800 true color 60 Hz

EXTEND DISPLAY SETTINGS TO MTR APP

Change scale and resolution at the MTR app level: Command prompt (Run as administrator): run the following command:

```
Powershell -ExecutionPolicy Unrestricted
c:\Rigel\x64\scripts\provisioning\scriptlaunch.ps1
ApplyCurrentDisplayScaling.ps1
```

DISPLAY SETTING THROUGH SKYPESETTINGS.XML

Load the following SkypeSettings.xml file to C:\Users\Skype\AppData\Local\Packages\Microsoft.SkypeRoomSystem_8wekyb3d8bbwe\LocalState and then restart system

```
<SkypeSettings>
  <EnableResolutionAndScalingSetting>true</EnableResolutionAndScalingSetting>
  <MainFoRDisplay>
    <MainFoRDisplayResolution>1920,1080</MainFoRDisplayResolution>
    <MainFoRDisplayScaling>100</MainFoRDisplayScaling>
  </MainFoRDisplay>
  <ExtendedFoRDisplay>
    <ExtendedFoRDisplayResolution>1920,1080</ExtendedFoRDisplayResolution>
    <ExtendedFoRDisplayScaling>100</ExtendedFoRDisplayScaling>
  </ExtendedFoRDisplay>
</SkypeSettings>
```

NOTE

In case your system is still affected by symptoms that may include:

- a black or grey screen on the front-of-room display
- or the Teams Rooms console becomes unresponsive after waking from standby mode
- loss of scaling settings in windows with console being displayed on a portion of the front-of-room display
- Front of room displays not waking up

even after setting resolution and scaling as described above, you may need to use an EDID minder (aka EDID emulator). EDID minders are HDMI dongles used to force EDID information delivered to the windows compute by intercepting the EDID info coming from the front-of-room displays, normalizing it and setting predefined resolution and scaling.

Examples of EDID Minders on the market:

- Fixed-resolution

Example: Evanlak HDMI EDID Emulator 1080x1920@60hz - <€16 - <https://evanlak.com/products/hdmi-edid-emulator-128080060hz-718> / <https://www.amazon.fr/dp/B07YMS18T7> - this is by far the EDID minder most widely used by AV partners, with good results

- Configurable-resolution

Example: Lindy HDMI 2.0 18G EDID Emulator (No. 32114) – €100-120 - <https://www.lindy-international.com/HDMI-2-0-18G-EDID-Emulator.htm?websale8=ld0101.ld021102&pi=32114> - support for EDID learning/cloning or Preset Emulation

Example: DR-EDID Emulator from FSR Video Products Group, https://fsrinc.com/fsr-products/product/dr-edid-manager-learner/category_pathway-143, HDCP 1.4 / 2.2 Compatible, Supports HDMI® 1.3/1.4/2.0, Supports up to 4K/UHD @ 60Hz, Manipulates EDID information with a rotary switch to select between 16 pre-installed setting, Learn and test the EDID from any Display (store and re-map with rotary position “0”), Around \$120 (list price \$143)

- Fully-configurable

Example: Crestron HD-RX-4K-210-C-E, <https://www.crestron.com/Products/Video/HDMI-Solutions/HDMI-Extenders/HD-RX-4K-210-C-E>, multiformat AV switch and receiver, Full control on EDID Management and HDMI-CEC, Remote management through Crestron XiO, Around \$1.700

INTERACTIVE DISPLAYS (OPTIONAL)

Configuring Windows OS for Touch Displays

- HDMI + USB-A for touch control
- The MTR console is a touch display
- When at least one of the front room displays are touch, we need to instruct Windows to identify which touch control input refers to which touch display (HDMI to USB mapping)
- Procedure (as admin): [a USB keyboard is required]
 - Go to **Control Panel**
 - Search for **Tablet**
 - Select **Tablet PC Settings**
 - Setup



UPLOAD SKYPESETTINGS.XML FILE (OPTIONAL)

The SkypeSettings.xml file allows to consistently configure multiple rooms. There are also configuration parameters that can be set only through the SkypeSettings.xml file method.

To create such a file copy the latest available version of the file from <https://learn.microsoft.com/en-us/microsoftteams/rooms/xml-config-file>

With a text editor like Notepad or Notepad++ copy the content into a new file and save it as SkypeSettings.xml

Remove the `<UserAccount> .. </UserAccount>` and `<Devices> .. </Devices>` sections.

Keep only the sections you want to modify from default values. Make sure the text is enclosed in the `<SkypeSettings> .. </SkypeSettings>` tags.

The Microsoft page <https://learn.microsoft.com/en-us/microsoftteams/rooms/xml-config-file> describes in details each parameter. Nevertheless, there are some parameters whose values we recommend to set:

Element	Default Value	Notes
<code><NoiseSuppressionDefault>0</...></code>	1	For ThinkSmart One optimal audio performance
<code><EnableCloudIntelliFrame>false</...></code>	true	
<code><FrontRowVideoSize>small</...></code>	medium	To maximize the content size. https://learn.microsoft.com/en-us/microsoftteams/rooms/xml-config-file

		us/microsoftteams/rooms/manage-front-row
<FrontRowPanelDefaults>1,1</...>	3,2	Hide raised hands and chat to maximize the content size
<SingleFoRDefaultContentLayout>1</...>	1	Content+People
<DefaultFoRExperience>1</...>	0	Front Row enabled by default
<ShowMeetingChat>false</...>	true	
<Theming> <ThemeName>Custom</ThemeName> <CustomBackgroundMainFoRDisplay>file name</...> <CustomBackgroundExtendedFoRDisplay>file name</...> <CustomBackgroundConsole>file name</...> </Theming>		You can use these parameters to load a custom background. See https://learn.microsoft.com/en-us/microsoftteams/rooms/custom-backgrounds?tabs=Enhanced for details
<WebExMeetingsEnabled>true</...> <ZoomMeetingsEnabled>true</...>		In case you want to use the direct Guest Join feature (to allow the MTR to take part to Zoom and/or Webex meetings). Please note that in that case you need to set the Exchange Calendar Processing as well (see below)

Copy that file to

C:\Users\Skype\AppData\Local\Packages\Microsoft.SkypeRoomSystem_8wekyb3d8bbwe\LocalState folder on the MTR system (you need to enable “View Hidden Items” in File Explorer). Then system has then to be rebooted (the file will be “consumed” and removed during reboot).

CHANGE LANGUAGE (OPTIONAL)

Changing the Teams Room console language or date & time format

- As Windows Administrator > Settings > Time & language > Language & region
- Under Regional format, select Recommended
- Under Preferred languages, select Add a language
- Select the language you want to add
- Select Next
- Under Language preferences, check Set as my Windows display language
- Select Install
- Verify that the language you added is at the top of the Preferred languages list and has become the Windows display language
- Optionally, if you want to remove any languages:
 - Select the three-dot menu next to the language you wish to remove.
 - Select Remove.
- Sign out

- Sign back in to your admin account
- Start an elevated command prompt
- Run the following command:

```
powershell -executionpolicy unrestricted  
c:\Rigel\x64\scripts\provisioning\scriptlaunch.ps1  
ApplyCurrentRegionAndLanguage.ps1
```

- Restart the system.

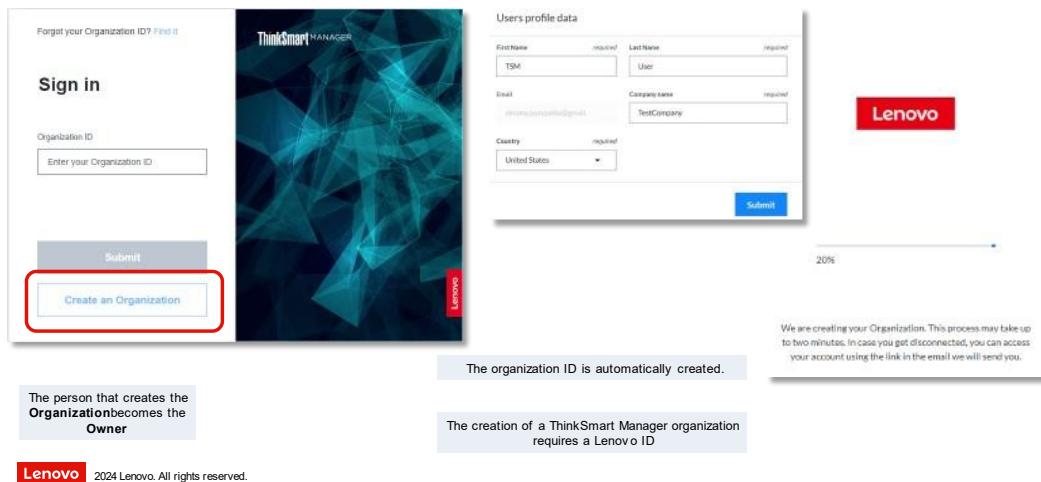
THINKSMART MANAGER DEVICE CLAIMING (OPTIONAL)

Lenovo ThinkSmart Manager platform (<https://portal.thinksmart.lenovo.com/>) is a cloud platform that facilitates remote deployment, setup, configuration, and monitoring of devices linked to the platform.

First create an organization if you haven't done so yet:

How to create a new Organization in ThinkSmart Manager

<https://portal.thinksmart.lenovo.com/>

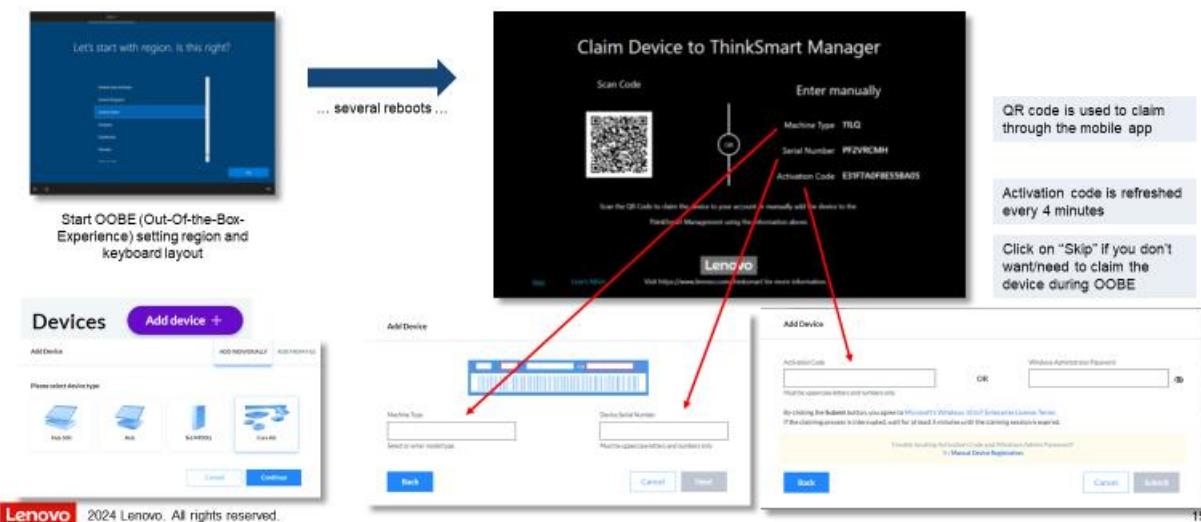


To Claim a device to ThinkSmart Manager you have 3 options:

Claim Device during OOB with Activation code

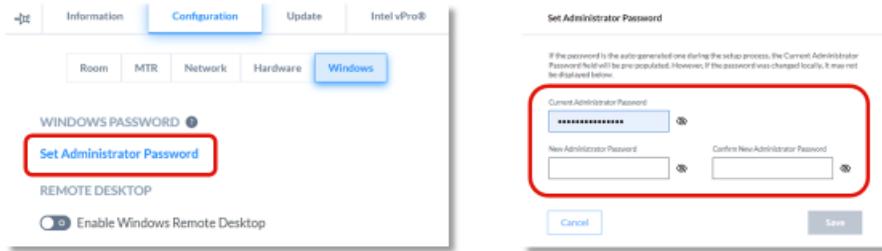
Claiming device at very first boot-up after unboxing (Out-Of-the-Box-Experience)
Ensure that the device is connected to the Internet during the claiming process.

Tip: wait at the OOB screen (blue) for 5 minutes while TSM-related self-updates happen in the background: that minimizes risks of getting errors during the claiming phase.



Claim Device during OOB with Activation code

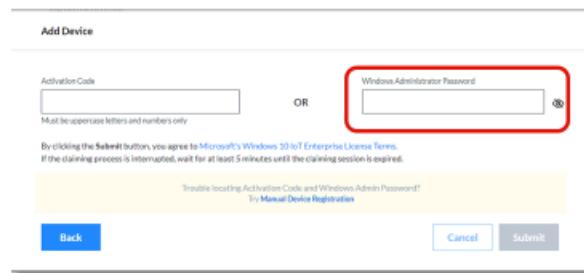
- During the OOB claiming, ThinkSmart Manager sets the Windows Admin password with a random string. Customer can then change the password (Current Administration Password is pre-filled by ThinkSmart Manager)



- A newly claimed device in ThinkSmart Manager is marked as "Unconfigured" until Room Name is set

Claim Device after OOB with Windows Admin Password

- In case device claiming during OOB is skipped or fails because of network disconnection, it is possible to claim the device afterwards by entering the Windows Admin password in place of the Activation Code
- When device claiming during OOB is skipped or fails because of network disconnection, the device console requires setting of the Windows Admin password (no default password exists). Windows Admin password must have at least 8 characters.

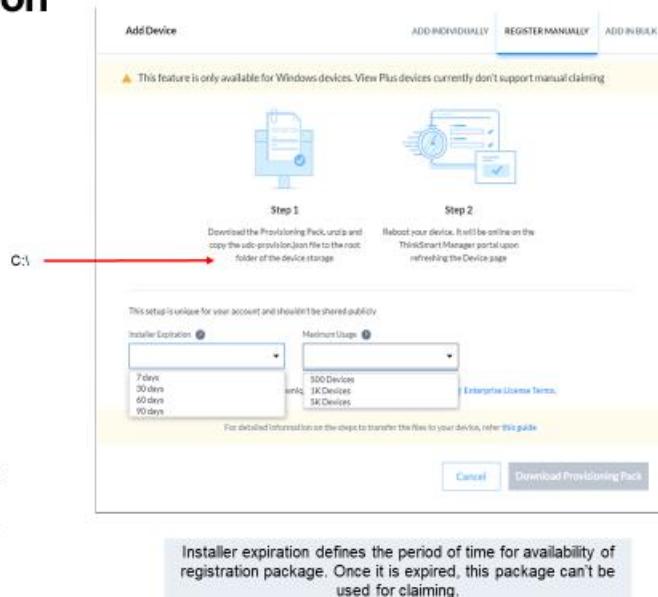


Manual Device Registration

- During Windows OOBE, if service is not available for some reason, you can claim the device using the Manual Device Registration



- Manual Device Registration can be used also when you're facing issues in claiming a device with the Windows Admin password
- Details of the Manual Device Registrations are available at <https://support.lenovo.com/us/en/solutions/ht51108>



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and license assignment

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SET EXCHANGE CALENDAR PROCESSING (OPTIONAL)

When you create the resource mailbox, you can specify whether you want to allow recurring meetings, have the room auto accept invites, how many days into the future to accept invites, and so on.

For details about setting mailbox properties: <https://learn.microsoft.com/en-us/microsoftteams/rooms/create-resource-account?tabs=m365-admin-center%2Cazure-active-directory2-password#configure-mailbox-properties>

- Set-ExecutionPolicy RemoteSigned
- Install-Module -Name MSOnline -Force (only first time you use powershell)
- Install-Module -Name ExchangeOnlineManagement (only first time you use powershell)
- \$UserCredentials = Get-Credential (> insert credentials of O365 admin)
- Connect-MsolService -Credential \$UserCredentials
- Connect-ExchangeOnline -Credential \$UserCredentials -ShowProgress \$true
- \$MailBoxAlias = "username-of-resource" (e.g. "testroom01")
- Set-CalendarProcessing -identity \$MailBoxAlias -ProcessExternalMeetingMessages \$true -DeleteSubject \$false -AddOrganizerToSubject \$false -DeleteComments \$false
- Disconnect-ExchangeOnline

-ProcessExternalMeetingMessages \$true is required to allow Direct Guest Join (please note that setting can be now configured from the Teams Room Pro Management Portal without PowerShell).

SECURITY HARDENING (OPTIONAL)

It is recommended you set up a BIOS Supervisor password to prevent unauthorized access to BIOS settings. The BIOS Supervisor password, after initial setting on the system, can be modified through ThinkSmart Manager.

In case you decide not to set a BIOS Supervisor password, we recommend to change the default MEBX password:

- During boot-up press Ctrl+P to access Management Engine BIOS Extension (Intel® MEBX)
- Default password is “admin”, it is changed automatically at first login (it must have at least 8 characters)
- Exit

SETTING THE CAMERAS

ThinkSmart Cam, ThinkSmart Bar 180 or the ThinkSmart One cameras can be configured remotely through ThinkSmart Manager.

In case the device is not claimed to ThinkSmart Manager you can install the Cam control App
(<https://support.lenovo.com/us/en/downloads/ds548893-thinksmart-camera-control-app-thinksmart-cam>)

IN CASE OF ISSUES WITH XBOX GAMING POPUP

In a Teams Rooms on Windows device, when you select Room Controls on the console, an Xbox app window appears. In some cases, this window is followed by a pop-up window that displays the following warning message: “Gaming Services required”.

The Xbox app is included as part of Windows but should not start automatically.

Workaround:

If you see the warning message, use the following steps to work around the issue:

- In the Teams Rooms device console, select More > Settings.
- Select Windows Settings.
- Sign in as an administrator.
- Search for and select Microsoft Store.
- Select Library in the navigation menu.
- Select Get updates.
- After all the applications, including the Xbox app finish updating, restart the Teams Rooms device.

If you don't see a warning message, use the following steps to prevent the Xbox app from starting automatically:

- Select Room Controls on the device console.
- In the Xbox app window that appears, select Sign in > Settings in the menu.
- Select General.
- Uncheck the Automatically launch app at startup option.
- Close the Xbox app window.

Ref: <https://learn.microsoft.com/en-us/microsoftteams/troubleshoot/teams-rooms-and-devices/teams-rooms-known-issues-windows#software-issues>

TESTING

We recommend partners/customers to test the behaviour of the MTR system by setting up test meetings and verify audio and video from outside the room (so, as an online participant).

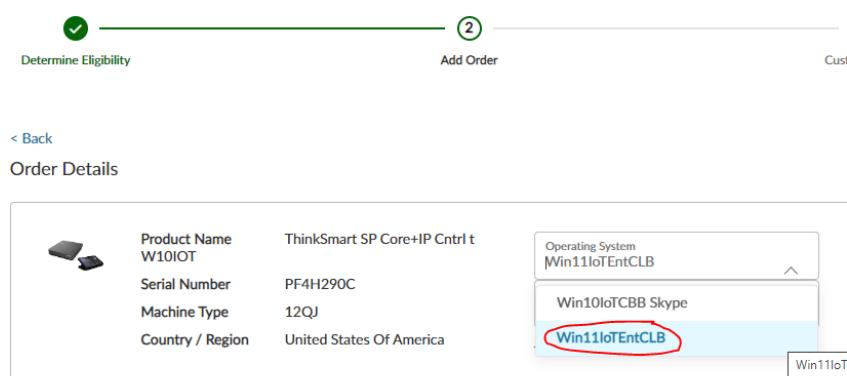
Important also to verify:

- the Display standby-wakeup procedure (by default after 15 minutes of inactivity and no signal from the proximity sensor installed on the Touch Controller).
- Content sharing from a laptop through the HDMI-ingest cable

IN CASE OF ISSUES: SYSTEM RECOVERY

- Required: USB Key (at least 16 GB), a USB keyboard, a USB mouse and a couple of hours
- insert your serial number @ <https://pcsupport.lenovo.com/us/en/lenovorecovery> (to access that site you have to create a Lenovoid, in case you haven't got yet one)
- Then follow the online instructions to download the digital image to a USB key. You will download an application on your PC to download the image and then "burn" it into a USB stick.
- During the selection process you will be able to choose between Windows 10 or W11 images.

Lenovo Recovery Media



Order Details

	Product Name W10IOT	ThinkSmart SP Core+IP Cntrl t
	Serial Number	PF4H290C
	Machine Type	12QJ
	Country / Region	United States Of America

Operating System

- Win11IoTEntCLB
- Win10IoTCBB Skype
- Win11IoT

- When the USB is ready, then insert that USB to the Hub/Core/One, access BIOS during bootup (F1), change the boot sequence to read the USB key (HDD) first, save with F10. Then follow the instructions on the screen. You will have to accept Ts&Cs, wait a few minutes for the system to read the iso image, disconnect the USB and click Continue. Then the system will run by itself until it reaches the beginning of the OOBE.

- Please make sure both the controller/console and an HDMI display are connected!
- Please note the same iso image can be used on different serial numbers provided the MTM (e.g. 12BS) is the same.

In case you're recovering a system already claimed to Lenovo ThinkSmart Manager, please run the recovery process with system disconnected from network until it reaches the Microsoft EULA page.

IN CASE YOU NEED TO CONTACT LENOVO PREMIER SUPPORT

Please have the following details ready:

- Serial Number
- BIOS Version
- OS Version (it can be retrieved from MTR app settings)
- MTR app version
- In case of audio/video issues, peripherals (such as cameras, microphones, displays) driver versions
- Troubleshooting Steps Already Taken:
- Any New Software Installed
- Domain Joining Information
- Mention if the device was recently added or removed from a domain, and if the Lenovo compute device is in a managed GPO.
- Indicate if the device has been reimaged recently.

We recommend also to run Hardware Diagnostics:

Hardware Diagnostics

Method One

- Press F12 during initial power-on when Lenovo logo screen appears
- Press the F12 during the start sequence. The Setup Drive Menu appears.

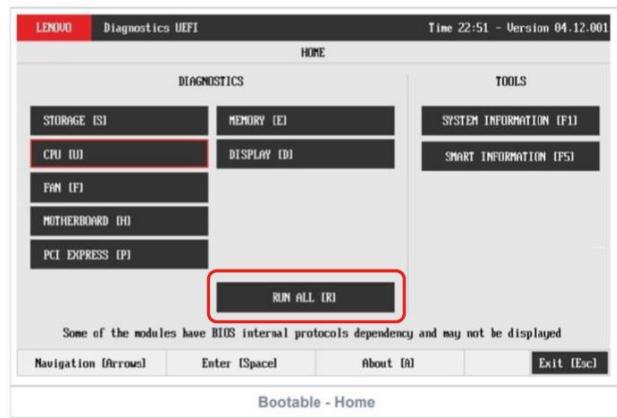


- Move to App Menu, then select Lenovo Diagnostics.



Method Two

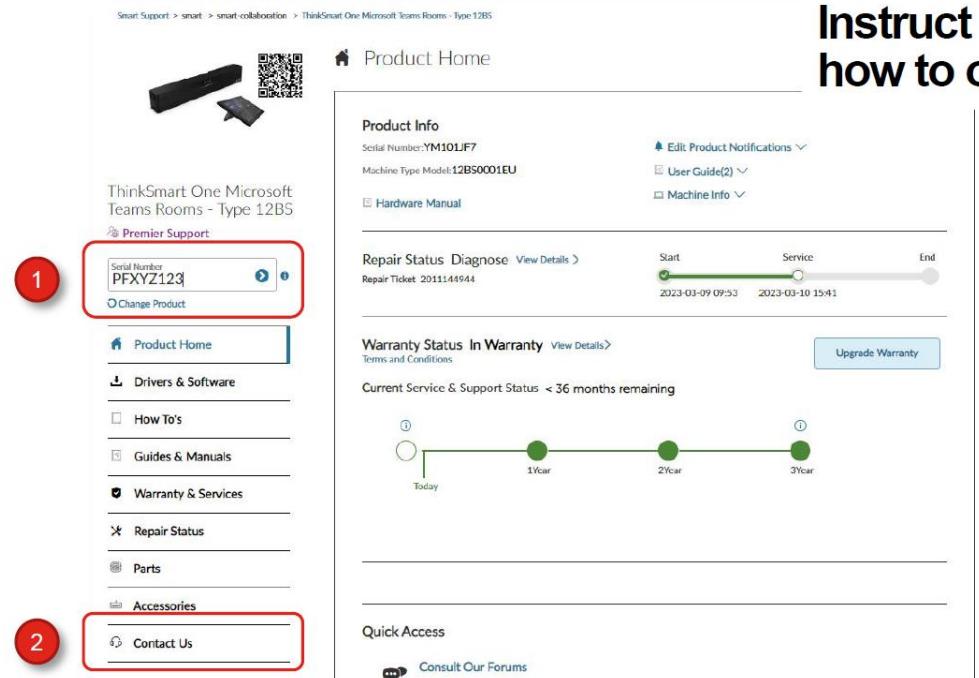
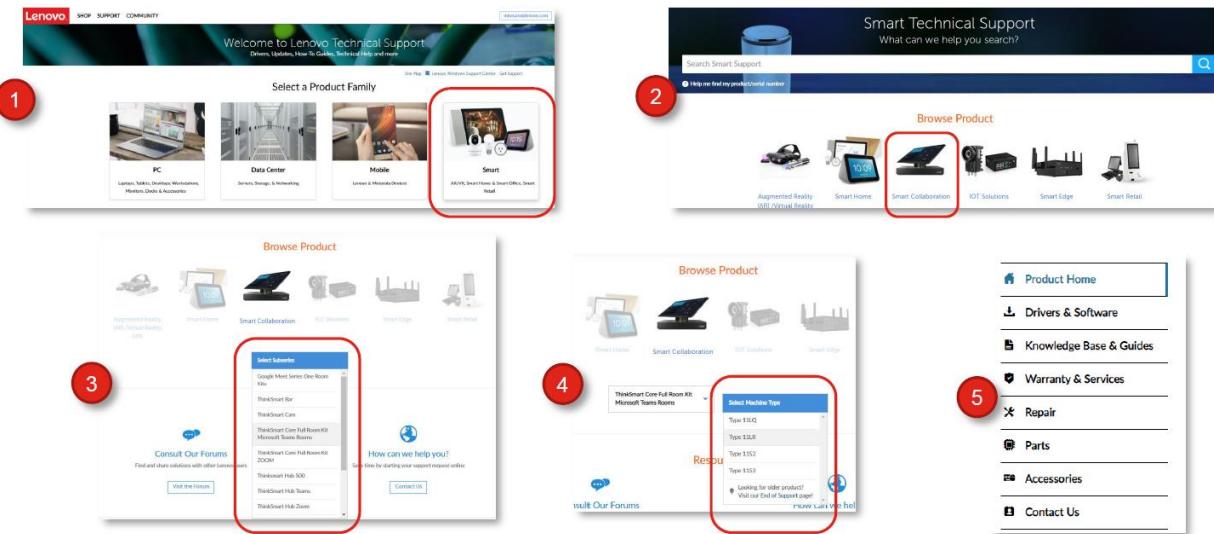
- To access diagnostics immediately, press F10 during initial power-on when Lenovo logo screen appears



We also recommend to visit our Smart Collaboration Support Site and enter your product's serial number for tailored support documents, specifications, and contact options.

Lenovo Support Website:

<https://support.lenovo.com/us/en/>



Instruct customers how to open a ticket

Contact Us

Welcome to Lenovo Premier Support for Smart Collaboration

Important: By contacting Lenovo, you are certifying that you are aged 16 or older.



Submit a New Ticket

Submit a new service request to resolve your issue

[Submit Now >](#)



Repair Status

Check the status of your product repair

[View Repair Status >](#)



Call for Premier Support

Premier Support Phone List

[Learn More >](#)



Incorrect Warranty

Get help with incorrect Warranty status

[Update Registration >](#)



Consult Our Forum

Get assistance from our community

[Visit The Forum >](#)



Lenovo Support on YouTube

Access instructional content about Lenovo products. Watch tutorial...

[Learn More >](#)

Contact Us

Welcome to Lenovo Premier Support for Smart Collaboration

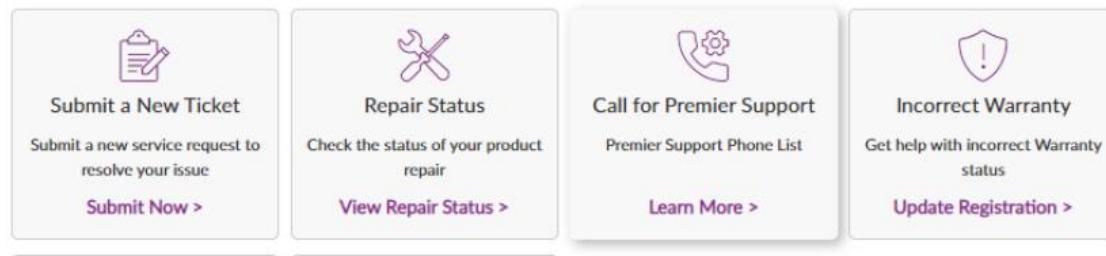
Important: By contacting Lenovo, you are certifying that you are aged 16 or older.

Support Phone List

Country/Region
Germany

Phone Number	Language	Hours of operation	Brand
For Approved OEM Customers Premier for OEM: 8006648337 Premier for OEM Local: +49 69380789019	German, English	8:00 - 18:00 Monday - Friday (After hours support available 7 days a week in English)	Think Products, Smart
Local: +49 71116917319 Toll Free: 08006645089	German, English	English 24 x 7, German 9:00 - 18:00 local Monday - Friday	Think Products, Smart

For Motorola Smartphones, [click here](#)



We appreciate your understanding and cooperation. By taking these steps, you play an invaluable part in ensuring efficient support and a seamless collaborative experience with Lenovo.

APPENDIX: ENTRA ID JOIN AND INTUNE/MDM ENROLLMENT (OPTIONAL)

- ✓ MTR on Windows Intune enrolment: <https://techcommunity.microsoft.com/t5/intune-customer-success/enrolling-microsoft-teams-rooms-on-windows-devices-with/ba-p/3246986>
- ✓ Avoid GPO inheritance: <https://learn.microsoft.com/en-us/microsoftteams/rooms/rooms-operations#configuring-group-policy-for-microsoft-teams-rooms>
- ✓ AAD security group created and all MTRoW resource accounts are added to it: [Click Here](#)
- ✓ AAD dynamic group created for MTR devices (matching to device name: "MTR-"): [Click Here](#)
- ✓ Intune Compliance Policy Created and assigned to dynamic device group: [Click Here](#)
- ✓ Conditional access configured (with IP restrictions & device compliance) and assigned to resource account group (exclude from other existing policies): [Click Here](#)
- ✓ Ensure the AAD resource account group is in scope for Intune auto enrollment with AAD join: [Click Here](#)

- ✓ How to join to Azure AD & Intune: [Click Here](#)
- ✓ Set the system name (MTR-SerialNumber): [Click Here](#)
- ✓ Configure PowerShell script to change the default local admin password: [Click Here](#)
- ✓ Create an AAD security group and add user accounts you want to have administrative access on your MTR: [Click Here](#)
- ✓ Configure an Intune CSP to deploy your new AAD admin group to all MTRs: [Click Here](#)

End of Document