

# Dell Wyse ThinOS Installation and ThinOS Activation License

User Guide



## Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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# Overview

Dell Wyse ThinOS operating system is designed to run on a broad array of Dell hardware platforms.

## Document Purpose

This document explains the following:

1. How to install ThinOS using a USB drive or the Wyse Management Suite automated process.
2. How to push a ThinOS Activation License (TAL) to a ThinOS client using Wyse Management Suite with a pro license.
3. How to use Wyse Management Suite with a pro license to assign and push a TAL to devices to enable PCoIP.

## Important Information

- ThinOS 9.x is supported on the following devices:
  - Wyse 3040
  - Wyse 5070
  - Wyse 5470 Mobile Thin Client
  - Wyse 5470 All-in-one Thin Client
  - OptiPlex 3000 Thin Clients
  - OptiPlex 5400 All-in-One
  - Latitude 3420 (select configurations)
  - Latitude 3440
  - Latitude 5440
  - OptiPlex All-in-One 7410
- ThinOS is shipped preloaded on the above systems except Latitude 3420 and OptiPlex 5400 All-in-One.
- Using Wyse Management Suite with a pro license to deploy ThinOS to a system running Ubuntu with Dell Client Agent (DCA) enabler is supported on Latitude 3420, 3440, 5440 and OptiPlex 5400, 7410 All-in-One.
- Installation from a USB drive using the Dell OS Recovery Tool and the ThinOS ISO image is supported on OptiPlex 3000 Thin Client, Latitude 3420, OptiPlex 5400 All-in-One, Latitude 3440, Latitude 5440, and OptiPlex All-in-One 7410.
- Installation from a USB drive using Wyse USB Firmware Tool and the ThinOS Merlin image is supported on Wyse 3040, Wyse 5070, Wyse 5470 Mobile Thin Client, and Wyse 5470 All-in-one thin client.

# Install ThinOS

If you have a Latitude 3420 or OptiPlex 5400 All-in-One and ThinOS is already installed, you can directly go to the [ThinOS Activation License](#) section.

You can install ThinOS using either of these methods:

1. Install from a USB drive using Dell OS Recovery Tool and the ThinOS ISO image. This method is supported on OptiPlex 3000 Thin Client, OptiPlex 5400 All-in-One, Latitude 3420, Latitude 3440, Latitude 5440, and OptiPlex All-in-One 7410.

**i** **NOTE:** Installation of ThinOS from a USB drive using Wyse USB Firmware Tool and the ThinOS Merlin image is supported on Wyse 3040, Wyse 5070, Wyse 5470 Mobile Thin Clients, and the Wyse 5470 All-in-one thin client. For more information, see [Dell Wyse USB Imaging Tool User's Guide](#).

2. Install using Wyse Management Suite with a pro license to deploy ThinOS to a system running Ubuntu with Dell Client Agent (DCA) enabler.

## Download ThinOS ISO image

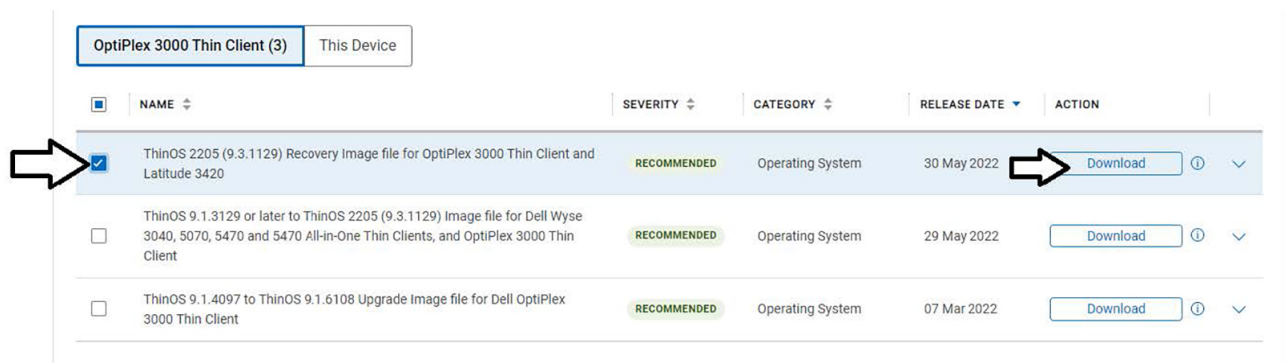
### About this task

OptiPlex 3000 Thin Client, Latitude 3420, OptiPlex 5400 All-in-One, Latitude 3440, Latitude 5440, and OptiPlex All-in-One 7410 devices require ISO images for imaging using a USB driver and Dell OS Recovery Tool.

To download the ISO image, do the following:

### Steps

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. In the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** field, type the model number of your device. For example, OptiPlex 3000 Thin Client, Latitude 3440, or OptiPlex 7410 All-in-One.
3. Select the product from the searched results to load the product page.
4. On the product support page, click **Drivers & Downloads**.
5. Select the **Operating System** as **ThinOS PCOIP**.
6. Select the **Download Type** as **Operation Systems**.
7. Download the latest version of the file labeled **Recovery image file**.



| <input type="checkbox"/>            | NAME   | SEVERITY    | CATEGORY         | RELEASE DATE | ACTION   |
|-------------------------------------|--|-------------|------------------|--------------|----------|
| <input checked="" type="checkbox"/> | ThinOS 2205 (9.3.1129) Recovery Image file for OptiPlex 3000 Thin Client and Latitude 3420   | RECOMMENDED | Operating System | 30 May 2022  | Download |
| <input type="checkbox"/>            | ThinOS 9.1.3129 or later to ThinOS 2205 (9.3.1129) Image file for Dell Wyse 3040, 5070, 5470 and 5470 All-in-One Thin Clients, and OptiPlex 3000 Thin Client | RECOMMENDED | Operating System | 29 May 2022  | Download |
| <input type="checkbox"/>            | ThinOS 9.1.4097 to ThinOS 9.1.6108 Upgrade Image file for Dell OptiPlex 3000 Thin Client   | RECOMMENDED | Operating System | 07 Mar 2022  | Download |

**Figure 1. Recovery image file**

**i** **NOTE:** Since this is a ZIP file, the ISO image file has to be extracted.

# Install ThinOS from USB drive using Dell OS Recovery Tool

## Steps

1. Download [Dell OS Recovery Tool](#).
2. Run the .exe file on the system to be used to create the USB drive. The Dell OS Recovery Tool Application installer opens.
3. Click **INSTALL**.
4. After the installation is complete, open Dell OS Recovery Tool.
5. Select **SWITCH TO ADVANCED RECOVERY** displayed at the bottom of the tool.

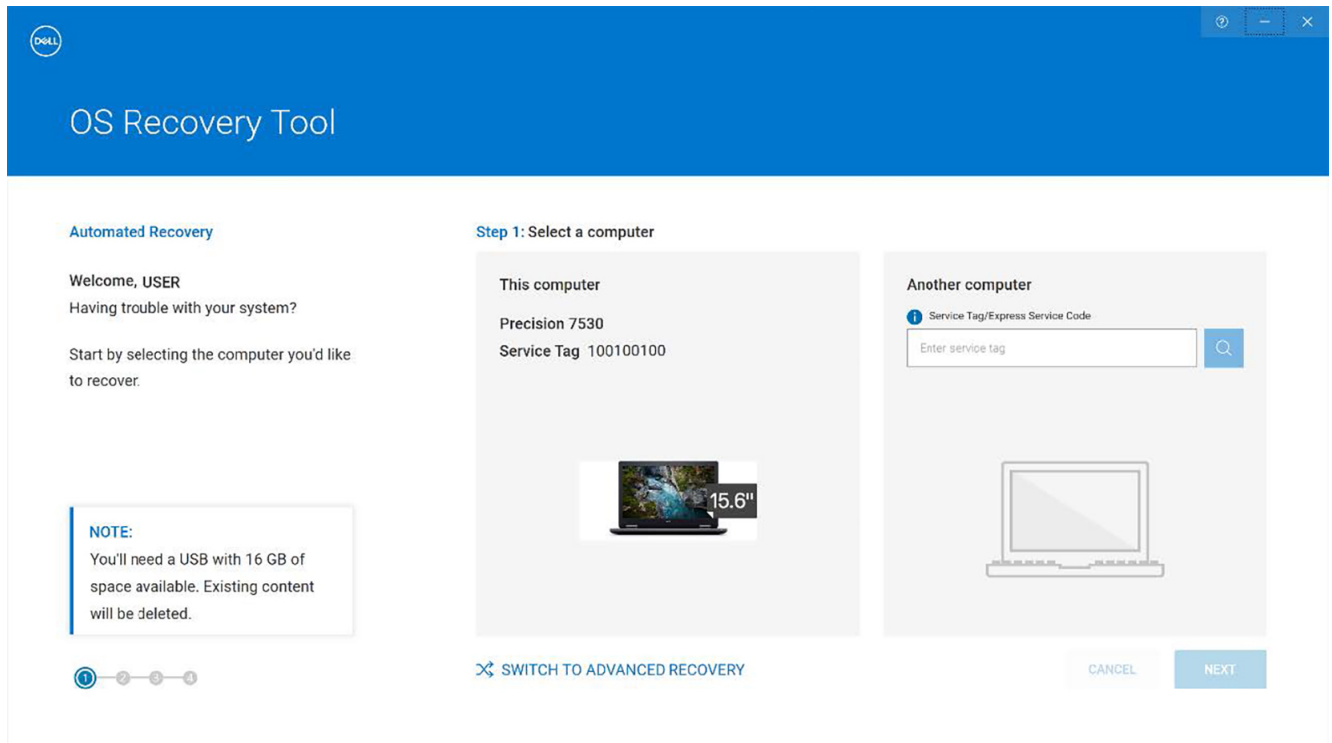
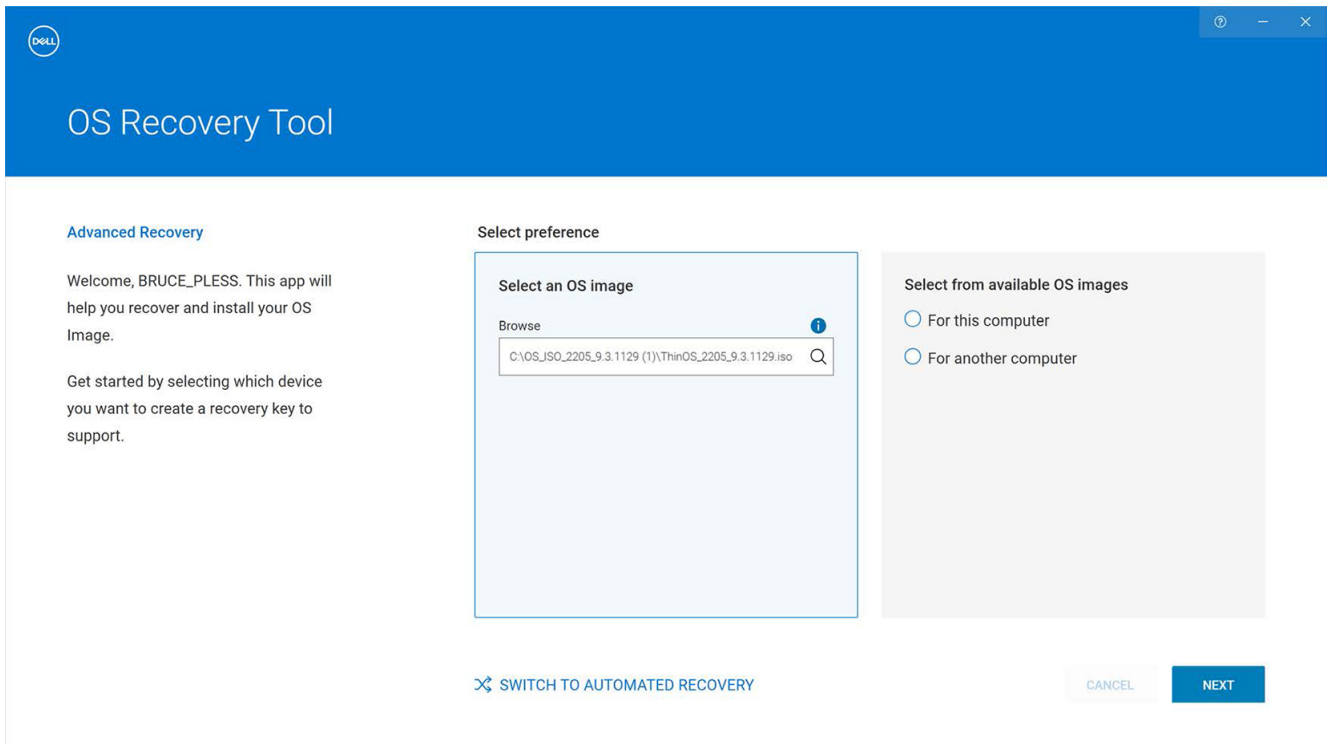


Figure 2. Dell OS Recovery Tool

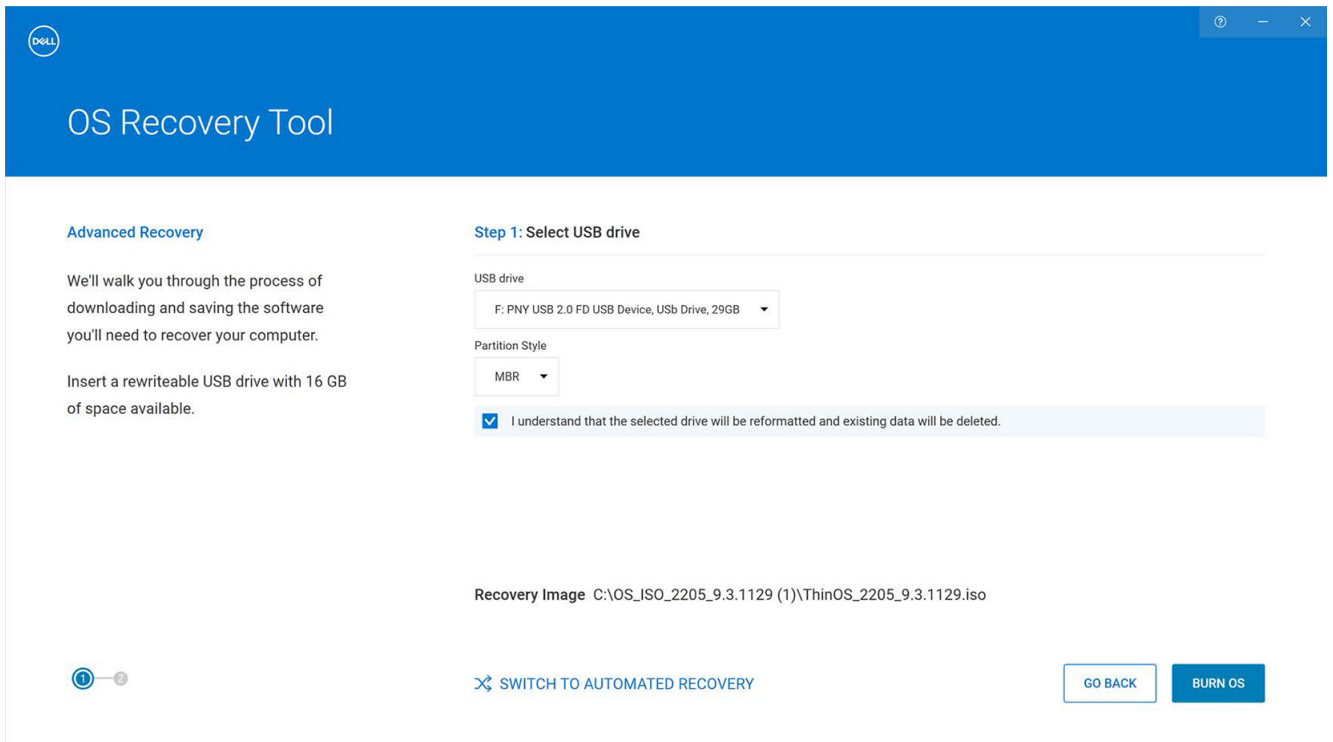
6. In **Select an OS image**, browse to the ISO file that you downloaded in the [Download ThinOS ISO image](#) section and click **NEXT**.



**Figure 3. Upload the ISO file**

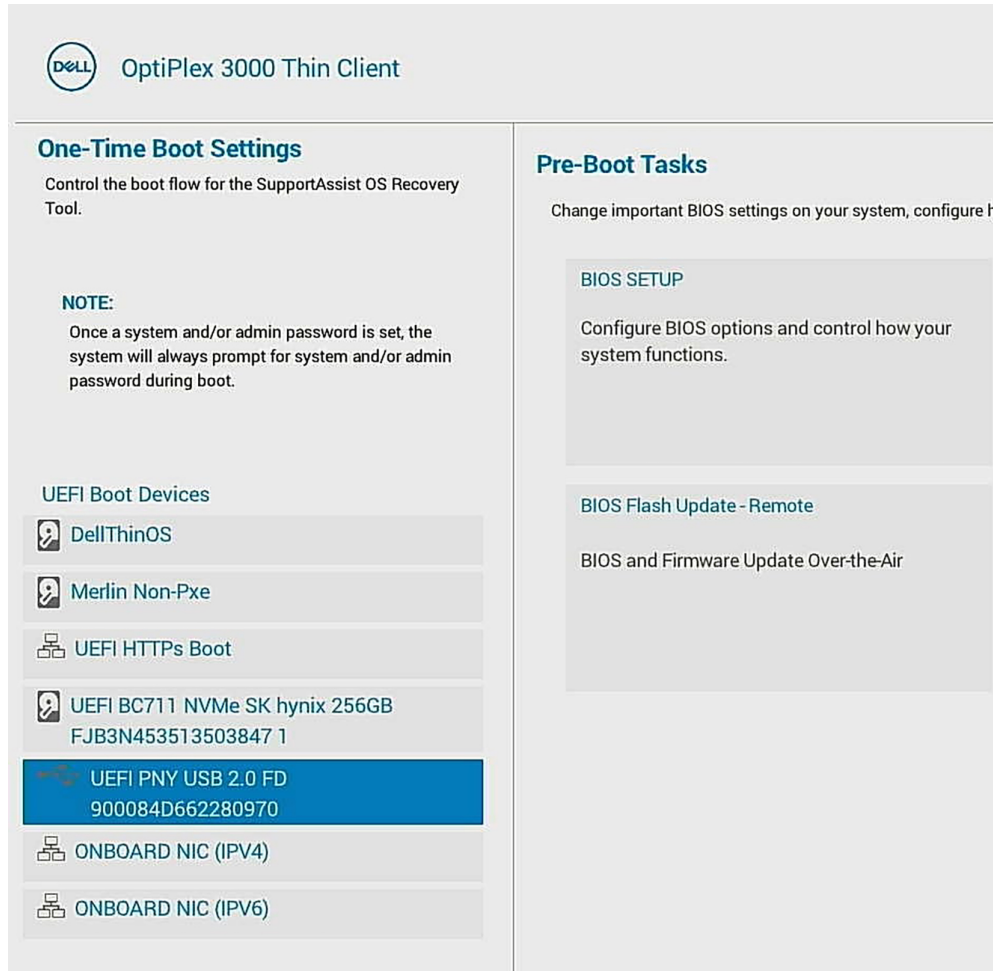
**NOTE:** Do not choose any option under **Select from available OS images**. If either option is selected, you cannot go forward to the next step.

7. Select the USB drive that you want to format from the **USB drive** dropdown.
8. Check the **I understand that the selected drive will be reformatted and existing data will be deleted** box.
9. Click **BURN OS**.



**Figure 4. Burn OS**

10. Remove the USB drive and connect it to the system that is powered off, on which you plan to install ThinOS. After connecting the USB drive, turn on the system.
  - NOTE:** After the USB drive is removed, Dell OS Recovery Tool goes back to the screen that is displayed in Step 5.
11. Press F12 at boot up until you see the Dell logo and **Preparing one-time boot menu...** displayed at the top, right corner. The boot menu opens.
12. In the boot menu, select the USB drive from the **UEFI Boot Devices** list.



**Figure 5. Boot menu**

- NOTE:** If you are unable to select the USB drive, ensure that **Enable USB Boot Support** option is enabled in BIOS.
13. Enter the BIOS password if prompted. The default password for most Dell thin clients is **Fireport**. The thin client boots and a warning message with a 60-second countdown window is displayed.
    - Wait for 60 s or Click **OK** to install the ThinOS image and application packages. The thin client reboots automatically.
    - Click **Manually** to display the ThinOS image and application packages list. Select the ThinOS image and the application packages that you want to install and click **OK** to install these files. The thin client reboots automatically.
  14. The system continues imaging and reboots automatically once complete.
    - NOTE:** If a **Login denied (ThinOS activation license is not available)** message is displayed in the ThinOS login windows, go to [ThinOS Activation Licenses](#).
    - NOTE:** If the message is not displayed, the system is likely to have a license embedded in BIOS. Or, the network is configured to automatically configure the Wyse Management Suite information and the device already has a TAL.
    - NOTE:** If you see the error **Fatal Error: Please make sure TPM or PTT is set to ON in BIOS**, turn on TPM or PTT in BIOS to continue installation.



# Use Wyse Management Suite to deploy ThinOS to an Ubuntu system with Dell Client Agent (DCA) enabler

## Prerequisites

- Ensure that the DCA enabler version 1.5.0-14 or later is installed.
- Verify if DCA enabler is installed by logging in to the Ubuntu device, and checking if the folder `/etc/dcae` exists. If yes, the DCA enabler is installed.
- Verify the DCA enabler version by opening a terminal window and running the command `cat /var/log/dcae/dcae.log`
- If the DCA enabler is not installed, follow these steps to manually install the DCA enabler:
  - Download the DCA Enabler driver package from the Wyse Management Suite page at [www.dell.com/support](http://www.dell.com/support).
  - Extract the package until you see the files `dca-enabler_x.x_amd64.deb` and `dca-enabler-packages_x.x_amd64.deb`
  - Install the DCA enabler files by logging into the Ubuntu device, opening a terminal session, locating the DCA enabler packages folder, and running the following commands. Edit the DCA version numbers as per your requirement.
    - `sudo dpkg -i < dca-enabler-packages_x.x_amd64.deb <Enter>`
    - `sudo dpkg -i < dca-enabler_x.x_amd64.deb <Enter>`

```

jason@latitude-3420:/media/jason/DELLHWSEIMG$ ls
dca-enabler_1.5.0-14_amd64.deb  dca-enabler-packages_1.5.0-14_amd64.deb  reg.json
jason@latitude-3420:/media/jason/DELLHWSEIMG$ sudo dpkg -i dca-enabler-packages_1.5.0-14_amd64.deb
[sudo] password for jason:
Selecting previously unselected package dca-enabler-packages.
(Reading database ... 182074 files and directories currently installed.)
Preparing to unpack dca-enabler-packages_1.5.0-14_amd64.deb ...
Unpacking dca-enabler-packages (1.5.0-14) ...
Setting up dca-enabler-packages (1.5.0-14) ...
jason@latitude-3420:/media/jason/DELLHWSEIMG$ sudo dpkg -i dca-enabler_1.5.0-14_amd64.deb
Selecting previously unselected package dca-enabler.
(Reading database ... 182094 files and directories currently installed.)
Preparing to unpack dca-enabler_1.5.0-14_amd64.deb ...
Unpacking dca-enabler (1.5.0-14) ...
Setting up dca-enabler (1.5.0-14) ...
Created symlink /etc/systemd/system/multi-user.target.wants/dcae.service → /lib/systemd/system/dcae.service.
jason@latitude-3420:/media/jason/DELLHWSEIMG$ █

```

**Figure 6. Run the commands in a Terminal session**

- Ensure that the Ubuntu device is registered with the Wyse Management Suite server.
- If DHCP Option Tags/DNS SRV records have been configured to advertise the Wyse Management Suite server, the Ubuntu device automatically discovers and registers with the server.
- If not, you can follow these steps to manually register with the Wyse Management Suite server.

If you have installed DCA enabler version 1.7.0-20 or later:

- Open DCA Enabler.
- Enter the WMS Server and Group Token.
- Enable or disable CA Validation based on your Wyse Management Suite server license type.
- Click **Register**. The device attempts to register with the Wyse Management Suite server and after registration, the device is listed as **Type = Generic Client**.

If you have installed DCA enabler version 1.5.0-14 or 1.6.0-9:

- Log in to the Wyse Management Suite server.
- Go to the **Portal Administration** tab.
- Under **Console Settings > Generic Client Registration**, locate your Wyse Management Suite group name.
- According to your Wyse Management Suite settings, click **Bootstrap** or **Bootstrap-HTTPS-no-CA-validation** to download the configuration file.
- Rename the file to **reg.json**.


- If you do not have access to the Wyse Management Suite console, you can create the file using this syntax. Replace the highlighted content with values for your environment:

```
{ "ccm" :
  { "ccmserver": "fqdn.of.your.wms.server", "ccmport": "443", "usessl": "true", "mqttserver": "fq
  dn.of.your.mqtt.server", "mqttport": "1883", "grouptoken": "your.WMS.GroupToken" , "isCaV
  alidationOn": "false/true" } } }
```

- Keep the syntax in lower case except as needed for the Wyse Management Suite group token.
- There is no hyphen between the group prefix and group key.
- Log in to the Ubuntu device.
- Copy the **reg.json** file to the Ubuntu device.
- Open a terminal session and go to the directory where the **reg.json** file is located.
- Run the following command:
  - `sudo cp reg.json /etc/dcae/config <Enter>`
- Restart the DCA enabler, open a terminal session, and enter the following command:
  - `sudo systemctl restart dcae.service <Enter>`
- The device attempts to register with the Wyse Management Suite server and after registration, the device is listed as **Type = Generic Client**

## Steps

1. Log in to the Ubuntu device.
2. Verify the DCA enabler using the steps mentioned above.
3. Verify that the Ubuntu device is registered with the Wyse Management Suite server using the steps that are mentioned above.
4. Verify the following on the Wyse Management Suite server:
  - Wyse Management Suite server is using a Pro license.
  - Wyse Management Suite server is version 4.0 or later.
  - Wyse Management Suite server has ThinOS Activation Licenses.

 **NOTE:** To check if the server has ThinOS Activation Licenses, go to **WMS console > Portal Administration > Account > Subscription**
5. Upload the ThinOS Conversion installer file to Wyse Management Suite.
 

To download the installer file, follow these steps:

  - a. Go to [www.dell.com/support](http://www.dell.com/support)
  - b. In the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** field, type the model number of your device. For example, Latitude 3440 or OptiPlex 7410 All-in-One.
  - c. Select the product from the searched results to load the product page.
  - d. On the product support page, click **Drivers & Downloads**.
  - e. Select the **Operating System** as **ThinOS PCOIP**.
  - f. Select the **Download Type** as **Operation Systems**.
  - g. Download the driver package labeled **Conversion**. The package may be a ZIP file.
  - h. Extract the package to get the ThinOS Conversion Installer file (DTOS\_Ubuntu\_Installer\_x.x).
  - i. Upload the installer to **WMS Server > Apps & Data > App Inventory > Generic Client** .
6. Upload the ThinOS image file.
 

To download the ThinOS image file, follow these steps:

  - a. Go to [www.dell.com/support](http://www.dell.com/support)
  - b. In the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** field, type the model number of your device. For example, Latitude 3420, or OptiPlex 7410 All-in-One.
  - c. Select the product from the searched results to load the product page.
  - d. On the product support page, click **Drivers & Downloads**.
  - e. Select the **Operating System** as **ThinOS PCOIP**.
  - f. Select the **Download Type** as **Operation Systems**.
  - g. Download the driver package labeled **Conversion**. The package may be a ZIP file.
  - h. Extract the package to get the ThinOS Image file (ThinOS\_YYMM\_x.x).
  - i. Upload the ThinOS image to **WMS Server > Apps & Data > OS Image Repository > ThinOS 9.x > Add Firmware file**.
7. Create the conversion app policy by following these steps:

- a. Go to **WMS Server > Apps & Data > App Policies > Generic Client > Add Advanced Policy**
  - b. Populate the following fields:
    - **Policy Name**
    - **Group**
    - **Task** as **Install Application**
    - **OS Type** as **Generic Client**
    - **Application:**
      - Click **Add app** and select the ThinOS Conversion Installer file (DTOS\_Ubuntu\_Installer\_x.x).
      - Click **Add app** again and select the ThinOS image file (ThinOS\_YYMM\_x.x).
    - **Platform Filter** as the platform you want to convert.
      - ⓘ **NOTE:** For ThinOS 2205, select all four Dell Latitude 3420 items in the dropdown list.
    - **Apply Policy Automatically** as **Do not apply automatically**.
  - c. Click **Save**.
  - d. Choose whether to schedule the job now or later.
8. Once the Wyse Management Suite job begins, check the following client-side folders for activity:
    - **/etc/dcae/upgrade:** This folder is created once the client receives the Wyse Management Suite job. It is automatically deleted after installation.
    - **/usr/dtos:** This folder is created after the client receives the ThinOS Conversion Installer (DTOS\_Ubuntu\_Installer\_x.x) file.
  9. Once the ThinOS image is successfully installed, the client reboots automatically.
  10. The conversion process is complete.
    - ⓘ **NOTE:** If ThinOS boots with a blue background and exhibits poor performance, reboot the device again.
    - ⓘ **NOTE:** A warning message **Login is denied (ThinOS activation license is not available)** may be displayed after connecting to a network.
    - ⓘ **NOTE:** After conversion, register the converted device with Wyse Management Suite. If required, the newly converted device downloads a ThinOS Activation License. If the conversion fails and the client does not boot, follow the steps in [Install ThinOS from USB drive using Dell OS Recovery Tool](#)

# ThinOS Activation Licenses

A ThinOS Activation Licenses (TAL) is a license that is deployed with Wyse Management Suite (WMS) to clients running ThinOS that did not ship with a ThinOS license embedded in the BIOS.

## When is a ThinOS Activation License required?


ThinOS Activation Licenses are required when:

- Running ThinOS on a Latitude 3420 or OptiPlex 5400 All-in-One. These platforms do not support installation of a ThinOS license in the BIOS and require a TAL.
- Running ThinOS 2205 (or later) on Wyse 3040, Wyse 5070, Wyse 5470 AIO, or Wyse 5470 MTC that did not ship with ThinOS installed. This includes devices that were shipped with no operating system or shipped with an alternative operating system like ThinLinux or Windows 10 IoT and then later converted to ThinOS using the Wyse USB firmware tool. Since these clients did not ship with ThinOS, the ThinOS license is not embedded in the BIOS and a TAL is required.
- Running ThinOS 2303 (or later) on Latitude 3440, Latitude 5440, OptiPlex All-in-One 7410 that did not ship with ThinOS installed. This includes devices that were shipped with no operating system or shipped with an alternative operating system like Ubuntu or Windows and then later converted to ThinOS using the ThinOS Ubuntu conversion image or ISO image. Since these clients did not ship with ThinOS, the ThinOS license is not embedded in the BIOS and a TAL is required.
- Using a system that shipped with ThinOS 8.x without PCoIP enabled and now requires a PCoIP connection to be enabled.

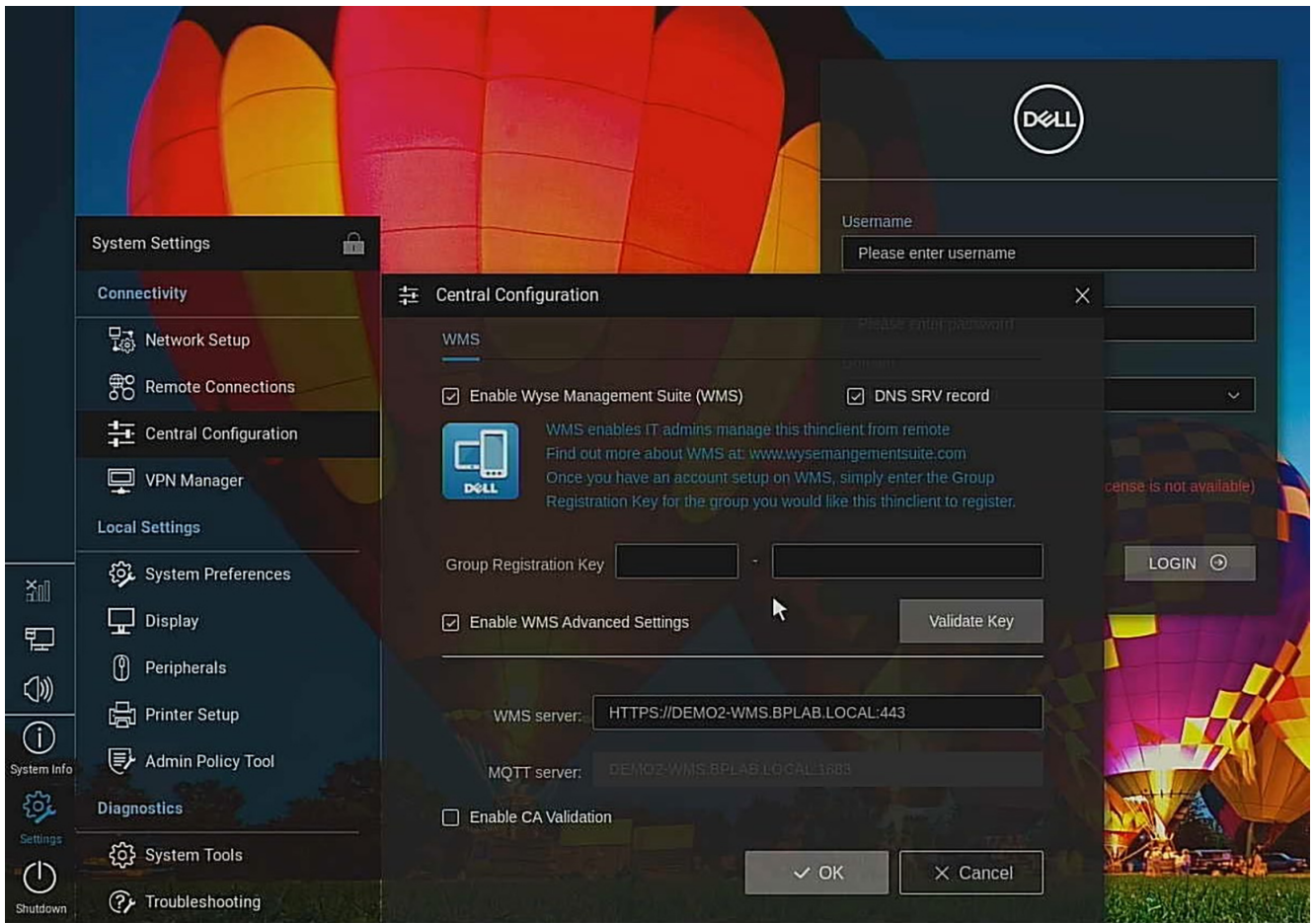
## Requirements for pushing a ThinOS Activation License to Wyse Management Suite

ThinOS Activation Licenses (TAL) can be deployed to ThinOS devices using Wyse Management Suite with a pro license version 4.0 or later. The Wyse Management Suite server can be a cloud or on prem server. Wyse Management Suite Standard does not support pushing a TAL.

## Install a ThinOS Activation License on an unlicensed device from Wyse Management Suite with a pro license

 **NOTE:** Ensure that the ThinOS Activation License exists in the Wyse Management Suite server. To check the license details, go to **Portal Administration > Subscription** in the Wyse Management Suite console.

1. On the thin client, go to **System Settings > Central Configuration**.
2. Enter the Wyse Management Suite server information and click **Validate Key**.
3. Click **OK**.



**Figure 7. Validate Key**

The TAL is installed on the ThinOS client.

4. Reboot the thin client.

The activation warning message disappears.

## Install ThinOS Activation License to enable PCoIP support

### Prerequisites

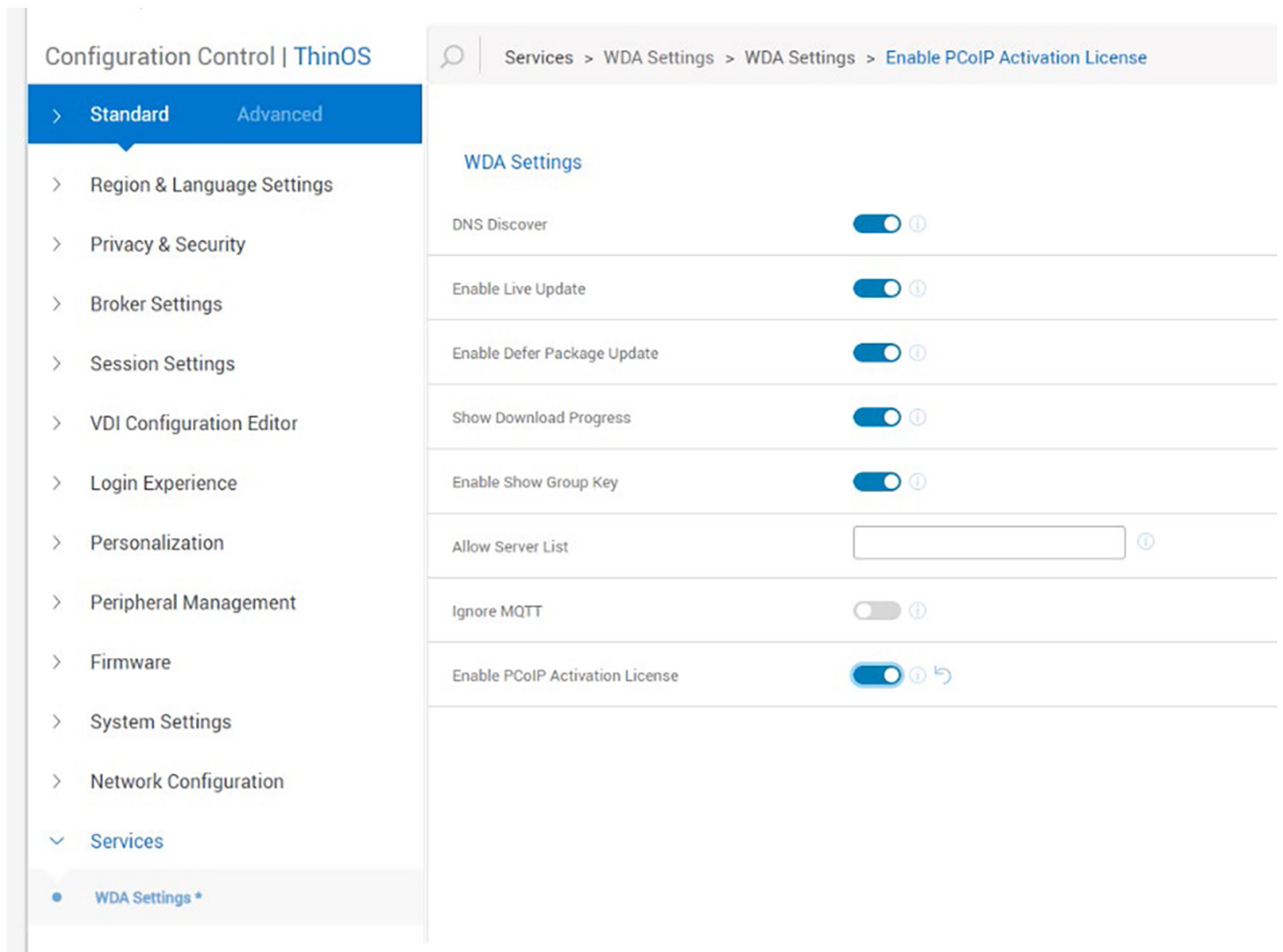
- If you have a device that shipped with ThinOS 8.x without PCoIP and was upgraded to ThinOS 9.x, the device requires TAL before allowing PCoIP connections. Wyse 3040, Wyse 5070, Wyse 5470 AIO, and Wyse 5470 MTC are devices that shipped with ThinOS 8.x and can be upgraded to ThinOS 9.x.

### Steps

**NOTE:** All devices that ship with ThinOS 9.x or later already have the PCoIP enablement license, so do not need a TAL.

1. Log in to the Wyse Management Suite with a pro license server that contains the ThinOS activation licenses.
2. Use an existing device group or create a new device group.
3. In the device group dropdown, edit the **ThinOS 9.x** policy.
4. In the **Advanced** tab, select **WDA Settings**.
5. Click the **Enable PCoIP Activation License** slider switch to enable the PCoIP activation license.





**Figure 8. Enable the PCoIP activation license**

6. Click **Save & Publish**
7. Move the ThinOS device to the device group, and the TAL is automatically deployed to the device.

## Export ThinOS Activation License from Wyse Management Suite cloud to on premises server

### Prerequisites

To use Wyse Management Suite with a pro license on premises, you must export some or all ThinOS Activation Licenses to the Wyse Management Suite on premises server.

### Steps

1. Log in to Wyse Management Suite with a pro license on premises server.
2. In the Wyse Management Suite console, go to **Portal Administration**.
3. Go to **Account > Subscription**.
4. Enter the username and password for the Wyse Management Suite cloud.
5. In the **Import License** tab, select a **Data center**, and **Number of ThinOS Activation Seats** to import.
6. Click **Import**.



### Portal Administration – Your Subscription

#### Console Settings

- Active Directory (AD)
- Alert Classification
- File Repository
- Other Settings
- WMS Discovery
- Dell Hybrid Client
- Thin Clients
- Teradici
- Generic Client Registration
- Two-Factor Authentication
- Reports
- Multi-Tenant

#### Account

- Custom Branding
- Subscription**

#### System

- Setup

#### Server Information:

Version: WMS 3.7 458

WMS On-Premise Identifier: DEMO2-WMS.BPLAB.LOCAL@C0234D56-D452-2ECC-B1AA-2E5205DC42B0

#### Import License

##### Enter license data ?

Username

Password

Data center

Number of TC seats ?

Number of Edge Gateway & Embedded PC seats ?

Number of Wyse Software Thin Client seats ?

Number of Hybrid Client seats ?

Number of ThinOS Activation seats ?

**Import**

? **Reissue Key** **Migrate On-Premise ID**

Figure 9. Portal Administration tab in Wyse Management Suite

The number of **Manageable** devices under **Registered ThinOS Activation devices** increases.

# Troubleshooting

- **PCoIP allocation missing:** If your device can connect to VDI sessions with Blast or RDP, but cannot make PCoIP connections, then you may be missing a PCoIP entitlement license. This applies to Wyse 3040, Wyse 5070, Wyse 5470 MTC, or Wyse 5470 AIO that was shipped with ThinOS OS 8.x and is now running ThinOS 9.x. To enable PCoIP, see [Install ThinOS Activation License to enable PCoIP support](#)
- **Virtual computing disabled:** If your ThinOS client boots and displays **Login is denied (ThinOS activation license is not available.)**, then the device requires a ThinOS activation License. See [ThinOS Activation Licenses](#) for more information.



## Resources and support

### Accessing documents using the product search

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. In the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** search box, type the product name. For example, **OptiPlex 3000 Thin Client**. A list of matching products is displayed.
3. Select your product.
4. Click **Documentation**.


### Accessing documents using product selector

You can also access documents by selecting your product.

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. Click **Browse all products**.
3. Click **Computers**.
4. Click **Thin Clients**.
5. Click **OptiPlex Thin Client**.
6. Click **OptiPlex 3000 Thin Client**.
7. Click **Select this Product**.
8. Click **Documentation**.

# Contacting Dell

## Prerequisites

 **NOTE:** If you do not have an active internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

## About this task

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell sales, technical support, or customer service issues:

## Steps

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.