

# Dell Wyse ThinOS

## Version 9.0 Operating System Release Notes



## 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 software is designed to run on a broad array of Dell Wyse hardware platforms. New releases are created to support new hardware platforms, correct defects, make enhancements, or add new features. These releases are tested and supported on current, actively shipping hardware platforms, and those hardware platforms that are within their first year after their official End of Life date.

 **NOTE:** For details about the previous versions, if applicable, or to determine which version of the operating system you need to select for your thin client, see [Version matrix](#).

## Version matrix

The ThinOS version is displayed as [max].[build]. The [max] is the ThinOS release version, and the [build] is the build number. For example, in ThinOS 9.0.4024, 9.0 is the ThinOS release version and 4024 is the build number.

The following version matrix lists the platforms that are supported in each ThinOS release:

**Table 1. Version matrix**

Release version	Release date	Supported platforms	Release Notes
ThinOS 9.0.4024	November 2020	<ul style="list-style-type: none"> <li>• Wyse 3040 Thin Client</li> <li>• Wyse 5070 Thin Client</li> <li>• Wyse 5070 Extended Thin Client</li> <li>• Wyse 5470 Thin Client</li> <li>• Wyse 5470 All-in-One Thin Client</li> </ul>	<a href="#">Release version ThinOS 9.0.4024</a>
ThinOS 9.0.3030	September 2020	<ul style="list-style-type: none"> <li>• Wyse 3040 Thin Client</li> <li>• Wyse 5070 Thin Client</li> <li>• Wyse 5070 Extended Thin Client</li> <li>• Wyse 5470 Thin Client</li> <li>• Wyse 5470 All-in-One Thin Client</li> </ul>	<a href="#">Release version ThinOS 9.0.3030</a>
ThinOS 9.0.2108	August 2020	<ul style="list-style-type: none"> <li>• Wyse 3040 Thin Client</li> <li>• Wyse 5070 Thin Client</li> <li>• Wyse 5070 Extended Thin Client</li> <li>• Wyse 5470 Thin Client</li> <li>• Wyse 5470 All-in-One Thin Client</li> </ul>	<a href="#">Release version ThinOS 9.0.2108</a>
ThinOS 9.0.2081	July 2020	<ul style="list-style-type: none"> <li>• Wyse 3040 Thin Client</li> <li>• Wyse 5070 Thin Client</li> <li>• Wyse 5070 Extended Thin Client</li> <li>• Wyse 5470 Thin Client</li> <li>• Wyse 5470 All-in-One Thin Client</li> </ul>	<a href="#">Release version ThinOS 9.0.2081</a>
ThinOS 9.0.1136	April 2020	<ul style="list-style-type: none"> <li>• Wyse 3040 Thin Client</li> <li>• Wyse 5070 Thin Client</li> <li>• Wyse 5070 Extended Thin Client</li> <li>• Wyse 5470 Thin Client</li> <li>• Wyse 5470 All-in-One Thin Client</li> </ul>	<a href="#">Release version ThinOS 9.0.1136</a>

# ThinOS 9.0.4024

## Release summary

Maintenance releases are created to support the existing hardware platforms, correct defects, make enhancements, or add new features. These releases are tested and supported on shipping hardware platforms.

### Version

ThinOS 9.0 Build 4024 (Maintenance Release 3)

### Release date

November 2020


## Previous version

ThinOS 9.0 Build 3030

## Upgrade to ThinOS 9.0.4024 from previous versions of ThinOS 9.0

### Prerequisites

- Ensure that you are using ThinOS 9.0.1136 or later versions.
- Ensure that your thin client is registered to Wyse Management Suite 2.1 or later versions.
- Ensure that you have created a group in Wyse Management Suite with a group token.
- Ensure that you have downloaded the ThinOS v9.0.4024 firmware from [www.dell.com/support](http://www.dell.com/support).
- Ensure that you have removed the Wallpaper settings in Wyse Management Suite ThinOS 9.x policy if you are upgrading to ThinOS 9.0.4024 from ThinOS 9.0.1136.

 **NOTE:** Dell Technologies recommends that the Wyse Management Suite administrator removes the old packages on the managed thin clients and installs the latest package versions in every upgrade cycle.

### Steps

1. Log in to Wyse Management Suite.
2. Go to the **Groups & Configs** page, and select your preferred group.
3. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**. The **Configuration Control | ThinOS** window is displayed.
4. In the left pane, click **Advanced**.
5. From the **Advanced** menu, expand **Firmware**, and click **OS Firmware Updates**.
6. Click **Browse** and select the ThinOS firmware to upload.
7. From the **Select the ThinOS Firmware to deploy** drop-down menu, select the uploaded firmware.
8. Click **Save & Publish**.



The thin client downloads the image and prompts you to start the upgrade process. Click **Continue** to upgrade your firmware immediately. Alternatively, you can delay the upgrade process until the next reboot by selecting the **Next reboot** option. If no option is selected, the upgrade process starts automatically after 120 seconds.

## Upgrade to ThinOS 9.0.4024 from ThinOS 8.6

Use the Wyse Management Suite version 2.1 or later to upgrade your ThinOS 8.6-based thin clients to ThinOS version 9.0.4024. Dell Technologies recommends that you use Dell Wyse Management Suite for large deployments. You can also use the USB Imaging Tool version 3.4 to install the ThinOS version 9.0.4024 Merlin image on a single device.

**NOTE:** You cannot upgrade the ThinOS 8.6 clients with PCoIP as ThinOS version 9.0 does not support PCoIP devices.

For more information about how to upgrade from ThinOS version 8.6 to ThinOS version 9.0, see the *Dell Wyse ThinOS Version 9.0 Migration Guide* at [www.dell.com/support](http://www.dell.com/support).

**NOTE:** After you upgrade to ThinOS version 9.0.4024, you cannot use the Wyse Management Suite method to downgrade to ThinOS version 8.6. Use the USB Imaging Tool method with Merlin images to downgrade to ThinOS version 8.6.

## Compatibility

### Supported platforms

Table 2. Supported platforms

Platform	Image file name
Wyse 3040 Thin Client	Root_9.0.4024.pkg
Wyse 5070 Thin Client	Root_9.0.4024.pkg
Wyse 5470 Thin Client	Root_9.0.4024.pkg
Wyse 5470 All-in-One Thin Client	Root_9.0.4024.pkg

### Supported packages

Table 3. Supported packages

Platform name	Package versions
Wyse 3040 Thin Client	<ul style="list-style-type: none"> <li>Citrix v2006.1146</li> <li>JVDI v1209.1142</li> <li>Imprivata v7.1.1057</li> </ul> <p><b>NOTE:</b> Packages released before ThinOS v9.0.3030 (MR2) are not supported.</p>
Wyse 5070 Thin Client	
Wyse 5470 Thin Client	
Wyse 5470 All-in-One Thin Client	

**NOTE:** Do not install the JVDI package for VDA users who want to use Citrix RTME/Skype call or HDX Teams call or any other unified communication applications. Installing the JVDI package can impact the device audio in other applications.

## BIOS details

Table 4. BIOS details

Platform name	BIOS version
Wyse 3040 Thin Client	1.2.5
Wyse 5070 Thin Client	1.7.1

**Table 4. BIOS details (continued)**

Platform name	BIOS version
Wyse 5470 Thin Client	1.4.0
Wyse 5470 All-in-One Thin Client	1.5.2


## New and enhanced features

The Citrix package on ThinOS is updated to version 2006\_1146. The following are the feature enhancements in the Citrix package v2006\_1146:

- **Session printer updates**

In this release, the Citrix session printer support has been expanded to support all the client printer redirection functionality that is available in ThinOS v8.6. Based on the Citrix Host Printer Policy settings, ThinOS 9.0 supports the following:

- **Device-Specific Printer Driver support**—This method allows Citrix hosts to automatically create client redirected printer queues based on the peripheral management printers settings of the ThinOS client. The following details are used by the host print manager to automatically create the printer queues:
  - **Name**—Printer queue name
  - **Printer ID (Printer Identification)**—Printer driver name
- **Citrix Universal Print Driver support**—This method allows Citrix hosts to automatically create printer queues based on the peripheral management printers settings of the ThinOS client. The following details are used by the host print manager to automatically create the printer queues:
  - **Name**—Printer queue name
  - **Class**—Printer class that is associated by the Citrix host registry to a printer-specific driver name

 **NOTE:** ThinOS 8.6 supports the association of PS, PCL5, and PCL4 classes. However, ThinOS 9.0 associations are limited to the PS class only.

### Limitations

- The ThinOS solution to support the client printer redirection functionality is limited to Type 3 printers only. However, the solution is subject to changes in the future according to the changes made by Citrix.
- After you connect a USB printer to the thin client, the Printer ID information is not automatically displayed in the ThinOS client Peripheral Management Printer settings menu. This limitation will be resolved in future ThinOS releases.
- ThinOS supports only PS class when using the Citrix Universal Print Driver policy to automatically create ThinOS client redirected printers. PCL5 and PCL4 classes are not supported. This is a Citrix limitation.

- **Keyboard layout synchronization in VDA**

In Citrix Workspace app, the Keyboard Dynamic synchronization mode functions differently on a Linux client from a Windows client. In general, on a Linux client, the keyboard output follows the client keyboard layout, which is different from the Windows VDA layout. Windows clients follow Windows VDA layout which is same as the Windows client keyboard layout. If a Linux client keyboard is synchronized to VDA, users may observe unpredictable output when working in a Windows VDA with a keyboard output that follows the Linux client keyboard layout. Also, in dynamic synchronization mode, Citrix Workspace app for Linux does not support VDA users to switch the keyboard layout inside a VDA session.

In the server default mode, both Linux and Windows use the session (VDA) side keyboard layout with predictable output. In this release, ThinOS has a customized Citrix package where the keyboard layout is set to server default mode, for the predictable output. The keyboard layout that you select on the thin client is not automatically synchronized in the VDA session. VDA users must select or switch the keyboard layout inside the VDA session using the Windows Input Method Editor (IME) language bar.

As a VDA administrator, you must configure the VDA desktop with the required keyboard language layout options. The IME language bar must be enabled on the Windows lock screen. This enables the VDA user to select the appropriate keyboard language layout on the Windows lock screen.

In scenarios such as opening a new application in a VDA session, locking, or unlocking the VDA session, the keyboard layout falls back to the VDA default layout. For example, EN\_US. This is a known issue for a Linux client in the **server default** mode.

You can customize VDA registry settings for a consistent keyboard layout in the VDA session.

- For a desktop operating system VDA, the feature is enabled by default.
- For a server operating system VDA, you can enable the feature using the system registry.

1. In the system registry of VDA, go to  
HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Control\Keyboard Layout.
2. Create a DWORD entry IgnoreRemoteKeyboardLayout=1.

By default, the IgnoreRemoteKeyboardLayout entry is unavailable. The default keyboard is set to ENG, irrespective of the Control Panel setting.

For example, open an application, lock, or unlock the session, the keyboard is set to ENG. To resolve this issue, ensure that you set IgnoreRemoteKeyboardLayout=1.

For information about the Keyboard Layout Modes and Keyboard Layout rules in Citrix Workspace app, see the *Citrix Virtual Apps and Desktops keyboard and IME configurations* article at [www.citrix.com/blogs](http://www.citrix.com/blogs).

**Table 5. Citrix Workspace app keyboard layout configuration for VDA users on ThinOS**

VDA user scenario	ThinOS build	Wyse Management Suite settings	VDA settings	Summary
The client keyboard is synchronized to VDA, and the keyboard layout is not switched in the VDA desktop or application.	Disabled in ThinOS 9.0.4024	Configure the required keyboard layout for local client users and remote VDA users.	Set the VDA policy for Dynamic synchronization.	Keyboard output follows the client Linux keyboard layout and not the Windows layout. As a result, there can be unpredictable mismatch in the keyboard output. Citrix Workspace app Linux keyboard sync mode does not support switching the layout in VDA.
The client keyboard is synchronized to VDA, and the keyboard layout is switched in the VDA desktop using the IME language bar.				
The client keyboard is synchronized to VDA, and the keyboard layout is switched in VDA published applications using the IME language bar.				
The client keyboard is not synchronized to VDA, and the keyboard layout is not switched in the VDA desktop or application.	Supported in ThinOS 9.0.4024 with Citrix package 2006_1146	Configure the required keyboard layout for using the client locally. For example, sign on. There is no impact to the keyboard usage on remote VDA.	No specific settings are required. For recommended settings, see the <i>VDA settings for server default mode</i> section.	Keyboard layout follows the VDA Windows layout with predictable output.
The client keyboard is not synchronized to VDA, and the keyboard layout is not switched in the VDA desktop using the IME language bar.				Opening a new application in a VDA session, locking or unlocking the VDA session, the keyboard layout falls back to the VDA default layout. For example, EN_US.
The client keyboard is not synchronized to VDA, and the keyboard layout is not switched				The following are the recommended settings for VDA administrators: <ul style="list-style-type: none"> <li>o Enable multiple layouts in VDA IME.</li> <li>o Enable IME on the Windows lock screen.</li> <li>o Set the default keyboard layout to any non-English keyboard layout.</li> <li>o In the system registry of VDA, go to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Keyboard Layout and create the following DWORD entry:</li> </ul>

**Table 5. Citrix Workspace app keyboard layout configuration for VDA users on ThinOS (continued)**

VDA user scenario	ThinOS build	Wyse Management Suite settings	VDA settings	Summary
in VDA published applications using the IME language bar.				IgnoreRemoteKeyboardLayout=1  For more information, see the <i>Citrix article CTX223316</i> at <a href="http://www.support.citrix.com">www.support.citrix.com</a> .

**Table 6. Language keyboard layout settings**

ThinOS keyboard layout	Windows layout	Wyse Management Suite settings	Citrix Workspace app Linux dynamic synchronization	Recommended settings
Polish	Keyboard layout partially matches with the Windows layout.	Not supported currently; will be supported in future release.	Disabled in ThinOS 9.0.4024	On ThinOS 9.0.4024 with Citrix Workspace app 2006_1146, the following are the recommended settings: <ul style="list-style-type: none"> <li>○ On the client side, select the keyboard layout that fully matches with the Windows layout for local usage.</li> <li>○ On the VDA side, select the best layout from the Windows IME language bar after the connection is established.</li> <li>○ For VDA administrators, see the <i>Citrix Workspace app keyboard layout configuration for VDA users on ThinOS</i> table in this document.</li> </ul>
Polish (Legacy)	Keyboard layout fully matches with the Windows layout.	Not supported currently; will be supported in future release.	Disabled in ThinOS 9.0.4024	
French (France)	Keyboard layout partially matches with the Windows layout.	Supported	Disabled in ThinOS 9.0.4024	
French (MS)	Keyboard layout fully matches with the Windows layout.	Not supported currently; will be supported in future release.	Disabled in ThinOS 9.0.4024	
Belgian	Keyboard layout does not match with the Windows layout.	Not supported currently; will be supported in future release.	Disabled in ThinOS 9.0.4024	
Belgian (Comma)	Keyboard layout fully matches with the Windows layout.	Not supported currently; will be supported in future release.	Disabled in ThinOS 9.0.4024	
Spanish	Keyboard layout does not match with the Windows layout.	Supported	Disabled in ThinOS 9.0.4024	

**VDA settings for Server Default mode**

When set to server default mode, the keyboard layout falls back to the VDA default layout. For example, EN\_US. This issue can be related to Citrix Workspace app or Windows server operating system 2016/2019. All workarounds may require you to modify registry keys on the server side. For more information about workarounds, see the Citrix articles *CTX269153* and *CTX223316* at [support.citrix.com](http://support.citrix.com). If you do not want to modify registry keys, contact the Citrix support team or the Microsoft support team.

**Table 7. Citrix Workspace app Linux keyboard layout settings—Client and VDA**

Mode	Client-side settings (Ubuntu Linux)	Server or VDA-side settings	Summary
Server default (This	~/ .ICAClient/ wfclient.ini	Set on the StoreFront server. For example,	You can set the mode on either the client side or the

**Table 7. Citrix Workspace app Linux keyboard layout settings—Client and VDA**

Mode	Client-side settings (Ubuntu Linux)	Server or VDA-side settings	Summary
mode is set by default in ThinOS 9.0.4024)	[WFClient] keyboardlayout=(Server Default)	C:\inetpub\wwwroot\Citrix\ [store name] \App_Data\default.ica  [WFClient] keyboardlayout=(Server Default)	server side. This mode takes the highest priority.

**NOTE:** Specific Keyboard mode, Dynamic sync mode, and Sync once mode are disabled in ThinOS 9.0.4024.

**Limitations**—Keyboard shortcut keys such as **Ctrl+Alt+Down**, **Ctrl+Alt+Left**, and **Ctrl+Alt+Right** do not work inside the VDI session. To resolve this issue, press the **Ctrl+Alt** key combination inside the session. This is a Citrix limitation.

For information related to keyboard layout issues that are fixed in this release, see the [Fixed issues](#) section.

● **Microsoft Teams video call and share screen**

- Video call and share screen features are not recommended on Wyse 3040 Thin Clients due to client resource limitations.
- Video call and share screen features are recommended on Wyse 5070 Thin Clients, 5470 Thin Clients, and Wyse 5470 All-in-One Thin Clients. The following are the known issues:
  - Teams audio can be choppy when sharing the screen between a thin client and a laptop or personal computer that uses a native Microsoft Teams during the meeting. There is no workaround right now and the issue is being worked on.
  - During a Teams meeting, the audio can be choppy when the presenter has enabled the camera, or shared the screen and all participants are on mute. The issue is being worked on.

Workaround—Ensure that at least one participant is unmuted when the presenter has enabled the camera or shared the screen.

- Teams audio may sound robotic when sharing the screen between Dell Wyse 5070 and 5470 devices.
- Teams audio can be choppy when playing back BCR html5 videos on a shared screen.
- Teams audio can be choppy when browsing a website with multiple images on a shared screen.
- Teams audio can be choppy on a thin client with dual core CPU.
- Citrix Workspace app Teams optimization issues:
  - Depending on your network bandwidth latency, the audio quality may fluctuate. To avoid this issue, ensure that your network bandwidth is adequate for audio or video call. Citrix recommends 200 kbps or higher network speed for a single client.
  - Switching cameras during a Microsoft Teams call is not recommended. This is a known Citrix Workspace App limitation [Case #80109986].
  - Session termination or abrupt disconnect may result in unexpected HdxRtcEngine.exe processing exits. This is a known Citrix Workspace Application limitation [RFLNX-5885].
  - If you are using Microsoft Teams (or Zoom), do not install the Cisco JVDI package. This issue is due to Cisco limitation.
  - When using a headset, you cannot answer or end the call using headset buttons. This issue is due to a limitation of Microsoft Teams.

## Important notes

Do not enable logs and traces unless it is required for debugging. After your debugging is complete, export the logs and trace files to clean the disk space.

# Test environment matrix

**Table 8. Tested environment - General components**

Component	Version
Wyse Management Suite	2.1
Imprivata OneSign	7.1.000.13
NetScaler	11.1 and 12.1
StoreFront	1912 LTSR and later

**Table 9. Test environment - VDI**

VDI	Windows 7	Windows 10	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
Citrix XenDesktop and XenApp 7.15 LTSR CU5	Tested	Tested	Tested	Tested	Tested	Not tested	Tested
Citrix Virtual Apps and Desktops 7 1912 LTSR	Not tested	Tested	Not tested	Tested	Tested	Tested	Tested
Citrix Virtual Apps and Desktops 7 2006	Not tested	Tested	Not tested	Not tested	Tested	Tested	Tested

**Table 10. Test environment - RTME**

Citrix VDI	Operating system	RTME Client	RTME Agent	Skype for Business client	Skype for Business Server
Citrix XenDesktop/XenApp 7.15 LTSR CU5	Windows 10	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015
Citrix Virtual Apps and Desktops 7 1912 LTSR	Windows Server 2016	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015
Citrix Virtual Apps and Desktops 7 2006	Windows Server 2019	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015

**Table 11. Tested environment - JVDI**

Citrix VDI	Operating system	JVDI Agent	Jabber software
Citrix XenDesktop/XenApp 7.15 LTSR CU5	Windows 7	12.9.0	12.9.0
Citrix Virtual Apps and Desktops 7 1912 LTSR	Windows 10	12.9.0	12.9.0
Citrix Virtual Apps and Desktops 7 2006	Windows Server 2016	12.9.0	12.9.0
	Windows Server 2019	12.9.0	12.9.0

## Fixed issues

**Table 12. Fixed issues**

Issue ID	Description
THINOSX-7838/THINOSX-6707	Fixed the issue where the device is unable to boot into ThinOS due to ThinOS system logs consuming the entire disk space.
THINOSX-7193	Fixed the issue where the Wyse 3040 Thin Client reboots when you use Logitech wireless devices.

**Table 12. Fixed issues (continued)**

<b>Issue ID</b>	<b>Description</b>
THINOSX-7780	Fixed the issue where the Wyse 5470 All-in-One Thin Client enters into an infinite boot loop after displaying the Dell logo.
THINOSX-6072	Fixed the issue where the thin client menu is displayed when you press the Windows key.
THINOSX-6218	Fixed the issue where the thin client attempts to connect to Citrix power managed virtual machines that are powered off.
THINOSX-6353/THINOSX-7759	Fixed the issue where number keys on the French keyboard are not functional when you turn on the Caps Lock key.
THINOSX-6356	Fixed the issue where the shutdown and reset to factory default options are not disabled when you set the privilege level to <b>Customize</b> or <b>None</b> using Admin Policy Tool.
THINOSX-6357	Fixed the issue where reconnecting to an existing Citrix session after you remove a display still shows the session in a dual screen.
THINOSX-6428	Fixed the issue where you are unable to use RSA 2FA to connect to a Citrix session.
THINOSX-6610	Fixed the issue where the Polish programmer keyboard is not functional on ThinOS.
THINOSX-6803	Fixed the issue where SCEP certificates are not automatically enrolled when the terminal name is configured using Wyse Management Suite.
THINOSX-6940	Fixed the issue where the Citrix package installation using Wyse Management Suite fails on a wireless network.
THINOSX-6975	Fixed the issue where a trap error—Trap: Page fault, EIP 0x247887, CR2 0x0 (Window Manager: 50)—is observed while upgrading ThinOS from 8.6 to 9.0.
THINOSX-7125	Fixed the issue where the USB Redirection Audio device is not displayed again after you disconnect and reconnect the device in a session with Citrix XenDesktop.
THINOSX-7151	Fixed the issue where the System Variable <code>WT\$SN</code> does not work in the <b>Default Username</b> field on the <b>Login Experience</b> tab in Wyse Management Suite.
THINOSX-7152	Fixed the issue where the System Variable <code>\$TN</code> does not work in the <b>Terminal Name</b> field.
THINOSX-7155	Fixed the issue where the System Variables <code>\$DHCP</code> , <code>\$MAC</code> , and <code>&amp;RIGHT(\$xx, i)</code> do not work in the <b>Username</b> field.
THINOSX-7194	Fixed the issue where the ThinOS 8.x devices that are upgraded to ThinOS 9.0.1136 build cannot be registered to Wyse Management Suite.
THINOSX-7201	Fixed the issue where the line spacing of the text that is displayed on the screen is removed when the notice file is uploaded using Wyse Management Suite.
THINOSX-7363	Fixed the issue where the ThinOS client cannot check in to the Wyse Management Suite cloud with proxy enabled.
THINOSX-7431	Fixed the issue where the trap error is observed on the Wyse 5470 Thin Client when upgrading ThinOS from 8.6 to 9.0.1136.
THINOSX-7433	Fixed the issue where the Citrix session disconnects randomly on the Wyse 5070 Thin Client.
THINOSX-7648	Fixed the issue where you can edit the Citrix configuration when the privilege level is set to none.
THINOSX-7649/THINOSX-7650/ THINOSX-7747/THINOSX-7748/ THINOSX-7786	Fixed the audio quality issue when using the screen share feature or video calling using a web camera in Teams.

**Table 12. Fixed issues (continued)**

Issue ID	Description
THINOSX-7762	Fixed the issue where the error message—Unable to get local issuer certificate—is displayed on the VDI login screen when you upgrade to ThinOS 9.0.
THINOSX-7778	Fixed the issue where the error message—Cannot Start Desktop/App—is displayed when launching a Citrix desktop or application on devices that are connected to Wyse Management Suite cloud.
THINOSX-7822	Fixed the issue where the Wyse 5070 thin client downloads the wallpaper multiple times from Wyse Management Suite.
THINOSX-7337	Fixed the issue where a white screen is displayed after you exit from the First Boot Wizard.
THINOSX-7129	Fixed the issue where the thin client is powered off after you connect a Polycom CX300 Phone to the ThinOS device.
THINOSX-7146	Fixed the issue where the Japanese version of the ThinOS firmware fails to upgrade to ThinOS 9.0.
THINOSX-7682	Fixed the network printer configuration issue on ThinOS 9.0.
THINOSX-7802	Fixed the issue where the display configurations are not applied to both displays when the span or extended mode option is enabled.
THINOSX-7776	Fixed the issue where you cannot modify the display resolution of the integrated display on the Wyse 5470 Thin Client.
THINOSX-7779	Fixed the issue where the manually added wireless connections disappear after you restart the device.
THINOSX-7805	Fixed the issue where incorrect characters are displayed when using a Spanish keyboard in a Citrix session.
THINOSX-7181	Fixed the issue where incorrect characters are displayed when using a Danish keyboard in a Citrix session.
THINOSX-7770	Fixed the issue where the ThinOS firmware fails to upgrade from 9.0.1136 to 9.0.3030 on a wireless connection.
THINOSX-7476	Fixed the issue where system variables cannot be used in the Terminal Name due to size or character type restrictions.
THINOSX-4976	Fixed the issue where the desktop layout options such as stretch, tile, and center are unavailable.
THINOSX-7902	Fixed the issue where incorrect characters are displayed when using a French keyboard in a Citrix session. This issue is observed when you connect to the thin client through VNC.

## Known issues

**Table 13. Known issues**

Issue ID	Description	Workaround
DTOS-302	The Bluetooth device name is displayed as NA when scanning for Bluetooth devices.	Scan for Bluetooth devices again.
DTOS-303	Bluetooth devices are displayed incorrectly in the <b>Audio Record and Playback</b> section.	There is no workaround in this release. However, there is no impact to the functionality.



**Table 13. Known issues (continued)**

<b>Issue ID</b>	<b>Description</b>	<b>Workaround</b>
DTOS-308	The javascript error message may be displayed when connecting to a wireless connection or removing the wireless connection.	Press <b>OK</b> to close the error message. There is no impact to the functionality.
DTOS-309	Keyboard may stop working after you press Ctrl+Alt+Up/Down key combination to switch between sessions.	Press the press Ctrl+Alt key combination again.
DTOS-333	Display stops responding when the display resolution is changed to a higher value.	Open the display setup window again.
DTOS-427	The screen saver window flickers, and the image is partially visible.	Use a smaller image as screen saver.
DTOS-472	Screen may flicker when using the share screen feature in Teams.	Wait for one or two seconds for flickering to stop.
DTOS-520	Citrix session is forcibly restarted when you connect a USB-Serial cable to thin client.	Add the force local configuration for the USB-serial cable. The USB-serial cable is mapped to the session as a COM port.
DTOS-530	The printer name is not automatically added to the LPT2 tab on the Wyse 5070 Extended Thin Client.	Type the printer name on the LPT2 tab manually.

# ThinOS 9.0.3030

## Release summary

Maintenance releases are created to support the existing hardware platforms, correct defects, make enhancements, or add new features. These releases are tested and supported on shipping hardware platforms.

### Version

ThinOS 9.0 Build 3030

### Release date

September 2020

## Previous versions

ThinOS 9.0 Build 2108

## Upgrade to ThinOS 9.0.3030

### Prerequisites

- Ensure that you have upgraded to ThinOS v9.0.1136 or later.
- Ensure that your thin client is registered to Wyse Management Suite v2.1.
- Ensure that you have created a group in Wyse Management Suite with a group token.
- Ensure that you have downloaded the ThinOS v9.0.3030 firmware from [www.dell.com/support](http://www.dell.com/support).
- Ensure that you have removed the Wallpaper related settings in Wyse Management Suite ThinOS 9.x policy if you are upgrading to ThinOS 9.0.3030 from ThinOS 9.0.1136.

### Steps

1. Log in to Wyse Management Suite.
2. Go to the **Groups & Configs** page, and select your preferred group.
3. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**.  
The **Configuration Control | ThinOS** window is displayed.
4. In the left pane, click **Advanced**.
5. From the **Advanced** menu, expand **Firmware**, and click **OS Firmware Updates**.
6. Click **Browse** and select the ThinOS firmware to upload.
7. From the **Select the ThinOS Firmware to deploy** drop-down menu, select the uploaded firmware.
8. Click **Save & Publish**.  
The thin client downloads the firmware and upgrades within 120 seconds.

**NOTE:** Dell Technologies recommends that you upgrade ThinOS version 9.0.1136 directly to version 9.0.3030 from September 9, 2020 onwards. Do not update ThinOS version 9.0.1136 to version 9.0.2081 or 9.0.2108 after September 9, 2020 as it may result in certificate failure.

# Compatibility

## Supported platforms

Table 14. Supported platforms

Platform	Image file name
Wyse 3040 Thin Client	rootfs.pkg
Wyse 5070 Thin Client	rootfs.pkg
Wyse 5470 Thin Client	rootfs.pkg
Wyse 5470 All-in-One Thin Client	rootfs.pkg

## Supported packages

Table 15. Supported packages

Platform name	Package versions
Wyse 3040 Thin Client	<ul style="list-style-type: none"><li>• Citrix v2006.1130</li><li>• JVDI v1209.1142</li><li>• Imprivata v7.1.1057</li></ul>
Wyse 5070 Thin Client	
Wyse 5470 Thin Client	
Wyse 5470 All-in-One Thin Client	

## BIOS details

Table 16. BIOS details

Platform name	BIOS version
Wyse 3040 Thin Client	1.2.5
Wyse 5070 Thin Client	1.7.1
Wyse 5470 Thin Client	1.4.0
Wyse 5470 All-in-One Thin Client	1.5.2

## New features in ThinOS 9.0.3030

- Updated Dell logo—Updated the Dell logo on the login window, shutdown window, unlock window, and the admin mode window.
- Updated JVDI package—The JVDI package has been updated to version 1209.1142.

## Limitations

Cisco limitation—Occasionally certain cameras function at a maximum video resolution of 480p. For example, Logitech C920 camera.

JVDI limitation—It is required to install CWA package before JVDI package update, or JVDI may fail to register. In an event where JVDI fails to register, remove the JVDI PKG and reinstall it to restore function.

# Test environment matrix

**Table 17. Tested environment - General components**

Component	Version
Wyse Management Suite	2.1
Imprivata OneSign	7.1.000.13
NetScaler	11.1/12.1
StoreFront	1912 LTSR and later

**Table 18. Test environment - VDI**

VDI	Windows 7	Windows 10	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
Citrix XenDesktop and XenApp 7.6 LTSR	Not tested	Not tested	Tested	Tested	Not tested	Not tested	Tested
Citrix XenDesktop and XenApp 7.15 LTSR CU5	Tested	Tested	Tested	Tested	Tested	Not tested	Tested
Citrix Virtual Apps and Desktops 7 1912 LTSR	Not tested	Tested	Not tested	Tested	Tested	Tested	Tested
Citrix Virtual Apps and Desktops 7 2006	Not tested	Tested	Not tested	Not tested	Tested	Tested	Tested

**Table 19. Test environment - RTME**

Citrix VDI	Operating system	RTME Client	RTME Agent	Skype for Business client	Skype for Business Server
Citrix XenDesktop/ XenApp 7.15 LTSR CU5	Windows 7	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015
Citrix Virtual Apps and Desktops 7 1912 LTSR	Windows 10	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015
Citrix Virtual Apps and Desktops 7 2006	Windows Server 2016	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015
	Windows Server 2019	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015

**Table 20. Tested environment - JVDI**

Citrix VDI	Operating system	JVDI Package	JVDI Agent	Jabber software
Citrix XenDesktop/XenApp 7.15 LTSR CU5	Windows 7	12.9.0	12.9.0	12.9.0
Citrix Virtual Apps and Desktops 7 1912 LTSR	Windows 10	12.9.0	12.9.0	12.9.0
Citrix Virtual Apps and Desktops 7 2006	Windows Server 2016	12.9.0	12.9.0	12.9.0
	Windows Server 2019	12.9.0	12.9.0	12.9.0

## Fixed issues

**Table 21. Fixed issues**

Issue ID	Description
THINOSX-6941	Fixed the issue where the Wyse 3040 Thin Client goes into a boot loop with no network.

**Table 21. Fixed issues (continued)**

<b>Issue ID</b>	<b>Description</b>
THINOSX-6929	Fixed the issue where certain Logitech C920 webcams do not work on ThinOS 9.0.
THINOSX-6920	Fixed the issue with Microsoft Teams where the audio device is mapped to the default name instead of the audio device name in ThinOS 9.0.
THINOSX-6840	Fixed the issue where the display port audio stops responding on ThinOS 9.0.2081.
THINOSX-6814	Fixed the issue where the Citrix session launches in window before changing to full screen mode on ThinOS 9.0.2081.
THINOSX-6808	Fixed the issue where the desktop full screen mode takes time to display after the firmware upgrade of ThinOS 9.0.2081.
THINOSX-6610	Fixed the issue where the Polish programmer keyboard layout does not work.
THINOSX-6589	Fixed the issue where the Wyse 5470 All-In-One webcam does not redirect to the Citrix Cloud session.
THINOSX-6428	Fixed the issue where the RSA two-factor authentication fails on ThinOS 9.0.
THINOSX-6397	Fixed the issue where the Skype for Business audio calls fail after upgrading to ThinOS 9.0.
THINOSX-6357	Fixed the issue with dual display during Citrix sessions on Wyse 5070 and Wyse 5470 thin clients.
THINOSX-6353	Fixed the issue where the number keys do not work with french keyboard layout when CapsLock is turned on.
THINOSX-3602	Fixed the issue where the Citrix desktop session is disconnected with a Fatal Citrix gateway protocol error message while using wireless roaming.
THINOSX-5586	Fixed the issue where the wireless connectivity of the system that is connected to a dock does not work after resuming from sleep mode.
THINOSX-6108	Fixed the issue where an error message that states <b>error-bad-request</b> is displayed in the log in window when you log in to Citrix Cloud.
THINOSX-6165	Fixed the issue where the ICA desktop launches twice while double-clicking the touchpad.
THINOSX-6216	Corrected the descriptions for Ethernet and wireless settings in the Admin Policy Tool.
THINOSX-6217	Fixed the issue where the setting <b>Allow User to Defer Package</b> cannot be disabled in the Admin Policy Tool.
THINOSX-6221	Fixed the issue where audio is lost when the headset is reconnected.
THINOSX-6323	Fixed the issue where the Admin Policy settings are not cleaned until system is rebooted after Broker agent has logged off.
THINOSX-6329	Fixed the issue where the domain cannot be entered for the wireless EAP-GTC if the <b>Hide domain</b> option is disabled.
THINOSX-6332	Fixed the issue where the wallpaper appears briefly and then disappears when the terminal is restarted but the Wyse Management Suite server is not connected.
THINOSX-6336	Fixed the issue where the IEEE802.1x authentication settings cannot publish without other Ethernet settings.
THINOSX-6394	Fixed the issue where importing PFX certificates from <b>Admin Policy Tool&gt;Certificates</b> is not supported.
THINOSX-6401	Fixed the issue where the LPT printer name cannot be cleared.
THINOSX-6442	Fixed the issue where a message that states <b>System setting is exported successfully</b> is displayed when you click <b>Extract CMOS</b> .
THINOSX-6443	Fixed the issue where an error message is not displayed when you click the <b>Extract CMOS</b> button without inserting a USB drive.
THINOSX-6665	Fixed the issue where certain certificates cannot be installed when multiple certificates are pushed from Wyse Management Suite.

**Table 21. Fixed issues (continued)**

Issue ID	Description
THINOSX-6639	Fixed the issue where the client audio gets muted when the session is switched to client during a Microsoft Teams call.
THINOSX-6805	Fixed the issue where the client stops responding when it goes to sleep mode. This issue occurs when a PowerPoint presentation is shared using Teams.

## Known issues

**Table 22. Known issues**

Issue ID	Description
THINOSX-7008	JVDI does not get registered when citrix.pkg is installed after jvdi.pkg.
THINOSX-7148	When the client is restarted with only the wireless network connected, the client tries to log in to Broker agent before receiving the IP address, causing the log in to fail.
THINOSX-7126	Password prompt title is not localized in system GUI.
THINOSX-7120	Signing in using a smart card, AD group policy, and user policy does not work.
THINOSX-7118	System stops responding in sleep mode with active desktop.
THINOSX-7109	Wireless connectivity does not work on Wyse 3040 Thin Client when 5G band is disabled in Admin Policy and then reconnected to the wireless SSID.
THINOSX-7106	Domain name cannot be saved when a row is added for EAP-PEAP-GTC SSID while the domain name is hidden.
THINOSX-7052	An error message that states <b>Cannot start desktop 'TypeError'</b> is displayed when the user clicks the Reconnect button in the <b>Workspace mode Connection Center</b> menu.
THINOSX-7050	Keyboard cannot be used after switching from full screen desktop to window mode desktop.
THINOSX-7041	System does not reboot automatically after installing BIOS by downloading the BIOS.pkg from Wyse Management Suite.
THINOSX-7016	ThinOS stops responding after connecting one ICA session using Imprivata PIW.
THINOSX-7007	Connection Manager is missing after logging in to Citrix Broker agent.
THINOSX-6985	The operating system stops responding when switched to desktop during JVDI video call.
THINOSX-6972	Package version dialog is missing.
THINOSX-6967	Time unit is different in ThinOS local and Admin Policy Tool when Lock Terminal is set as Disabled.
THINOSX-6947	Password that is received from Wyse Management Suite is incorrect.
THINOSX-6946	A notice window is displayed when multiple applications are launched.
THINOSX-6912	The client stops responding when orientation value is changed in mirror mode.
THINOSX-6844	Domain is not displayed in login page when it is set in select group domain list.
THINOSX-6807	The ICA desktop cannot be changed to full screen mode when you use six displays with a 2k resolution.
THINOSX-6634	In an event where multiple WINS servers are set up, only one works well.

# ThinOS 9.0.2108

## Release summary

Maintenance releases are created to support the existing hardware platforms, correct defects, make enhancements, or add new features. These releases are tested and supported on shipping hardware platforms.

### Version

ThinOS 9.0 Build 2108

### Release date

August 2020

## Previous version

ThinOS 9.0 Build 2081

## Upgrade to ThinOS 9.0.2108

### Prerequisites

- Ensure that you have upgraded to ThinOS v9.0.1136 or ThinOS v9.0.2081.
- Ensure that your thin client is registered to Wyse Management Suite v2.1.
- Ensure that you have created a group in Wyse Management Suite with a group token.
- Ensure that you have downloaded the ThinOS v9.0.2108 firmware from [www.dell.com/support](http://www.dell.com/support).
- Ensure that you have removed the Wallpaper related settings in Wyse Management Suite ThinOS 9.x policy if you are upgrading to ThinOS 9.0.2108 from ThinOS 9.0.1136.

### Steps

1. Log in to Wyse Management Suite.
2. Go to the **Groups & Configs** page, and select your preferred group.
3. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**.  
The **Configuration Control | ThinOS** window is displayed.
4. In the left pane, click **Advanced**.
5. From the **Advanced** menu, expand **Firmware**, and click **OS Firmware Updates**.
6. Click **Browse** and select the ThinOS firmware to upload.
7. From the **Select the ThinOS Firmware to deploy** drop-down menu, select the uploaded firmware.
8. Click **Save & Publish**.  
The thin client downloads the firmware and upgrades within 120 seconds.

# Compatibility

## Supported platforms

Table 23. Supported platforms

Platform	Image file name
Wyse 3040 Thin Client	rootfs.pkg
Wyse 5070 Thin Client	rootfs.pkg
Wyse 5470 Thin Client	rootfs.pkg
Wyse 5470 All-in-One Thin Client	rootfs.pkg

## Supported packages

Table 24. Supported packages

Platform name	Package versions		
	Citrix v2006.1126 File name— Citrix_2006_1126.pkg.zip	JVDI v1208.1122 File name— JVDI_1208_1122.pkg.zip	Imprivata v7.1.1056 File name— Imprivata_7.1_1056.pkg.zip
Wyse 3040 Thin Client	Supported	Supported	Supported
Wyse 5070 Thin Client	Supported	Supported	Supported
Wyse 5470 Thin Client	Supported	Supported	Supported
Wyse 5470 All-in-One Thin Client	Supported	Supported	Supported

## BIOS details

Table 25. BIOS details

Platform name	BIOS version	Image file name
Wyse 3040 Thin Client	1.2.5	bios-3040_1.2.5.pkg
Wyse 5070 Thin Client	1.5.0	bios-5070_1.5.0.pkg
Wyse 5070 Extended Thin Client	1.5.0	bios-5070_1.5.0.pkg
Wyse 5470 Thin Client	1.3.1	bios-5470_1.3.1.pkg
Wyse 5470 All-in-One Thin Client	1.5.2	bios-5470AIO_1.5.2.pkg

## New and enhanced features

### Microsoft Teams optimization

ThinOS supports audio, video, and screen sharing features with Microsoft Teams on Citrix Virtual Apps and Desktops, and Citrix Workspace app.

To enable the Microsoft Teams audio and video optimization feature, you must meet the following requirements:

- Install the Microsoft Teams on your VDI desktop. For more information about the Microsoft Teams installation, see the *Optimization for Microsoft Teams* article at [docs.citrix.com](https://docs.citrix.com).



- Review the system requirements of Citrix Virtual Apps and Desktops and VDA. For more information about the system requirements, see the *Optimization for Microsoft Teams* article at [docs.citrix.com](https://docs.citrix.com).
- Enable the Microsoft Teams redirection policy is enabled in Citrix Studio. By default, the Microsoft Teams redirection policy is enabled. For more information about how to enable the Microsoft Teams redirection, see the *Multimedia policy settings* article at [docs.citrix.com](https://docs.citrix.com).

On the ThinOS client side, you must download the Citrix package v2006 from [www.dell.com/support](https://www.dell.com/support) and install the package using Admin Policy Tool or Wyse Management Suite. For information about how to install the ThinOS application packages, see the *Dell Wyse ThinOS 9.0 Migration Guide* at [www.dell.com/support](https://www.dell.com/support).

To verify if the Microsoft Teams application works in the optimized mode, click **About > Version** to view the Citrix HDX Optimized legend. For more information about how to verify the Microsoft Teams audio optimization, see the *Optimization for Microsoft Teams* article at [docs.citrix.com](https://docs.citrix.com).

**Table 26. Microsoft Teams optimization feature matrix**

Feature	ThinOS
Long audio call	Supported
Call - Make audio call	Supported
Call - Answer audio call	Supported
Call - Make video call	Supported
Call - Answer video call	Supported
Call - Turn camera on or off	Supported
Call - Enter or exit full screen	Supported
Call - Hold or resume call	Supported
Call - End call	Supported
Call - Mute or unmute audio	Supported
Call - Transfer	Supported
Call - Consult then transfer	Supported
Call - Keypad	Not tested
Call - Start or stop recording	Supported
Call - Turn off or turn on incoming video	Supported
Call - Group video call	Supported
Call - Group audio call	Supported
Call - Invite someone during call	Supported
Share screen - Desktop	Supported
Share screen - Microsoft PowerPoint	Supported
Chat	Supported
Audio call in VDI server desktop	Supported
Audio call in published Microsoft Teams application	Supported
Video call in VDI server desktop	Supported
Video call in published Microsoft Teams application	Supported
Devices - Plugin or unplugin headset	Limited support <sup>1</sup>
Devices - Switch headset	Limited support <sup>1</sup>
Devices - Plugin or unplugin camera	Supported
Devices - Switch camera	Supported

**Table 26. Microsoft Teams optimization feature matrix (continued)**

Feature	ThinOS
Headset buttons – Answer, mute, or end call.	Limited support <sup>1</sup>

<sup>1</sup>For limitations, see the Limitations section.

## Limitations

- Only audio call is supported on the **Wyse 3040 Thin Client**. Video call results in performance issues.  
Workaround—Turn off the incoming video.
- Audio is still played through the first headset when you switch to the second headset during the call. This issue is observed when you have installed the JVDI package on the thin client.  
Workaround—Do not install the JVDI package if you are using Microsoft Teams.
- Call drops unexpectedly when you disconnect the USB headset during the video call. This issue is due to a limitation on Citrix Workspace app for Linux.  
Workaround—When your call drops, log out and log in to the session again. Do not disconnect the headset again during the video call.
- Headset is not automatically selected when you connect a new USB headset during the call. This issue is due to a limitation on Citrix Workspace app for Linux.  
Workaround—Select the headset device manually during the call.
- Sometimes you cannot receive the call or call cannot be established after you pick the call. This issue is observed on Citrix Workspace app for Linux.  
Workaround—Make a call from your end or wait for the caller to call you again. If the issue still persists, do any of the following:
  - Exit Teams and launch it again.
  - Log off and log in to the session again.
  - Restart the thin client.
- When using a headset, you cannot answer or end the call through headset buttons. This issue is due to a limitation on Citrix Workspace app for Linux.

## Citrix updates

- Citrix package is updated to Citrix Workspace app 2006 version. In Citrix Workspace app 2006, the Microsoft Teams Optimization feature is supported. Citrix session login failures when using smart cards that are observed in all prior Citrix releases have been resolved.
- Citrix RealTime Media Engine (RTME) client 2.9.100 is integrated with Citrix Workspace app 2006.

## Important notes

## Test environment matrix

**Table 27. Tested environment - General components**

Component	Version
Wyse Management Suite	2.1
Imprivata OneSign	7.1.000.13
NetScaler	11.1/12.1
StoreFront	1912 LTSR and later

**Table 28. Test environment - VDI**

VDI	Windows 7	Windows 10	Windows server 2008 R2	Window server 2012 R2	Windows server 2016	Windows server 2019	APPs
Citrix XenDesktop and XenApp 7.6 LTSR	Not tested	Not tested	Tested	Tested	Not tested	Not tested	Tested
Citrix XenDesktop and XenApp 7.15 LTSR CU5	Tested	Tested	Tested	Tested	Tested	Not tested	Tested
Citrix Virtual Apps and Desktops 7 1912 LTSR	Not tested	Tested	Not tested	Tested	Tested	Tested	Tested
Citrix Virtual Apps and Desktops 7 2006	Not tested	Tested	Not tested	Not tested	Tested	Tested	Tested

**Table 29. Test environment - RTME**

Citrix VDI	Operating system	RTME Client	RTME Agent	Skype for Business client	Skype for Business Server
Citrix XenDesktop/ XenApp 7.15 LTSR CU5	Windows 7	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015
Citrix Virtual Apps and Desktops 7 1912 LTSR	Windows 10	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015
Citrix Virtual Apps and Desktops 7 2006	Windows server 2016	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015
	Windows server 2019	2.9.100	2.9.100	Skype for Business 2016	Skype for Business 2015

**Table 30. Tested environment - JVDI**

Citrix VDI	Operating system	JVDI Package	JVDI Agent	Jabber software
Citrix XenDesktop/XenApp 7.15 LTSR CU5	Windows 7	12.8.0	12.8.0	12.8.0
Citrix Virtual Apps and Desktops 7 1912 LTSR	Windows 10	12.8.0	12.8.0	12.8.0
Citrix Virtual Apps and Desktops 7 2006	Windows server 2016	12.8.0	12.8.0	12.8.0
	Windows server 2019	12.8.0	12.8.0	12.8.0

## Known issues

**Table 31. Known issues**

Issue ID	Description
THINOSX-6639	Audio on the device is muted when you switch the session to the client during the call in Teams.
THINOSX-6862	The position of the right-click menu on the system tray icon in Teams is incorrect.
THINOSX-6805	The device stops responding when the client enters sleep mode while sharing the desktop or Microsoft PowerPoint in Teams.

# ThinOS 9.0.2081

## Release summary

Maintenance releases are created to support the existing hardware platforms, correct defects, make enhancements, or add new features. These releases are tested and supported on shipping hardware platforms.

### Version

ThinOS 9.0 Build 2081 (MR1)

### Release date

July 2020


## Previous version

ThinOS 9.0 Build 1136

## Upgrade to ThinOS 9.0.2081

### Prerequisites

- Ensure that you have upgraded to ThinOS v9.0.1136.
- Ensure that your thin client is registered to Wyse Management Suite v2.1.
- Ensure that you have created a group in Wyse Management Suite with a group token.
- Ensure that you have downloaded the ThinOS v9.0.2081 firmware from [www.dell.com/support](http://www.dell.com/support).

 **NOTE:** You must also ensure that there are no wallpaper settings configured on Wyse Management Suite.

### Steps

1. Log in to Wyse Management Suite.
2. Go to the **Groups & Configs** page, and select your preferred group.
3. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**.  
The **Configuration Control | ThinOS** window is displayed.
4. In the left pane, click **Advanced**.
5. From the **Advanced** menu, expand **Firmware**, and click **OS Firmware Updates**.
6. Click **Browse** and select the ThinOS firmware to upload.
7. From the **Select the ThinOS Firmware to deploy** drop-down menu, select the uploaded firmware.
8. Click **Save & Publish**.  
The thin client downloads the firmware and upgrades within 120 seconds.

## Downgrading to ThinOS 9.0.1136

For information on how to downgrade ThinOS v9.0.2081 to ThinOS v9.0.1136, see the *Dell Wyse ThinOS 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

**NOTE:** ThinOS v9.0.2081 cannot be downgraded to ThinOS v8.6 or lower versions.

## Compatibility

### Supported platforms

Table 32. Supported platforms

Platform	Image file name
Wyse 3040 Thin Client	rootfs.pkg
Wyse 5070 Thin Client	rootfs.pkg
Wyse 5470 Thin Client	rootfs.pkg
Wyse 5470 All-in-One Thin Client	rootfs.pkg

### Supported packages

Table 33. Supported packages

Platform name	Package versions		
	Citrix v2004.1119 File name— Citrix_2004_1119.pkg.zip	JVDI v1208.1119 File name— JVDI_1208_1119.pkg.zip	Imprivata v7.1.1056 File name— Imprivata_7.1_1056.pkg.zip
Wyse 3040 Thin Client	Supported	Supported	Supported
Wyse 5070 Thin Client	Supported	Supported	Supported
Wyse 5470 Thin Client	Supported	Supported	Supported
Wyse 5470 All-in-One Thin Client	Supported	Supported	Supported

### BIOS details

Table 34. BIOS details


Platform name	BIOS version	Image file name
Wyse 3040 Thin Client	1.2.5	bios-3040_1.2.5.pkg
Wyse 5070 Thin Client	1.5.0	bios-5070_1.5.0.pkg
Wyse 5070 Extended Thin Client	1.5.0	bios-5070_1.5.0.pkg
Wyse 5470 Thin Client	1.3.1	bios-5470_1.3.1.pkg
Wyse 5470 All-in-One Thin Client	1.5.2	bios-5470AIO_1.5.2.pkg

# New and enhanced features

## End User License Agreement


End User License Agreement (EULA) is added to ThinOS from this release. EULAs must be read and accepted to continue using ThinOS. The EULA screen is displayed during the following instances:

- When you boot the thin client for the first time.
- When you reset a thin client to factory settings.

 **NOTE:** If the thin client is managed using Wyse Management Suite server, the EULA screen is not displayed.

For more information about EULA, see the *Dell Wyse ThinOS 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## BIOS features

- **BIOS upgrade feature**—From this release onwards, you can upload BIOS packages to Wyse Management Suite 2.1 server. If the existing BIOS version is different from the BIOS version that is uploaded, the device restarts and upgrades the BIOS.  
 **NOTE:** There is a limitation for this feature. When you use the feature for the first time, the BIOS is downloaded even if the existing BIOS version is the same version that is uploaded.
- **Changing BIOS settings**—You can now change the BIOS settings from the Wyse Management Suite 2.1 server or by using the Admin Policy Tool.


## Wyse Management Suite subnet mapping

Wyse Management Suite 2.1 server enables users to assign subnet to a file repository. Wyse Management Suite chooses a file repository according to the subnet, when you provide the package location URL to the device.

There are no configuration changes required on ThinOS for this feature. For configuration changes on Wyse Management Suite, see *Wyse Management Suite 2.1 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Wyse Management Suite user exception


You can create settings for specific users. When the user logs in, the settings are applied to the device. The settings are cleared when the user logs out.

 **NOTE:** If some settings such as shortcut key are not applied, you must log out from the broker connection, restart the thin client, and then log in to the broker connection again.

For more information about Wyse Management Suite user exception, see *Wyse Management Suite 2.1 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Wyse Management suite Active Directory group

You can create settings for Active Directory groups. When the user logs in the Active Directory group, the settings are applied to the device. The settings are cleared when the user logs out.

 **NOTE:** If some settings such as shortcut key are not applied, you must log out from the broker connection, restart the thin client, and then log in to the broker connection again.

For more information about Wyse Management suite Active Directory group, see *Wyse Management Suite 2.1 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Wyse Management suite Active Directory group feature matrix

**Table 35. Wyse Management suite Active Directory group feature matrix**

Feature	Sub-Feature	AD User Group	User Exception	Select Group
Region&Language Settings	Region & Language	Supported	Supported	Supported
Privacy&Security	SCEP	Not applicable	Not applicable	Not applicable
Privacy&Security	Device Security	Not applicable	Not applicable	Not applicable
Privacy&Security	Account Privileges	Not applicable	Not applicable	Not applicable
Privacy&Security	Certificates	Not applicable	Not applicable	Not applicable
Broker&Session	Global Session Settings	Supported	Supported	Supported
Broker&Session	Citrix Broker Settings	Supported	Supported	Supported
Broker&Session	Citrix Session Settings	Supported	Supported	Supported
Login Experience	3rd Party Authentication	Not applicable	Not applicable	Supported
Login Experience	SmartCard Settings	Not applicable	Not applicable	Supported
Login Experience	Login Settings	Not applicable	Not applicable	Supported
Login Experience	Session settings	Not applicable	Not applicable	Supported
Personalization	Shortcut Keys	Supported	Supported	Supported
Personalization	Device Info	Supported	Supported	Supported
Personalization	Desktop	Supported	Supported	Supported
Personalization	Screen Saver	Supported	Supported	Supported
Peripheral Management	RFIdeas Reader	Supported	Supported	Supported
Peripheral Management	Printers	Supported	Supported	Supported
Peripheral Management	Audio	Supported	Supported	Supported
Peripheral Management	Touch	Supported	Supported	Supported
Peripheral Management	Serial Port	Supported	Supported	Supported
Peripheral Management	USB Redirection	Supported	Supported	Supported
Peripheral Management	Monitor	Supported	Supported	Supported
Peripheral Management	Mouse	Supported	Supported	Supported
Peripheral Management	Keyboard	Supported	Supported	Supported
Firmware	OS Firmware Updates	Not applicable	Not applicable	Not applicable
Firmware	Application Package Updates	Not applicable	Not applicable	Not applicable

**Table 35. Wyse Management suite Active Directory group feature matrix (continued)**

<b>Feature</b>	<b>Sub-Feature</b>	<b>AD User Group</b>	<b>User Exception</b>	<b>Select Group</b>
Firmware	BIOS Firmware Updates	Not applicable	Not applicable	Not applicable
System Settings	Power and Sleep Settings	Not applicable	Not applicable	Not applicable
System Settings	Scheduled Reboot Settings	Not applicable	Not applicable	Not applicable
System Settings	Scheduled Shutdown Settings	Not applicable	Not applicable	Not applicable
System Settings	Device Settings	Not applicable	Not applicable	Not applicable
Network Configuration	Ethernet Settings	Not applicable	Not applicable	Not applicable
Network Configuration	DHCP Settings	Not applicable	Not applicable	Not applicable
Network Configuration	DNS Settings	Not applicable	Not applicable	Not applicable
Network Configuration	VPN Settings	Not applicable	Not applicable	Not applicable
Network Configuration	Bluetooth Settings	Not applicable	Not applicable	Not applicable
Network Configuration	Proxy Settings	Not applicable	Not applicable	Not applicable
Network Configuration	Wireless	Not applicable	Not applicable	Not applicable
Services	VNC Service	Not applicable	Not applicable	Not applicable
Services	WMS Settings	Not applicable	Not applicable	Not applicable
Services	Troubleshooting Settings	Not applicable	Not applicable	Not applicable
BIOS	Dell Wyse 3040	Not applicable	Not applicable	Not applicable
BIOS	Dell Wyse 5070	Not applicable	Not applicable	Not applicable
BIOS	Dell Wyse 5470	Not applicable	Not applicable	Not applicable
BIOS	Dell Wyse 5470 AIO	Not applicable	Not applicable	Not applicable

## Support for WINS server

You can configure the WINS server in **Network Setup > General**.

## Microsoft Teams optimization

ThinOS supports audio optimization for Microsoft Teams using Citrix Virtual Apps and Desktops, and Citrix Workspace app from this release onwards.

## Limitations of Microsoft Teams optimization

- Camera and share screen functions are not enabled. Only audio is optimized due to a limitation on Citrix Workspace app 2004 for Linux.



- If you perform any of the following actions during an ongoing call, the call gets dropped:
  - Switch a headset.
  - Hotplug a headset.
  - Hold the call.
  - Resume the call.
  - Record the call.

As a workaround, you can set up the headset in Microsoft Teams before the call. If the call drops, or if you are unable to pick up the call, sign off and sign back in. If the call cannot be picked up after signing off and signing back in, reboot the client.

## Microsoft Teams optimization feature matrix

**Table 36. Microsoft Teams optimization feature matrix**

Scenario	ThinOS
Long audio call	Supported
Call—Make audio call	Supported
Call—Answer audio Call	Supported
Call—Make video call	Not supported
Call—Answer video call	Not supported
Call—Turn camera on/off	Not supported
Call—Enter/Exit Full screen	Supported
Call—Hold/Resume call	Not supported
Call—End call	Supported
Call—Mute/Unmute audio	Supported
Call—Transfer	Not supported
Call—Consult then transfer	Not supported
Call—Keypad	Not verified
Call—Start/stop recording	Not supported
Call—Turn off/on incoming video	Not supported
Call—Group video call	Not supported
Call—Group audio call	Supported
Call—Invite someone during call	Supported
Share screen—Desktop	Not supported
Share screen—Powerpoint	Not supported
Chat	Supported
Audio call in VDI server desktop	Supported
Audio call in published MS teams application	Supported
Video call in VDI server desktop	Not supported
Video call in published MS teams application	Not supported
Devices—Plugin/Unplug headset	Not supported
Devices—Switch headset	Not supported
Devices—Plugin/Unplug camera	Not supported
Devices—Switch camera	Not supported

**Table 36. Microsoft Teams optimization feature matrix (continued)**

Scenario	ThinOS
Headset buttons—Answer/Mute/End Call	Limited support—Answer/End call button is not supported due to Citrix Workspace App limitation

## Imprivata OneSign ProveID Embedded feature

ThinOS supports the Imprivata OneSign ProveID Embedded feature (PIE) that enables secure authentication to virtual desktops and applications. Using this feature, you can seamlessly access the clinical applications. The PIE solution simplifies access to roaming desktops with Citrix XenApp and Xen Desktops. You can also deploy a XenApp hosted desktop with Fast User Switching (FUS) to eliminate the need for generic user log-ins.

For more information about configuring PIE and FUS on ThinOS, see the *Dell Wyse ThinOS 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

### PIE limitations

- ThinOS local desktop, window, and toolbar is displayed during the PIE mode. This behavior is most common when you launch the session or sign off.
- The session appears a few seconds after you exit the PIE mode.
- ThinOS local background is displayed incorrectly after you exit the PIE mode.
- PIE mode supports localization only for de\_DE, es\_ES, fr\_FR, and it\_IT.

### PIE supported environment

**Table 37. PIE supported environment**

Component	Supported environment
Endpoints (Thin Clients)	<ul style="list-style-type: none"> <li>• Wyse 5470 All-in-One Thin Client</li> <li>• Wyse 5470 Thin Client</li> <li>• Wyse 5070 Thin Client</li> <li>• Wyse 3040 Thin Client</li> </ul>
Citrix environment	<ul style="list-style-type: none"> <li>• Citrix Virtual Apps and Desktop 7.15 CU5</li> <li>• Citrix Virtual Apps and Desktop 7 1912 LTSR</li> </ul>
OneSign server	7.1.000.13
PIE Agent on the thin client	7.1.099.0153
Authentication methods	<ul style="list-style-type: none"> <li>• Network password</li> <li>• Proximity card</li> <li>• Security questions</li> <li>• PIN (as a secondary factor)</li> <li>• Fingerprint biometrics</li> </ul>

### PIE feature matrix

**Table 38. PIE feature matrix**

Feature set	Feature details	ThinOS 9.0
General Features and Workflows	Imprivata Appliance failover	Supported
	Imprivata offline mode	Not applicable
	Imprivata self- service password reset	Supported
	Third-party self- service password reset	Not applicable

**Table 38. PIE feature matrix (continued)**

Feature set	Feature details	ThinOS 9.0
	Non-OneSign user workflow	Supported
	Spine Combined workflow	Not applicable
	Smartcard as proximity card workflow	Supported
Imprivata Walk Away Security	Honors lock command	Not applicable
	Fade to Lock screensaver	Supported
	Notification balloon	Not applicable
Citrix Workflows	Citrix Virtual Desktops	Supported
	Citrix Virtual Applications	Supported
	Virtual Kiosk Citrix for Virtual Desktops for Desktops	Supported
	Virtual Kiosk for Citrix Published Applications	Supported
Primary Authentication Modalities via Endpoint Operating System	Password	Supported
	Proximity card	Supported
	Smart card	Not applicable
	Fingerprint biometrics	Supported
	Question and Answer	Supported
Authentication/Re-Authentication Modalities via Virtual Channel	Proximity card	Supported
	Smart card	Not applicable
	Fingerprint biometrics	Supported
	Imprivata Hands Free Authentication	Supported

## HID Global OMNIKEY driver

HID Global Corporation OMNIKEY driver is integrated into ThinOS to support HID smart card readers and proximity card readers. The following are the supported smart card and proximity card readers:

### Tested smart card readers

- HID OMNIKEY 5125
- OMNIKEY CardMan3121
- HID OMNIKEY 5325 CL
- HID OMNIKEY 3021

### Tested proximity card readers

- OMNIKEY 5025CL
- OMNIKEY 5326 DFR
- OMNIKEY 5321 V2
- OMNIKEY 5321 V2 CL SAM

## Autoconfiguration of email-based account discovery using DNS

You can automatically connect to a Citrix session by using an email address. The email address is used to discover the StoreFront or NetScaler Gateway URL.

For more information about how to connect to a Citrix session by using an email-based discovery, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

# ThinOS enhancements

## DNS error pop-up window

If you set an invalid DNS server, error tips are displayed. A pop-up error window is displayed after you click **OK**.

## Dell WD19 docking station audio port

The audio port on the Dell WD19 docking station is supported from this release.

## Dual IPv6 network

Dual IPv6 network is supported from this release. The limitation of Dual IPv6 network is that the device cannot automatically determine which connection to use among the two.

## New Admin Policy Tool options

- Added the following Admin Policy Tool options for EAP-PEAP-GTC/EAP-FAST-GTC:
  - Enable Single SignOn
  - Hide Peap/Fast EAP-GTC domain
  - Peap/Fast EAP-GTC domain
- Added the following Admin Policy Tool options to set default audio playback and record devices:
  - Playback Device
  - Recording Device
- Added the following DHCP option tags:
  - DHCP option 43—You can use this option to disable the interpret DHCP vendor specific information.
  - DHCP option 12—You can use this option to disable the interpret DHCP hostname information.
- Screensaver settings—You can set a video or a moving image by browsing and uploading the respective file using Admin Policy Tool from **Personalization > Screen Saver**.
- Certificate upload—You can upload certificates using Admin Policy Tool from **Privacy & security > Certificates**. The supported certificate types are .cer, .crt, .der, and .pem.
- Upgrade support—You can install or upgrade BIOS firmware, operating system firmware, and application packages using Admin Policy Tool from **Admin Policy Tool > Firmware**. To uninstall packages, go to **System tools > Packages**, select the package, and click the **Delete** button.

## Wireless IPv6 support

Wireless IPv6 is supported from this release. You can enable or disable wireless IPv6 by clicking **IPv6 Config** from **Network Setup > WLAN**.

## ThinOS local taskbar icons for windows

Taskbar icons are added for all ThinOS windows except the Login window and the Admin Policy Tool window. You can use the taskbar icons to minimize and restore the windows.

## Integrated RTME 2.9 to Citrix package

RTME 2.9 version is integrated into Citrix package with the support for RTOP 2.9 functions.

## Update Citrix package to 2004

Citrix package is updated to Citrix Workspace App 2004 version.

Citrix Workspace App 2004 version does not support the usage of smart cards. You must use ThinOS v9.0.1136 with Citrix Workspace App version 1912 to enable smart card functionality.

## Supports two new ELO touch monitors

- IntelliTouch ZB (Worldwide) - E382790 ET2201L-8UWA-0-ZB-GY-G
- PCAP E351600 - ET2202L-2UWA-0-BL-G

## Resolution enhancement on Wyse 5470 and Wyse 5470 All-in-One thin clients.

When you connect an external monitor to Wyse 5470 or Wyse 5470 All-in-One thin clients, you can change the display resolution depending on the monitor type. The option is only available when you have an external monitor connected.

## Mandatory complex password for VNC and Admin mode

It is mandatory to have a complex password for VNC and Admin mode from 9.0 MR1, on both Wyse Management Suite 2.1 and Admin Policy Tool. If you are using Wyse Management Suite 2.0, then client still works with a simple password for VNC and account privilege. You can still access VNC and admin mode using the client. However, when you edit admin policy and try to save, an error is displayed to prevent saving. In order to successfully save, a complex password must be used on both Wyse Management Suite and client.

## Reversed touchpad scroll

The touchpad scroll direction is reversed in this release. Slide two fingers up to scroll down, and slide two fingers down to scroll up.

### Limitations

- Shortcut keys such as Ctrl+Alt+Up, Ctrl+Alt+Down, Ctrl+Alt+Left, or Ctrl+Alt+Right does not work if the session is in full screen mode.
- Non-CCID USB smart card key such as Etoken CardOS (USB key) is not supported from this release.

## Admin Policy Tool feature list

The following table contains the list of features that are supported by the Admin Policy Tool from ThinOS 9.0 MR1 release onwards:

**Table 39. Admin Policy Tool**

Feature	Sub-Feature	ThinOS 9.0 MR1	Additional information
Region & Language Settings	Region & Language	Supported	N/A
Privacy & Security	SCEP	Supported	N/A
Privacy & Security	Device Security	Supported	You must restart the client for all changes to take effect.
Privacy & Security	Account Privileges	Supported	N/A
Privacy & Security	Certificates	Supported	N/A
Broker & Session	Global Session Settings	Supported	N/A
Broker & Session	Citrix Broker Settings	Supported	N/A
Broker & Session	Citrix Session Settings	Supported	N/A
Login Experience	3rd Party Authentication	Supported	N/A
Login Experience	Smart card Settings	Supported	You must restart the client for all changes to take effect.
Login Experience	Login Settings	Supported	N/A
Login Experience	Session Settings	Supported	N/A
Personalization	Shortcut Keys	Supported	You must restart the client for all changes to take effect.
Personalization	Device Info	Supported	N/A
Personalization	Desktop	Supported	You must restart the client for all changes to take effect.
Personalization	Screen Saver	Supported	N/A
Peripheral Management	RFIdeas Reader	Supported	N/A
Peripheral Management	Printers	Supported	N/A
Peripheral Management	Audio	Supported	You must restart the client for all changes to take effect.
Peripheral Management	Touch	Supported	N/A
Peripheral Management	Serial Port	Supported	You must restart the client for all changes to take effect.

**Table 39. Admin Policy Tool (continued)**

<b>Feature</b>	<b>Sub-Feature</b>	<b>ThinOS 9.0 MR1</b>	<b>Additional information</b>
Peripheral Management	USB Redirection	Supported	N/A
Peripheral Management	Monitor	Supported	N/A
Peripheral Management	Mouse	Supported	N/A
Peripheral Management	Keyboard	Supported	N/A
Firmware	OS Firmware Updates	Supported	This feature is supported from ThinOS 9.0 MR1 release onwards.
Firmware	Application Package Updates	Supported	This feature is supported from ThinOS 9.0 MR1 release onwards.
Firmware	BIOS Firmware Updates	Supported	This feature is supported from ThinOS 9.0 MR1 release onwards.
System Settings	Power and Sleep Settings	Supported	N/A
System Settings	Scheduled Reboot Settings	Supported	N/A
System Settings	Scheduled Shutdown Settings	Supported	N/A
System Settings	Device Settings	Supported	N/A
Network Configuration	Ethernet Settings	Supported	N/A
Network Configuration	DHCP Settings	Supported	N/A
Network Configuration	DNS Settings	Supported	N/A
Network Configuration	VPN Settings	Supported	N/A
Network Configuration	Bluetooth Settings	Supported	You must restart the client for all changes to take effect.
Network Configuration	Proxy Settings	Supported	N/A
Network Configuration	Wireless	Supported	N/A
Services	VNC Service	Supported	N/A
Services	WMS Settings	Supported	N/A
Services	Troubleshooting Settings	Supported	N/A
BIOS	Dell Wyse 3040	Supported	This feature is supported from ThinOS 9.0 MR1 release onwards.
BIOS	Dell Wyse 5070	Supported	This feature is supported from ThinOS 9.0 MR1 release onwards.
BIOS	Dell Wyse 5470	Supported	This feature is supported from ThinOS 9.0 MR1 release onwards.
BIOS	Dell Wyse 5470 AIO	Supported	This feature is supported from ThinOS 9.0 MR1 release onwards.

# Test environment matrix

**Table 40. Tested environment - General components**

Component	Version
Wyse Management Suite	2.1
Imprivata OneSign	7.1.000.13
NetScaler	11.1/12.1
StoreFront	1811

**Table 41. Test environment - VDI**

VDI	Windows 7	Windows 10	Windows server 2008 R2	Windows server 2012 R2	Windows server 2016	Windows server 2019	APPs
Citrix XenDesktop and XenApp 7.6 LTSR	Not tested	Not tested	Tested	Tested	Not tested	Not tested	Tested
Citrix XenDesktop and XenApp 7.15 LTSR	Tested	Tested	Tested	Tested	Tested	Not tested	Tested
Citrix XenDesktop and XenApp 7.18	Not tested	Tested	Not tested	Tested	Tested	Not tested	Tested
Citrix Virtual Apps and Desktops 7 1811 and later	Not tested	Tested	Not tested	Tested	Tested	Tested	Tested

**Table 42. Test environment - RTME**

Citrix XenDesktop and XenApp	Citrix Virtual Apps and Desktops	Operating system	RTME Client	RTME Agent	Skype for Business client	Skype for Business Server
7.15 LTSR	7 1811 and later	Windows 7	2.9	2.9	Skype for Business 2016	Skype for Business 2015
		Windows 10	2.9	2.9	Skype for Business 2016	Skype for Business 2015
		Windows server 2016	2.9	2.9	Skype for Business 2016	Skype for Business 2015
		Windows server 2019	2.9	2.9	Skype for Business 2016	Skype for Business 2015

**Table 43. Tested environment - JVDI**

Citrix XenDesktop and XenApp	Citrix Virtual Apps and Desktops	Operating system	JVDI PKG	JVDI Agent	Jabber software
7.15 LTSR	7 1811 and later	Windows 7	12.8.0	12.8.0	12.8.0
		Windows 10	12.8.0	12.8.0	12.8.0
		Windows server 2016	12.8.0	12.8.0	12.8.0
		Windows server 2019	12.8.0	12.8.0	12.8.0

## Fixed issues

**Table 44. Fixed issues**

Issue ID	Description
THINOSX-6008	Fixed the issue where the network IP is not listed, and displayed as Unknown IP address on Wyse Management Suite 2.0, for devices connected to a wireless connection.
THINOSX-6356	Fixed the issue where the shutdown and reset options are not disabled for low-privileged and non-privileged users.
THINOSX-6331	Fixed the issue where, on a ThinOS 9.0-based device, you cannot start a Citrix virtual machine that is powered off.
THINOSX-5960	Fixed the issue where the terminal name does not change on ThinOS 9.0 when configured using Wyse Management Suite 2.0
THINOSX-6057	Fixed the issue where the Wyse Management Suite server URL is incorrect during OOBE.
THINOSX-6043	Fixed the issue where the ThinOS 9.x operating system cannot detect Citrix power-managed virtual machines that are powered off.
THINOSX-6072	Fixed the issue where pressing the windows key during a session brings up the Thin Client menu.
THINOSX-4119	Fixed the issue where the audio stops working when using an analog headset on Wyse 3040 thin clients.
THINOSX-5415	Fixed the issue where smart cards with multiple certificates do not function with Single Sign-On.
THINOSX-5399	Fixed the issue where the wireless warning messages are incorrectly displayed when using EAP-PEAP without a root certificate.
THINOSX-5411	Fixed the issue where the Cisco JVDI video graphic is not closed after you end the call.
THINOSX-5410	Fixed the issue where the Cisco JVDI call buttons display is black and unclear.
THINOSX-4926	Fixed the issue where the mouse right-click function does not work when using the Citrix browser content redirection (BCR).
THINOSX-5509	Fixed the issue where el.select.placeholder option is displayed in the Display Resolution list.
THINOSX-4255	Fixed issues that occur on Wyse 3040 Thin Clients, when you try to wake displays from hibernation.
THINOSX-5527	Fixed the issue where PEAP-GTC and FAST-GTC do no prompt for credentials after entering an incorrect value.
THINOSX-4491	Fixed the issue where the SFP module may not function after you resume from sleep mode and you cannot use the Wake-on-LAN feature.
THINOSX-4407	Fixed the issue where IPv4 session connections fail if both IPv4 and IPv6 are enabled.
THINOSX-5518	Fixed the issue where changing the time on the client takes up to one minute to synchronize to the ThinOS desktop.
THINOSX-3641	Fixed the issue where the Extract and Restore CMOS options in the Troubleshooting window cannot be used.
THINOSX-3475	Fixed the issue where incorrect values are displayed in the Inbound and Outbound packet information on the System Information wireless tab.
THINOSX-5454	Fixed the issue where desktop settings may require a client reboot to activate.
THINOSX-3742	Fixed the issue where the analog audio jacks on the Dell Docking Station WD19 do not function.
THINOSX-3914	Fixed the issue where the Wake-On-LAN or USB does not function when you use the Dell Docking Station WD19.
THINOSX-5616	Fixed the issue where you cannot disable the system settings if the privilege level is set to None.
THINOSX-5689	Fixed the issue where you cannot sign on to the Citrix Broker agent again after replugging the smart card. This issue occurs when you sign off the Broker agent by plugging out the smart card, and sign on again by re-plugging the smart card.



**Table 44. Fixed issues (continued)**

Issue ID	Description
THINOSX-6388	Fixed the issue where the Skype audio and other functions fails after upgrading to ThinOS 9.0 on the Wyse 3040 Thin Client.
L10N-19900	Fixed the issue where the browse buttons in the Admin Policy tool that is used to upload file to the device are not working.

## Known issues

**Table 45. Known issues**

Issue ID	Description
THINOSX-5125	When you change device from one select group to another, the previous settings are kept.
THINOSX-5586	If the system enters Sleep mode with the dock connected, the Wireless does not work after resuming from Sleep.
THINOSX-5782	The logic of default gateway for Dual IPv6 needs improvement.
THINOSX-5954	If you enable only the client IPv6 network, CA session fails to launch.
THINOSX-6108	A message <i>'rror-bad-request</i> is displayed on the login window when you log in Citrix Cloud.
THINOSX-6165	When you double-click the touchpad to launch an ICA desktop, the desktop launches twice.
THINOSX-6216	Ethernet and Wireless settings descriptions are incorrect in the Admin Policy Tool.
THINOSX-6217	The setting <b>Allow user to defer package update</b> cannot be disabled in the Admin Policy Tool.
THINOSX-6221	Audio stops working when you plug in the USB headset or analog headset again after removing from the thin client.
THINOSX-6293	The values of the first monitor row are not updated in Admin Policy Tool if you edit values of two rows simultaneously.
THINOSX-6323	Admin policy settings are not cleared after logging off the Broker agent until you restart manually.
THINOSX-6329	When you disable the Hide Domain option, you cannot specify the domain for Wireless EAP-GTC in the Admin Policy Tool.
THINOSX-6332	Wallpaper appears briefly and disappears when the terminal is restarted but the Wyse Management Suite server is not connected.
THINOSX-6334	The VPN does not reconnect automatically after the terminal wakes up from sleep mode.
THINOSX-6336	If you do not configure the Ethernet settings, you cannot publish the IEEE802.1x authentication settings .
THINOSX-6344	CA certificate is not installed after enabling the <b>Select Install CA Certificate</b> option in Wyse Management Suite server under SCEP settings.
THINOSX-6363	User exception Settings that are changed from Wyse Management Suite are not applied on device when checked in.
THINOSX-6385	Wyse Management Suite User policy settings are not applied when use <b>user@domain/password</b> to sign on Broker agent.
THINOSX-6394	Importing .pfx certificate from <b>Admin Policy Tool &gt; Privacy &amp; Security &gt; Certificates</b> is not supported.
THINOSX-6401	You cannot clear the text from the LPT printer name field.
THINOSX-6442	When you click Extract CMOS, the message is displayed incorrectly as <i>System setting is exported successfully</i> .
THINOSX-6443	There is no error message when clicking the Extract CMOS button without inserting the USB disk.
THINOSX-6665	Some certificates may be missed when you install multiple certificates from Wyse Management Suite.

# ThinOS 9.0.1136

## Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. New releases are created to support the existing hardware platforms, correct defects, make enhancements, or add new features. These releases are tested and supported on shipping hardware platforms.

**ThinOS 9.0 is a Citrix-specific release, which integrates Citrix Workspace app.** Other Broker agent connections such as VMware, RDP, and Amazon WorkSpaces are not supported in this release. ThinOS 9.0 does not support the usage of INI parameters. You must use either Wyse Management Suite or the local Admin Policy Tool to manage your systems.

## Version

ThinOS 9.0.1136

## Release date

March 2020

## Importance

Recommended: It is recommended to apply this update during your next scheduled update cycle. The update contains feature enhancements or changes that help keep your system software current and compatible with other system modules (firmware, BIOS, drivers, and software).

## Firmware upgrade

Use the Wyse Management Suite version 2.0 to upgrade your ThinOS 8.6-based thin clients to ThinOS 9.0. It is recommended to use Wyse Management Suite for large deployments. You can also use the USB Imaging Tool version 3.3 to install the ThinOS 9.0 Merlin image on a single device.

**NOTE:** You cannot upgrade the ThinOS 8.6 clients with PCoIP as ThinOS 9.0 does not support PCoIP devices.

For more information about how to upgrade from ThinOS 8.6 firmware to ThinOS 9.0, see the *Dell Wyse ThinOS Version 9.0 Migration Guide* at [www.dell.com/support](http://www.dell.com/support).

**NOTE:** After you upgrade to ThinOS 9.0, you cannot use the Wyse Management Suite method to downgrade to ThinOS 8.6. You must use the USB Imaging Tool method with Merlin images to downgrade to ThinOS 8.6.

## Other documents you may need

In addition to this Release Notes, you can access the following guides available at [www.dell.com/support/manuals](http://www.dell.com/support/manuals).

- The *Dell Wyse ThinOS Version 9.0 Administrator's Guide* provides information about using the ThinOS desktop, configuring the Broker agent connections, and troubleshooting your thin client.
- The *Dell Wyse ThinOS Version 9.0 Migration Guide* provides information about downloading the ThinOS 9.0 firmware from the Dell support site, and how to upgrade from ThinOS 8.6 firmware to ThinOS 9.0.

- The *Dell Wyse Management Suite 2.0 Administrator's Guide* provides information about configuration, and maintenance of the ThinOS 9.0-based thin clients by using the Wyse Management Suite console.

## Compatibility

### Supported platforms

**Table 46. Supported platforms**

Platform name	Processor type	Memory	Storage—eMMC
Wyse 3040 Thin Client	Intel Atom—Quad-Core	2 GB	8 GB
	Intel Atom—Quad-Core	2 GB	16 GB
Wyse 5070 Thin Client	Intel Celeron—Dual-Core	4 GB	16 GB
Wyse 5070 Thin Client	Intel Pentium—Quad-Core	4 GB	16 GB
Wyse 5070 Extended Thin Client	Intel Pentium—Quad-Core	4 GB	16 GB
Wyse 5470 Thin Client	Intel Celeron—Dual-Core	4 GB	16 GB
	Intel Celeron—Quad-Core	4 GB	16 GB
Wyse 5470 All-in-One Thin Client	Intel Celeron—Dual-Core	4 GB	16 GB
	Intel Celeron—Quad-Core	4 GB	16 GB

### Supported packages

**Table 47. Supported packages**

Package name	Version	Description
Citrix	1912.1109	The package is introduced to support Citrix Workspace App. In ThinOS 9.0, Citrix RealTime Media Engine (RTME) v2.8 package is merged into the Citrix package.
JVDI	1208.1089	The package is introduced to support Cisco Jabber v12.8.

### BIOS details

**NOTE:** ThinOS 9.0-based clients do not support BIOS upgrade and BIOS settings. After you upgrade to ThinOS 9.0, all BIOS remain same as ThinOS 8.6.

**Table 48. BIOS details**

Platform name	BIOS version
Wyse 3040 Thin Client	1.2.5
Wyse 5070 Thin Client	1.5.0
Wyse 5070 Extended Thin Client	1.5.0
Wyse 5470 Thin Client	1.3.1
Wyse 5470 All-in-One Thin Client	1.4.0

## ThinOS 9.0 feature matrix

This section outlines the ThinOS local settings that are delivered in the ThinOS 9.0 release.

**Table 49. ThinOS 9.0 feature matrix—Local settings**

ThinOS functional area		Description	Supported	Additional information
System Management	Firmware and application packages	Enables you to install the ThinOS firmware and application packages. <ul style="list-style-type: none"> <li>• Firmware signature</li> <li>• Operating system firmware update</li> <li>• Packages update</li> <li>• Packages compatibility</li> <li>• BIOS update</li> <li>• MIX update</li> </ul>	Limited support	BIOS update is not supported.
	Dell BIOS	Enables you to configure the Dell BIOS settings through Wyse Management Suite and Admin Policy Tool.	No	Not available
	Admin Policy Tool	Enables IT administrators to manage device configurations.	Limited support	For more information about the supported features, see the <a href="#">Admin Policy Tool feature matrix</a> .
	Wyse Device Agent (WDA) settings	Enables you to set the Wyse Management Suite information.	Yes	Not available
	Wyse Management Suite	Enables you to manage ThinOS 9.0-based thin clients using Wyse Management Suite v2.0.	Yes	Not available
System components	First Boot Wizard	Enables you to configure the thin client settings before you enter the ThinOS system desktop. You can configure the following options using the First Boot Wizard application: <ul style="list-style-type: none"> <li>• Select a language.</li> <li>• Select a keyboard layout.</li> <li>• Select a time zone.</li> <li>• Connect to a wired or wireless network.</li> <li>• Import the Wyse Management Suite configurations or import configurations from a USB drive.</li> <li>• Select a Broker agent.</li> </ul>	Yes	Not available
	Printer	Enables you to configure the printer that is connected to the thin client. <ul style="list-style-type: none"> <li>• Connect a USB printer to the thin client.</li> <li>• Connect a Serial printer to the thin client.</li> <li>• Connect a Parallel printer to the thin client.</li> <li>• Set the printer as COM, LPT, LPD, or SMB printer.</li> </ul>	Yes	If you want to use a mapped printer in the session, use a printer that supports the PostScript printing language.
	Lock terminal	Enables you to lock the thin client using any of the following methods: <ul style="list-style-type: none"> <li>• Unplug a signed-on smart card from the thin client.</li> <li>• Use the Lock Terminal option from the shortcut menu.</li> <li>• Use the Lock Terminal option from the shutdown dialog box.</li> <li>• Use a screensaver.</li> </ul>	Yes	Not available
	Sign off and shut down	Enables you to sign out from the current account or shut down the system voluntarily.	Yes	Not available

**Table 49. ThinOS 9.0 feature matrix—Local settings (continued)**

ThinOS functional area	Description	Supported	Additional information
	<p>Use the shutdown dialog box to perform the following tasks:</p> <ul style="list-style-type: none"> <li>● Sign out from your current user account.</li> <li>● Reboot the system.</li> <li>● Shut down the system.</li> <li>● Enter into sleep mode.</li> <li>● Lock the terminal.</li> <li>● Reset the system to factory default settings.</li> </ul>		
Classic desktop mode	<p>Enables you to use the classic desktop with a horizontal taskbar at the bottom of the screen. The following are the desktop components:</p> <ul style="list-style-type: none"> <li>● Shortcut Menu</li> <li>● Left Menu</li> <li>● System Tray</li> <li>● Start Menu</li> <li>● Connection Manager</li> </ul>	Yes	Not available
Network setup—General settings	<p>Enables you to configure the following network settings:</p> <ul style="list-style-type: none"> <li>● Default gateway for a dual network connection.</li> <li>● Domain Name System (DNS) and Windows Internet Name Service (WINS).</li> <li>● Transmission Control Protocol (TCP) timeout.</li> </ul>	Limited support	WINS is not supported.
Network setup—DHCP settings	<p>Enables you to configure the Dynamic Host Configuration Protocol (DHCP) options to get the DHCP Scope settings from the server.</p> <ul style="list-style-type: none"> <li>● DHCP Option ID for Citrix Server—181</li> <li>● DHCP Option ID for Domain List—182</li> <li>● DHCP Option ID for Group Registration Key—199</li> <li>● DHCP Option ID for Wyse Management Suite server—165</li> <li>● DHCP Option ID for Message Queuing Telemetry Transport (MQTT) server—166</li> <li>● DHCP Option ID for CA validation—167</li> <li>● DHCP Option ID for negative input</li> <li>● DHCP Vendor ID</li> <li>● DHCP UserClass ID</li> </ul>	Supported	Not available
Network setup—Ethernet settings	<p>Enables you to configure the following Ethernet connection settings:</p> <ul style="list-style-type: none"> <li>● Ethernet port selection for dual Network Interface Controller (NIC).</li> <li>● Ethernet speed selection.</li> <li>● IPv4 and IPv6 properties.</li> <li>● IEEE802.1x authentication.</li> </ul>	Limited support	<ul style="list-style-type: none"> <li>● Dual IPv6 is not supported.</li> <li>● SFP is limited support. The thin client cannot fetch the IP address, mostly when you are using a dual network connection.</li> </ul>

**Table 49. ThinOS 9.0 feature matrix—Local settings (continued)**

ThinOS functional area	Description	Supported	Additional information
			<ul style="list-style-type: none"> <li>The IEEE802.1x wired authentication may fail after one minute if using EAP-LEAP.</li> </ul>
Network setup—WLAN settings	Enables you to configure the following wireless connection settings: <ul style="list-style-type: none"> <li>Wireless scan</li> <li>Wireless profile (Security/Authentication)</li> <li>Add or remove a wireless profile.</li> <li>Disable wireless</li> <li>Wireless IP configuration</li> </ul>	Yes	Not available
Network setup—Proxy settings	Enables you to configure the proxy network settings. HTTP, HTTPS, and SOCKS5 protocols are supported.	Yes	Not available
Virtual Private Network (VPN)—OpenConnect	Enables you to configure a virtual private network.	Yes	Not available
Wireless connection	<ul style="list-style-type: none"> <li>Marvell Wireless Chipset 8897</li> <li>Intel Wireless Chipset 9560</li> <li>IEEE 802.11 a/b/g/n/ac</li> <li>Dual Band 2.4G and 5G</li> <li>Available Bandwidths and Channels in Chipset Spec</li> <li>Securities and authentications—WPA/WPA2, TLS/PEAP/LEAP/FAST/MSCHAPV2/GTC</li> <li>Wireless Scanning functionality</li> <li>Wireless connectivity—WLAN information, WiFi performance, roaming, Dual-network, Bluetooth, compatibility with routers, APs, and controllers.</li> </ul>	Limited support	<ul style="list-style-type: none"> <li>WEP is not supported.</li> <li>802.11r/k is supported on Wyse 5070, Wyse 5470, Wyse 5470 All-in-One clients with Intel Wireless Chipset 9560.</li> </ul>
Bluetooth	Enables you to connect to Bluetooth v3.0 and v4.0 devices.	Limited support	Bluetooth mouse and keyboard with Bluetooth v3.0 are supported.
Audio, USB audio, and DisplayPort audio	Enables you to use USB audio and DP audio.	Yes	DP audio limitations on the Wyse 3040 Thin Client are as follows: <ul style="list-style-type: none"> <li>Audio latency is 1.5 seconds.</li> <li>DP audio is disabled by default.</li> <li>Works only with screen resolution less than or equal to 1920 x 1080.</li> </ul>

**Table 49. ThinOS 9.0 feature matrix—Local settings (continued)**

ThinOS functional area	Description	Supported	Additional information
			<ul style="list-style-type: none"> <li>DP audio is supported only on DisplayPort 1.</li> </ul>
System Preference	Enables you to configure the following system settings: <ul style="list-style-type: none"> <li>Screen saver</li> <li>Locale</li> <li>Terminal name</li> <li>Time and date</li> <li>Custom information</li> <li>Power and Sleep</li> </ul>	Yes	Not available
Display setup	Enables you to configure the following display settings: <ul style="list-style-type: none"> <li>Display resolution</li> <li>Display rotation</li> <li>Mirror mode</li> <li>Span mode</li> <li>Main screen alignment</li> <li>Identify screens</li> <li>Single screen and multiple screens configuration</li> </ul>	Yes	Not available
On-Screen Display (OSD)—Applicable only for Wyse 5470 All-in-One Thin Client	Enables you to configure the following OSD settings: <ul style="list-style-type: none"> <li>Adjust brightness</li> <li>Turn off and turn on the screen.</li> <li>Turn off the screen and wake up the screen using a USB mouse or a USB keyboard.</li> </ul>	Yes	Not available
Peripheral settings	Enables you to configure the following peripherals settings: <ul style="list-style-type: none"> <li>Mouse settings</li> <li>Keyboard settings</li> <li>Audio settings</li> <li>Serial settings</li> <li>Camera settings</li> <li>Bluetooth settings</li> </ul>	Yes	Touch screen that needs calibration is not supported.
Touch screen—Applicable only for Wyse 5470 Thin Client	Enables you to use the touch screen gestures on the Wyse 5470 Thin Client.	Yes	Not available
Touchpad—Applicable only for Wyse 5470 Thin Client	Enables you to use the touchpad gestures on the Wyse 5470 Thin Client.	Yes	Not available
Function keys	Enables you to use the Function key combinations in both local and Citrix sessions.	Limited support	Fn key combination does not work in Citrix sessions.
Close lid function—Applicable only for Wyse 5470 Thin Client	Enables you to turn off or turn on the displays when the lid is closed.	Yes	Not available

**Table 49. ThinOS 9.0 feature matrix—Local settings (continued)**

ThinOS functional area	Description	Supported	Additional information	
	Power management—Applicable only for Wyse 5470 Thin Client	Enables you to use the following power-saving options—with or without AC power supply: <ul style="list-style-type: none"> <li>• Adjust the screen brightness.</li> <li>• Automatically shut down or enter sleep mode</li> </ul>	Yes	Not available
	Battery indicator—Applicable only for Wyse 5470 Thin Client	Enables you to use the battery indicator to check the battery status of the Wyse 5470 Thin Client.	Yes	Not available
	Reset to factory default settings	Enables you to reset the thin client to factory default settings.	Yes	Not available
	System Tools—Certificates and packages	Enables you to configure the following options: <ul style="list-style-type: none"> <li>• Import a certificate.</li> <li>• Delete a certificate.</li> <li>• Simple Certificate Enrollment Protocol (SCEP)—Request a certificate and automatically enroll using a password.</li> <li>• Admin Policy Tool to configure SCEP</li> <li>• View packages list</li> <li>• Delete one or more packages.</li> </ul>	Yes	Not available
	Troubleshooting	Enables you to use the following options to troubleshoot your thin client: <ul style="list-style-type: none"> <li>• Performance Monitor</li> <li>• Export system settings</li> <li>• Export screenshots</li> <li>• Export system logs</li> <li>• Network capture</li> <li>• Wireless capture</li> <li>• Capture USB packets.</li> <li>• Network ping and Trace route</li> <li>• Telnet</li> </ul>	Limited support	Extract and restore CMOS are not supported.
	Session properties	Enables you to configure the session settings using Connect Manager or session menu.	Yes	Not available
	USB devices	Enables you to use the following options: <ul style="list-style-type: none"> <li>• Connect to USB 2.0 and USB 3.0 ports.</li> <li>• USB mapping</li> <li>• USB redirection</li> </ul>	Yes	Not available
	Dell Docking Station WD19	Enables you to access all peripherals—mouse, keyboard, stereo speakers, external hard drive, and large-screen displays—without having to plug each one into the thin client.	Limited support	<ul style="list-style-type: none"> <li>• Audio jack does not work.</li> <li>• Wake on LAN/USB using the Dell Docking Station WD19 is not supported.</li> </ul>
	Secure Digital (SD) card—Applicable only for Wyse 5470 Thin Client	Enables you to import and export files.	Yes	Not available
System Security	Trusted Platform Module (TPM)	Enables you to enable disk encryption with TPM.	Yes	Not available



**Table 49. ThinOS 9.0 feature matrix—Local settings (continued)**

ThinOS functional area		Description	Supported	Additional information
	Smart card	Enables you to use a smart card to authenticate the user.	Limited support	When you launch a disconnected Citrix Windows 2012/2016 session, the session stops responding.
	Authentication settings	Enables you to configure the following authentication settings: <ul style="list-style-type: none"> <li>• OneSign configuration using IP</li> <li>• OneSign configuration using FQDN</li> <li>• HealthCast configuration</li> </ul>	Limited support	HealthCast is not supported.
	Secure Boot	Option to enable Secure Boot on the thin client.	No	Not available
ThinOS VDI configuration	Broker agent settings	Enables you to configure the Citrix Broker agent settings.	Yes	Not available
	General settings	Enables you to configure the following general options: <ul style="list-style-type: none"> <li>• Sign-off automatically</li> <li>• Shut down the system automatically.</li> <li>• Restart the system automatically.</li> <li>• Set default login credentials</li> </ul>	Yes	Not available
	Global Connection Settings	Enables you to configure the settings common to all sessions and all ICA sessions in the <b>Global Connection Settings</b> window.	Yes	Not available
	PNA button menu	Enables you to use the following options from the PNA button menu: <ul style="list-style-type: none"> <li>• Refresh</li> <li>• Reconnect</li> <li>• Log off</li> <li>• Disconnect</li> <li>• Manage security questions (Enable SSPR).</li> </ul>	Yes	Not available
	Sign-on window	Enables you to use the login options available on the sign-on window. You can use a smart card, Imprivata, and other two-factor authentication methods to log in to the Citrix session.	Yes	Not available

## New and enhanced features

ThinOS 9.0 is a Citrix-specific release. Other Broker agent connections such as VMware, RDP, and Amazon WorkSpaces are not supported in this release. You must use either Wyse Management Suite or the local Admin Policy Tool to manage your systems as INI parameters are not supported in ThinOS 9.0.

This section provides information about the new and enhanced features that are delivered in ThinOS 9.0.

### Enhanced User Interface

ThinOS uses an enhanced user interface with modern desktop and icons from the 9.0 release. The ThinOS desktop consists of the following screen elements:

- Desktop menu
- Taskbar
- Connection and application shortcuts

- Broker agent login window

For more information about the desktop features, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Support for Wyse Management Suite 2.0

Dell Wyse Management Suite Version 2.0 is the next generation management solution that enables you to centrally configure, monitor, manage, and optimize your ThinOS 9.0-based thin clients. Wyse Management Suite 2.0 uses an enhanced user interface to configure the ThinOS 9.0 settings.

For information about using Wyse Management Suite 2.0 to manage your ThinOS-based devices, see the *Dell Wyse Management Suite Version 2.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Admin Policy Tool

ThinOS 9.0 does not support FTP, HTTP, HTTPS file server, and INI parameter settings. You can configure these settings using a local management tool called Admin Policy Tool.

**NOTE:** After you reset the thin client to factory default settings, the device starts the First Boot Wizard application by default. You can use the Admin Policy Tool to change the default settings for First Boot Wizard.

## Configure the Admin Policy Tool

### Steps

1. From the desktop menu, click **System Setup > Admin Policy Tool**.  
The **Configuration Control | ThinOS** window is displayed.
2. Click the **Standard** tab or the **Advanced** tab.  
The **Standard** tab lists all the common settings. The **Advanced** tab lists all the advanced settings.
3. Expand the options that you want to configure.
4. In the respective fields, click the option that you want to configure.
5. Click **Save & Publish**.

## Admin Policy Tool feature list

The following table contains the list of features that are supported by the Admin Policy Tool:

**Table 50. Admin Policy Tool**

Feature	Sub-Feature	ThinOS 9.0	Additional information
Region & Language Settings	Region & Language	Supported	Not available
Privacy & Security	SCEP	Supported	Not available
Privacy & Security	Device Security	Supported	You must restart the client for all changes to take effect.
Privacy & Security	Account Privileges	Supported	ThinOS 9.0 only supports the privilege control of desktop left and right-click menu.
Privacy & Security	Certificates	Supported	Not available
Broker & Session	Global Session Settings	Supported	Not available
Broker & Session	Citrix Broker Settings	Supported	Not available
Broker & Session	Citrix Session Settings	Supported	Not available

**Table 50. Admin Policy Tool (continued)**

<b>Feature</b>	<b>Sub-Feature</b>	<b>ThinOS 9.0</b>	<b>Additional information</b>
Login Experience	3rd Party Authentication	Supported	You must restart the client for the OneSign server changes to take effect.
Login Experience	Smart card Settings	Supported	You must restart the client for all changes to take effect.
Login Experience	Login Settings	Supported	Not available
Login Experience	Session Settings	Supported	Not available
Personalization	Shortcut Keys	Supported	If you configure fast disconnect and fast connect settings, you must restart the client for changes to take effect.
Personalization	Device Info	Supported	Not available
Personalization	Desktop	Supported	You must restart the client for all changes to take effect. Desktop Background Image can be configured only using Wyse Management Suite.
Personalization	Screen Saver	Supported	Not available
Peripheral Management	RFIdeas Reader	Supported	Not available
Peripheral Management	Printers	Supported	Not available
Peripheral Management	Audio	Supported	You must restart the client for all changes to take effect.
Peripheral Management	Touch	Supported	Not available
Peripheral Management	Serial Port	Supported	You must restart the client for all changes to take effect.
Peripheral Management	USB Redirection	Supported	Not available
Peripheral Management	Monitor	Supported	Not available
Peripheral Management	Mouse	Supported	Not available
Peripheral Management	Keyboard	Supported	Not available
Firmware	Application Package Settings	Supported	You must restart the client for all changes to take effect. This feature is supported from ThinOS 9.0 MR1 release onwards.
Firmware	OS Firmware Properties Settings	Supported	You must restart the client for all changes to take effect. This feature is supported from ThinOS 9.0 MR1 release onwards.
System Settings	Power and Sleep Settings	Supported	Not available
System Settings	Scheduled Reboot Settings	Supported	Not available
System Settings	Scheduled Shutdown Settings	Supported	Not available
System Settings	Device Settings	Supported	Not available
Network Configuration	Ethernet	Supported	Not available

**Table 50. Admin Policy Tool (continued)**

Feature	Sub-Feature	ThinOS 9.0	Additional information
Network Configuration	DHCP Settings	Supported	Not available
Network Configuration	DNS Settings	Supported	Not available
Network Configuration	VPN Settings	Supported	Not available
Network Configuration	Bluetooth Settings	Supported	You must restart the client for all changes to take effect.
Network Configuration	Proxy Settings	Supported	Not available
Network Configuration	Wireless	Supported	Not available
Services	VNC Service	Supported	Not available
Services	WMS Settings	Supported	Not available
Services	Troubleshooting Properties	Supported	Not available
BIOS	System Configuration, Security, Power Management and so on.	Supported	You must restart the client for all changes to take effect. This feature is supported from ThinOS 9.0 MR1 release onwards.

## Cisco Jabber Softphone for VDI v12.8

Cisco Jabber Softphone for VDI (JVDI) is the Unified Communications solution that is offered by Cisco for virtual deployments. In ThinOS 9.0, the Cisco JVDI client package on the thin client is updated to version 1208.1089.

For more information about installing JVDI and configuring Cisco Jabber, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Citrix Workspace app v1912

Citrix Workspace app, formerly called Citrix Receiver, is integrated into ThinOS 9.0. Citrix Workspace app enables you to access virtual desktops and hosted applications that are delivered by Citrix Virtual Apps and Desktops (formerly XenApp and XenDesktop).

For more information about the Citrix Workspace app, see the *Citrix documentation* at [www.citrix.com](http://www.citrix.com).

## Citrix Workspace app feature matrix

**Table 51. Citrix Workspace app feature matrix**

Feature*		ThinOS 9.0
Citrix Workspace	Citrix Virtual Apps	Supported
	Citrix Virtual Desktops (including Windows and Linux desktop)	Supported
Endpoint Management	Auto configure using DNS for Email Discovery	Not supported
	Centralized Management Settings	Supported
UI	Desktop Viewer/Toolbar	Supported
	Multi-tasking	Supported
	Follow Me Sessions (Workspace Control)	Supported
HDX Host Core	Adaptive transport	Supported

**Table 51. Citrix Workspace app feature matrix (continued)**

Feature*		ThinOS 9.0
	Session reliability	Supported
	Auto-client Reconnect	Supported
	Browser content redirection	Supported
	Multipoint ICA	Supported
HDX IO/Devices/Printing	Local Printing	Supported
	Generic USB Redirection	Supported
	Client drive mapping / File Transfer	Supported
HDX Integration	HDX Insight	Supported
	EUEM Experience Matrix	Supported
	Session Sharing	Supported
HDX Multimedia	Audio Playback	Supported
	Bi-directional Audio (VoIP)	Supported
	Web-cam redirection	Limited support <sup>1</sup>
	Video playback	Supported
	Skype for business Optimization pack	Supported
	Cisco Jabber Unified Communications Optimization	Supported
	Windows Multimedia redirection	Supported
	UDP Audio	Supported
HDX Graphics	H.264-enhanced SuperCodec	Supported
	Adaptive Display V2	Supported
	Client hardware acceleration	Supported
	3DPro Graphics	Supported
	External Monitor Support	Supported
	True Multi Monitor	Supported
Authentication	Federated Authentication (SAML/Azure AD)	Supported
	RSA Soft Token/RSA Hard Token	Supported
	Challenge Response SMS (Radius)	Supported
	OKTA Multi factor authentication	Supported
	DUO multi factor authentication	Supported
	Smart Card (CAC, PIV)	Supported
	Proximity/Contactless Card	Supported
	Credential insertion (E.g.. Fast Connect, Storebrowse)	Supported
	Pass Through Authentication	Supported
	NetScaler Native OTP	Supported
	Anonymous Store Access	Supported
	Biometric Authentication (Touch ID, Face ID..)	Limited supported. Only supports Touch ID.
Security	TLS 1.2	Supported

**Table 51. Citrix Workspace app feature matrix (continued)**

Feature*		ThinOS 9.0
	DTLS 1.0	Supported
	SHA2 Cert	Supported
	Remote Access via Citrix Gateway	Supported
	IPV6	Not supported <sup>2</sup>
Keyboard enhancements	Unicode Keyboard Layout Mapping with Windows VDA	Supported

\*For definitions of each feature, see the *Citrix Workspace app feature list* at [docs.citrix.com](https://docs.citrix.com).

<sup>1</sup>HDX RealTime Webcam Video Compression does not work except for Microsoft Skype for Business Optimization pack and Cisco Jabber Unified Communications Optimization.

<sup>2</sup>ICA session is not launched if you enable only IPv6 client network.

## Workspace mode

The **Workspace** mode is a newly launched style for the ThinOS device. It enables you to customize the look and feel of your ThinOS to match the Citrix Workspace-based layout of published applications and desktops. Workspace Mode displays both the ThinOS taskbar and the Workspace desktop.

To enable the **Workspace Mode** option on ThinOS, do the following:

1. On the ThinOS desktop, go to **System Setup > Remote Connections**.
2. Click the **Broker Setup** tab.
3. From the **Select Broker Type** drop-down list, select **Citrix**.
4. Select the **Workspace Mode** check box, and click **OK**.
5. Log in to the Citrix session.

**Table 52. Workspace Mode**

Item	Workspace Mode
How to enable	Select the <b>Workspace Mode</b> check box on the <b>Broker Setup</b> tab.
Desktop elements	Displays the ThinOS full taskbar and the Workspace desktop.
Access all published desktops	Click the Desktops icon on the purple ribbon to access all the published desktops.
Access all published apps	Click the <b>APPS</b> icon on the purple ribbon to access all the published desktops.
Access favorites	Click the <b>Favorites</b> icon on the purple ribbon.
Access Connection Manager	Click the button menu on the upper-right corner of the screen, and then click <b>Connection Manager</b> .
Refresh Citrix application	Click the button menu on the upper-right corner of the screen, and then click <b>Refresh</b> .
Reconnect a session	Click the button menu on the upper-right corner of the screen, and then click <b>Connection Center &gt; Reconnect</b> .
Disconnect from the session	Click the button menu on the upper-right corner of the screen, and then click <b>Connection Center &gt; Disconnect</b> .
Log off all the connected ICA sessions	Click the button menu on the upper-right corner of the screen, and then click <b>Connection Center &gt; Logoff</b> .
Switch accounts	Click the button menu on the upper-right corner of the screen, and switch accounts based on your requirement. This is applicable only when you use multilogon or join multiple farms.
Sign out of the Broker agent	Click the button menu on the upper-right corner of the screen, and then click <b>Sign out</b> .
Use search bar	Use the search bar on the upper-right of the screen to search for your workspace item. You can open applications directly from the search results.

**Table 52. Workspace Mode (continued)**

Item	Workspace Mode
Access Desktop Viewer or Toolbar	Click the <b>Desktop Viewer/Toolbar</b> button on the top center of the Citrix session screen. You can switch between <b>Windowed Mode</b> and <b>Full-Screen Mode</b> in a Citrix session.

For more information about the Citrix Workspace mode, see the *Citrix documentation* at [www.citrix.com](http://www.citrix.com). For more information about configuring the Citrix Broker agent, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Desktop Viewer or Toolbar

ThinOS 9.0 supports Citrix Desktop Viewer or Toolbar that follows the functionality of Citrix Workspace app v1912.

To access Desktop Viewer, click the **Desktop Viewer/Toolbar** button on the top center of the Citrix session screen. You can use any of the following toolbar options:

- Home
- Switch
- Ctrl+Alt+Del
- Window/Full Screen
- Disconnect
- Sign Out
- Save Layout

For more information about the Desktop Viewer or Toolbar, see the *Citrix documentation* at [www.citrix.com](http://www.citrix.com).

## Citrix ADC Native OTP

Citrix ADC (formerly NetScaler) Native OTP enables Citrix ADC Gateway to use one-time passwords (OTPs) for authentication without the need of an extra authenticating server. A one-time password that is generated by Google Authenticator is considered to be highly secure as passcodes are randomly generated.

For more information about Native OTP support for authentication, see the *NetScaler Gateway12.0 documentation* at [docs.citrix.com](http://docs.citrix.com).

For information about how to log in to Citrix ADC using the passcode, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Federated Authentication (SAML/Azure AD)

ThinOS supports the Citrix Federated Authentication Service with Azure Active Directory during single sign-on to Citrix ADC using the Security Assertion Markup Language (SAML) based authentication. The FAS server delegates the user authentication to the Microsoft ADFS server or Azure AD with Security Assertion Markup Language (SAML). Both, Azure AD Multiple Factors Authentication (MFA) and Self-Service Password Reset (SSPR) are supported.

For information about how to enable Azure Multiple Factor Authentication for Citrix ADC Single Sign-on with SAML Authentication, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

For more information, about integrating Citrix ADC with Azure Active Directory, see the *Integrating NetScaler with Microsoft Azure AD documentation* at [docs.citrix.com](http://docs.citrix.com).

For information about how to enable Azure AD Self-Service Password Reset function for Citrix ADC Single Sign-on with SAML authentication, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Browser Content Redirection

Browser content redirection enables any web browser content, including HTML 5 videos, to be redirected to the ThinOS client and not redirected on the VDA side.

**Browser content redirection proxy setting**—If you use the browser content redirection proxy settings, enter a valid proxy address and port number in the browser content redirection proxy configuration policy. Citrix Workspace app follows the server fetch and client render mechanism. It fetches URL from VDA and redirects the browser content from the thin client.

For more information about Browser Content Redirection, see the *Browser Content Redirection* article at [docs.citrix.com](https://docs.citrix.com).

For more information about how to enable Browser Content Redirection on ThinOS, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Citrix HDX Adaptive transport (EDT)

ThinOS supports Citrix HDX Adaptive transport for Citrix Virtual Apps and Desktops. HDX Adaptive transport enables the ICA virtual channels to automatically adapt to varying LAN and WLAN connections and improves the data throughput.

For more information about Citrix HDX Adaptive transport, see the *Citrix documentation* at [docs.citrix.com](https://docs.citrix.com).

For information about how to enable HDX Adaptive Transport, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## HDX Adaptive Display V2

ThinOS supports the selective use of a video codec (H.264) to compress graphics during video playback in an ICA session. This feature combines the H.264 mode and Thinwire Compatible mode for a better user experience.

For more information about HDX Adaptive Display V2, see the *Citrix documentation* at [docs.citrix.com](https://docs.citrix.com).

For information about how to HDX Adaptive Display V2, see the *Dell Wyse ThinOS Version 9.0 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Citrix two-factor authentication

ThinOS supports Citrix two-factor authentication that authenticates the identity of the user twice before granting access, adding an extra level of security.

For local authentication, there must be a user profile that is created in the Citrix ADC database. For external authentication, the username and password that is entered must be the same as registered in the authentication server. After a successful validation of the username and password, the user is requested for another level of authentication.

ThinOS supports LDAP, RSA+LDAP, SMS Passcode, DUO, OKTA, and Azure MFA authentications by default. The user must only provide the Citrix ADC gateway address.


To log in to NetScaler Gateway that uses LDAP with RSA authentication, you must select **LDAP+RSA** in the **Wyse Management Suite** policy. You can also go to Admin Policy Tool and configure the **NetScaler/ADC Authentication Method** option in the **Citrix Broker Settings** window.

For specific users who want to use Citrix ADC authentication methods, such as LDAP with MFA, it is recommended that you configure the **NetScaler/ADC Authentication Method** with **LDAP** either using the Wyse Management Suite policy or the Admin Policy tool.

## Keyboard enhancements on Windows VDA

ThinOS supports the Unicode Keyboard Layout Mapping on Citrix Apps and Desktops. This feature enables you to use the Unicode keyboard layout mapping for non-Windows Citrix Workspace app on the Windows VDA.

If you select a localized keyboard layout on the ThinOS local UI, the selected keyboard layout is not synchronized in the ICA session. However, the client local keyboard layout is mapped to the existing language in the language bar of the session. For example, if the existing language is English (United States) in the ICA session, and if you select German layout on the ThinOS local UI, then the German language is not displayed on the session language bar. However, the English (United States) keyboard in the ICA session works as a German keyboard layout.

 **NOTE:** When you select a localized keyboard such as German on the ThinOS local UI, you must not manually add the language again in the ICA session. This is because the output of the manually added German keyboard can be disordered.



## ThinOS local enhancements

- Added the **View** button in the **Select Certificate** window that is displayed when you log in using a smart card. The option enables you to view the certificate details.
- Added the **Log on with another method** button in the smart card login window. The option enables you to switch between the smart card login window and the username login window.
- Added support for setting user account privileges on ThinOS. Account privilege is used to control the user permission to access Admin Policy Tool and system menu items. You can change a user privilege to **High**, **Customize**, or **None** from the Admin Policy Tool or the Wyse Management Suite console.
- Added the **Trapreboot** feature. This feature enables the thin client to automatically reboot when the system crashes or a trap issue is observed. The system settings are returned to the previous settings that are saved during the data backup one hour earlier.
  - **NOTE:** If you forcibly shut down the thin client, the system settings are returned to the previous settings that are saved during the data backup one hour earlier.
- Added support for the DHCP option **252**. This option enables the device to fetch the proxy information from the DHCP server when the device is reset to factory default settings or you restart the thin client. For example, `http://x.x.x.x/proxy.pac`.
- Displays the change group warning message on the device after you change the group in Wyse Management Suite.
- Displays the new firmware or package message when you deploy a new firmware or package using Wyse Management Suite.

## Comparison between ThinOS 8.6 and ThinOS 9.0

This section outlines the ThinOS 8.6 features or options that are changed or removed from ThinOS 9.0.

**Table 53. First Boot Wizard**

Component	ThinOS 8.6	ThinOS 9.0
<b>First Boot Wizard</b>	<ul style="list-style-type: none"> <li>• A First Boot Wizard application runs the first time when you start a thin client with ThinOS.</li> <li>• Use this application to perform tasks, such as, configuring system preferences, setting up the Internet connectivity, loading USB configurations, configuring management software, and configuring Broker agent connections.</li> </ul>	<ul style="list-style-type: none"> <li>• New and enhanced User Interface.</li> <li>• Use this application to perform tasks, such as, selecting a language, selecting a keyboard layout, setting the time zone, selecting the network connection, importing the Wyse Management Suite configurations, and selecting the VDI Broker agent.</li> </ul>

**Table 54. System Information**

Component	ThinOS 8.6	ThinOS 9.0
<b>System Information &gt; General tab</b>	Displays the <b>Status</b> tab.	The <b>Status</b> tab is removed, and the following fields are added to the <b>General</b> tab: <ul style="list-style-type: none"> <li>• <b>CPU Speed</b></li> <li>• <b>CPU Utilization</b></li> <li>• <b>System Up Time</b></li> <li>• <b>Memory Size</b></li> <li>• <b>Memory Usage</b></li> </ul>
<b>System Information &gt; WLAN tab</b>	IPv6 information is not displayed.	<ul style="list-style-type: none"> <li>• In and Out Packets are removed.</li> <li>• Link Quality is removed.</li> </ul>
<b>System Information &gt; ENET tab</b>	<ul style="list-style-type: none"> <li>• ENET name option is not available.</li> <li>• IPv6 information is not displayed.</li> </ul>	<ul style="list-style-type: none"> <li>• ENET name option is added to display the selected ENET port.</li> <li>• IPv6 information is displayed.</li> </ul>
<b>System Information &gt; About tab</b>	Displays information about the ThinOS operating system.	<ul style="list-style-type: none"> <li>• Unrelated fields are removed. For example, Imprivata version, HealthCast version.</li> </ul>

**Table 54. System Information (continued)**

Component	ThinOS 8.6	ThinOS 9.0
		<ul style="list-style-type: none"> <li>• Wyse Management Suite status is displayed.</li> </ul>

**Table 55. Network setup**

Component	ThinOS 8.6	ThinOS 9.0
<b>Network Setup &gt; General tab</b>	Radio buttons to select the type of network interface.	Select the type of network interface from a drop-down list.
<b>Network Setup &gt; Options tab</b>	Displays all the supported DHCP option tags.	<ul style="list-style-type: none"> <li>• DHCP option tags related to Citrix and Wyse Management Suite are displayed.</li> <li>• DHCP option tags related to FTP and Wyse Device Manager are removed.</li> <li>• The User Class option for DHCP Standard is changed to RFC 3004. You must go to user class settings in DHCP and add the user class length in head.</li> </ul>
<b>Network Setup &gt; WLAN tab</b>	<b>Up</b> and <b>Down</b> buttons for Wireless SSID selection. The first SSID is connected, and only eight SSIDs can be added.	<ul style="list-style-type: none"> <li>• Use the <b>Connect</b> button to connect the selected SSID.</li> <li>• No limit on the maximum number of wireless SSIDs.</li> </ul>
<b>Network Setup &gt; ENET tab</b>	<ul style="list-style-type: none"> <li>• Check boxes to select IPv4 address, IPv6 address, and IEEE802.1x authentication.</li> <li>• Option to configure advanced IPv6 settings.</li> </ul>	<ul style="list-style-type: none"> <li>• Move sliders to either left or right to enable or disable the following options: <ul style="list-style-type: none"> <li>○ IPv4</li> <li>○ IPv6</li> <li>○ IEEE802.1x authentication</li> </ul> </li> <li>• The <b>Advanced</b> button for IPv6 is removed.</li> <li>• The <b>Wait DHCP</b> option for IPv6 is removed.</li> </ul>
<b>Wireless Profile Properties</b>	<ul style="list-style-type: none"> <li>• WPA and WPA2 are separate options in the <b>Security Type</b> drop-down list.</li> <li>• WEP is supported.</li> <li>• <b>Hide domain</b>, <b>Enable Single Sign-On</b>, and <b>Domain</b> are not supported in EAP-GTC.</li> </ul>	<ul style="list-style-type: none"> <li>• WPA and WPA2 option are combined in the <b>Security Type</b> drop-down list.</li> <li>• WEP security type is removed.</li> <li>• <b>Enable Single Sign-On</b>, and <b>Domain</b> are supported in EAP-GTC.</li> </ul>
<b>Wireless Scan</b>	<ul style="list-style-type: none"> <li>• Use the <b>Wireless Scan</b> window to scan the Wi-Fi networks available in your area. However, you cannot sort the scan results by SSID name, State or Security Type.</li> <li>• Use the <b>Refresh</b> button to refresh the wireless network scan.</li> </ul>	<ul style="list-style-type: none"> <li>• You can sort the scan results by SSID name, State or Security Type.</li> <li>• The <b>Refresh</b> button is removed.</li> </ul>

**Table 56. Remote Connections**

Component	ThinOS 8.6	ThinOS 9.0
<b>Remote Connections &gt; General Options</b>	Enables you to clear any locally saved Citrix connections.	The <b>Clear locally saved connections</b> option is removed.
<b>Remote Connections &gt; Broker Setup &gt; Select Broker Type</b>	Enables you to select any of the following Broker agents from the list: <ul style="list-style-type: none"> <li>• Citrix Xen</li> <li>• VMware View</li> </ul>	Only the Citrix Broker agent is available for selection.

**Table 56. Remote Connections (continued)**

Component	ThinOS 8.6	ThinOS 9.0
	<ul style="list-style-type: none"> <li>• Microsoft—RDP or RDS</li> <li>• Dell vWorkspace</li> <li>• Amazon Workspaces</li> <li>• Teradici Cloud Access</li> </ul>	Other broker agents, such as VMware View, Microsoft RDP/RDS, Amazon Workspace, Teradici Cloud Access, and Dell vWorkspace are not supported in ThinOS 9.0
<b>Remote Connections &gt; Broker Setup &gt; Select Broker Type &gt; Citrix</b>	A check box to select the StoreFront style.	The <b>StoreFront Style</b> check box is changed to the <b>Workspace Mode</b> check box.
<b>Remote Connections &gt; Broker Setup &gt; Select Broker Type &gt; Citrix</b>	Enables you to launch a Citrix session in the StoreFront style.	The <b>StoreFront Style</b> check box is removed.
<b>Remote Connections &gt; Broker Setup &gt; Select Broker Type &gt; Citrix</b>	Enables you to enter the IP address of the Account self-service server.	The Account Self-Service Server function is removed.
<b>Remote Connections &gt; Broker Setup &gt; Select Broker Type &gt; Citrix</b>	Enables you to set the Broker agent settings as default settings for XenApp and XenDesktop.	Options to set default settings for XenApp and XenDesktop is removed.
<b>Remote Connections &gt; Broker Setup &gt; Select Broker Type &gt; Citrix</b>	Enables you to configure the ICA connection protocol.	The ability to configure a direct ICA connection is removed.
<b>Remote Connections &gt; Broker Setup &gt; Auto Connect List</b>	Enables you to specify either the connection name or the application name in the <b>Auto Connect List</b> .	The <b>Auto Connect List</b> allows you to specify only the connection name.
<b>Remote Connections &gt; Visual Experience</b>	Enables you to switch between Classic Desktop and Zero Launchpad.	The <b>Zero Launchpad</b> button and the <b>Visual Experience</b> tab are removed. The change is because ThinOS 9.0 does not support zero desktop and zero toolbars.
<b>Connection Manager &gt; New</b>	Enables you to create a Citrix ICA connection from Connection Manager.	The ability to connect a new ICA connection using the Connection Manager is removed.
PNAMenu	Enables you to configure session properties and applications in a Citrix session.	The <b>Applications</b> button and the <b>Properties</b> button are removed from the PNAMenu in the system tray.
Using multiple audio devices in a Citrix session.	Enables you to connect multiple audio devices and select a specific device for a specific application.	The ability to use multiple audio devices in a Citrix (ICA) desktop is removed.

**Table 57. System Preferences**

Component	ThinOS 8.6	ThinOS 9.0
<b>System Preferences &gt; Time/Date &gt; Enable Daylight Saving</b>	Enables you to configure the daylight-saving settings.	The <b>Enable Daylight Saving</b> option is removed. The change is because ThinOS 9.0 uses the Linux standard time zone file, and hence you need not set the daylight saving manually.
<b>System Preferences &gt; General</b>	Enables you select either the sleep mode or power off option after the screen is turned off by the screen saver.	Use the <b>Power and Sleep</b> tab to configure the power off and sleep mode options.

**Table 58. Display Setup**

Component	ThinOS 8.6	ThinOS 9.0
<b>Display Setup</b>	<b>Left turn 90 degrees</b> and <b>Right turn 90 degrees</b> options to configure the display rotation.	Display rotation options are renamed to <b>Landscape</b> , <b>Portrait</b> , <b>Landscape (flipped)</b> , and <b>Portrait (flipped)</b> .

**Table 59. Peripheral settings**

Component	ThinOS 8.6	ThinOS 9.0
<b>Peripherals &gt; Keyboard &gt; Character Set</b>	Enables you to select a character set for the keyboard.	The <b>Character Set</b> list is removed. The change is because ThinOS 9.0 supports Unicode characters.
<b>Peripherals &gt; Mouse tab</b>	A check box to increase the size of the local mouse pointer by two times.	The <b>Enable big mouse pointer</b> check box is replaced with the <b>Pointer Size</b> drop-down list.
<b>Peripherals &gt; Audio tab</b>	Enables you to configure the audio settings.	<ul style="list-style-type: none"> <li>• New user interface.</li> <li>• Newly connected audio device is set as the default option. However, this setting is not applicable when you connect a camera.</li> <li>• HD audio is set as the default option when you disconnect an active audio device from the thin client.</li> </ul>
<b>Peripherals &gt; Audio &gt; Local Recorder</b>	Enables you to save a sample audio file from the local recorder to the USB drive is removed.	<ul style="list-style-type: none"> <li>• The <b>Info</b> option that is associated with the local recorder is removed.</li> <li>• The ability to save a sample audio file from the local recorder to the USB drive is removed.</li> </ul>
<b>Peripherals &gt; Audio &gt; Boost</b>	Enables you to boost volume on connected devices.	The <b>Boost</b> option is removed.
<b>Peripherals &gt; Audio &gt; Enable headset popup</b>	Enables you to view the <b>Headset popup</b> dialog box when you connect an analog headset to the front headset jack.	The <b>Enable headset popup</b> option is removed.
<b>Peripherals &gt; Audio &gt; Enable DP audio</b>	Enables you to use the DP audio and select the DP audio port.	<b>Enable DP audio</b> and <b>DP audio port</b> options are removed.
<b>Peripherals &gt; Serial &gt; Stop</b>	Enables you to select stop bits.	The stop bit <b>1.5</b> is removed.
<b>Peripherals &gt; Camera tab</b>	Displays the <b>Optimize</b> option and the <b>Video Control</b> settings.	The <b>Optimize</b> option and the <b>Video Control</b> settings are removed.

**Table 60. Printer setup**

Component	ThinOS 8.6	ThinOS 9.0
<b>Printer &gt; Ports &gt; Enable LPD service for the printer</b>	Enables you to make the thin client as Line Printer Daemon network print server for LPR printing requests from the network.	The <b>Enable LPD service for the printer</b> option is removed. In ThinOS 9.0, using the LPD service from a network printer is the only supported method for LPD printing.
<b>Printer &gt; SMBs &gt; Enable LPD service for the printer</b>	Enables you to make the thin client as Line Printer Daemon network print server for LPR printing requests from the network.	The <b>Enable LPD service for the printer</b> option is removed. In ThinOS 9.0, using the LPD service from a network printer is the only supported method for LPD printing.
ThinPrint	Enables you to configure ThinPrint on the thin client using the <b>Printer Setup</b> dialog box.	Support for ThinPrint is removed.

**Table 61. System Tools**

Component	ThinOS 8.6	ThinOS 9.0
<b>System Tools &gt; Global INI and User INI</b> tabs.	Enables you to view the wnos.ini information.	<b>Global INI</b> and <b>User INI</b> tabs are removed. The change is because ThinOS 9.0 does not support the use of INI

**Table 61. System Tools (continued)**

Component	ThinOS 8.6	ThinOS 9.0
		parameters to configure the thin client. All settings must be configured using Wyse Management Suite.
<b>System Tools &gt; Packages</b>	Displays all the supported ThinOS packages.	The Flash Redirection (FR) package and the RTME package are removed. HDX RealTime Media Engine and Citrix Workspace app are integrated as a single component on the client-side (Citrix package).
<b>System Tools &gt; Certificates</b>	Enables you to view and import ThinOS certificates.	The <b>Enable FIPS</b> check box is added to enable the Federal Information Processing Standard (FIPS) Publication 140-2 authentication compliance.

**Table 62. Miscellaneous**

Component	ThinOS 8.6	ThinOS 9.0
Citrix RealTime Media Engine (RTME)	HDX RealTime Media Engine as a single component on the client-side (Citrix package).	HDX RealTime Media Engine and Citrix Workspace app are integrated as a single component on the client-side (Citrix package)
<b>Global Connection Settings &gt; ICA</b>	Enables you to configure settings that are available to all ICA sessions.	The <b>UDP Audio</b> check box is added to enable or disable the UDP audio.
Wyse Device Manager	Supports Dell Wyse Device Manager (WDM).	Support for Wyse Device Manager is removed.
File server	Supports file server—FTP, HTTP, and HTTPS.	Support for File Server is removed.
INI parameters	Supports the usage of INI parameters to configure ThinOS settings.	INI configuration is not supported in ThinOS 9.0. However, you can use the Wyse Management Suite policy settings or the Admin Policy Tool to configure all the ThinOS settings.
Citrix session	Supports Citrix session prelaunch and session linger features.	Citrix session prelaunch and session linger features are not supported.

## Known issues

**Table 63. Known issues**

Issue ID	Description	Workaround
THINOSX-4119	Session audio may be stop working when using an analog headset on Wyse 3040 thin clients.	There is no workaround in this release.
THINOSX-3921	A delay or lag may be noticed when using a Bluetooth mouse.	There is no workaround in this release.
THINOSX-5214	Bluetooth devices randomly stop functioning after exiting sleep mode.	There is no workaround in this release.
THINOSX-5415	Smartcards with multiple certificates may not function with Single Sign-On.	Use a single certificate.
THINOSX-5399	Wireless warning messages may be incorrectly displayed when using EAP-PEAP without a root certificate.	Check the event log.

**Table 63. Known issues (continued)**

Issue ID	Description	Workaround
THINOSX-4265	Random wireless disconnects are observed on Wyse 3040 thin clients with 802.11r/k enabled.	Disable 802.11r/k in Access Point.
THINOSX-3602	The Fatal Citrix gateway protocol error message may be observed during wireless roaming.	Reconnect the session.
THINOSX-5411	Cisco JVDI video graphic is not closed after you end the call.	There is no workaround in this release.
THINOSX-5410	Cisco JVDI call buttons display may be black or unclear.	There is no workaround in this release.
THINOSX-4926	When using the Citrix browser content redirection (BCR), the mouse right-click function may not work.	There is no workaround in this release.
THINOSX-5216	Citrix multimedia keys (fn+F10/F11/F12) may not function in a Windows 10 session.	This is a Citrix known issue.
THINOSX-5509	The <b>el.select.placeholder</b> option may be displayed in the Display Resolution list.	Click to expand the <b>Display Resolution</b> drop-down list and select your resolution.
THINOSX-4874	Multiple seamless applications may fail to reconnect under certain conditions.	There is no workaround in this release.
THINOSX-2322	Published Applications or Desktops may flicker when you move or drag objects on the desktop.	This is a Citrix known issue.
THINOSX-3305	Maximize session from the taskbar does not function when using seamless applications.	There is no workaround in this release.
THINOSX-3906	G key reset and V key video reset functions are not supported.	There is no workaround in this release.
THINOSX-4255	Issues may be observed when you try to wake displays from hibernation on Wyse 3040 thin clients.	There is no workaround in this release.
THINOSX-3238	Performance is slow when moving session objects on a Wyse 3040 thin client that is connected to a display with 4K resolution.	There is no workaround in this release.
THINOSX-5494	On Wyse 5070 Extended thin client, the session desktop supports up to four displays with 4K resolution.	There is no workaround in this release.
THINOSX-5555	Wired EAP-LEAP authentication may fail after one minute.	Use other EAP types such as EAP-PEAP, EAP-FAST, and EAP-TLS.
THINOSX-5527	PEAP-GTC and FAST-GTC do not prompt for credentials after entering an incorrect value.	Connect the network cable again.
THINOSX-4491	SFP module may not function after you resume from sleep mode. You cannot use the Wake-on-LAN feature.	Restart the thin client or wake up the device using the integrated RJ45.
THINOSX-4407	IPv4 session connections may fail if both IPv4 and IPv6 are enabled.	Enable both IPv4 and IPv6 on the ThinOS client.
THINOSX-5065	On some devices, it may take several minutes to display the subsequent pages after the Welcome screen is displayed during the initial boot.	Wait for the next page to be displayed as this process may take several minutes.
THINOSX-5518	Changing client time may take up to one minute to synchronize to the ThinOS desktop.	There is no workaround in this release.
THINOSX-3641	Extract and Restore CMOS options in the Troubleshooting window cannot be used.	There is no workaround in this release.

**Table 63. Known issues (continued)**

Issue ID	Description	Workaround
THINOSX-3475	Incorrect values are displayed in the Inbound and Outbound packet information on the System Information wireless tab.	There is no workaround in this release.
THINOSX-5454	Desktop settings may require a client reboot to activate.	There is no workaround in this release.
THINOSX-5308	The power button is disabled when using the First Boot Wizard.	There is no workaround in this release.
THINOSX-5143	On Wyse 5070 extended client, video issue is observed when you use 5120 x 1440 resolution.	There is no workaround in this release.
THINOSX-3742	The analog audio jacks on the Dell Docking Station WD19 may not function under certain conditions.	Use a USB headset.
THINOSX-3914	Wake-On-LAN or USB may not function when you use the Dell Docking Station WD19.	Wake up the device using the integrated USB or RJ45.
THINOSX-4389	Some configuration menu objects are displayed only in English and not in other languages.	There is no workaround in this release.
THINOSX-5616	If the privilege level is set to <b>None</b> , you cannot disable the system settings.	There is no workaround in this release.
THINOSX-5689	Sometimes you cannot sign on to the Citrix broker again after re-plugging the smart card. This issue is observed when you sign off the broker by plugging out the smart card, and sign on again by re-plugging the smart card.	Press the Esc key to reinitialize the Citrix broker and enter PIN to sign on again.
L10N-19900	All the browse buttons in the Admin Policy tool that is used to upload file to the device are not working.	There is no workaround in this release.

## Important notes

- It is recommended that you configure the Wyse Management Suite settings before you check in the thin client to the Wyse Management Suite server. This is because, the device gets full configurations from the Wyse Management Suite when it is checked in to the Wyse Management Suite server.
- When the device is checked in to Wyse Management Suite, all configurations are pushed from the Wyse Management Suite server to the client and the local settings are discarded.
- When the device is not checked in to Wyse Management Suite, the Admin Policy Tool settings are pushed to the client side.
- When you change any device settings on the ThinOS User Interface (UI), the modified settings are automatically synced to Admin Policy Tool.
- You can configure both Wyse Management Suite and Admin Policy Tool to manage any device settings. After the device reboot or recheck in to Wyse Management Suite, the device settings from Wyse Management Suite take priority and override the Admin Policy Tool settings
- You cannot downgrade the ThinOS firmware from 9.0 to 8.6 using Wyse Management Suite. You must use the Dell Wyse USB Imaging Tool to install the ThinOS 8.6 image.
- It is not recommended to configure resource files such as packages and firmware in **Select group**. The **Select group** feature is used to set different broker settings for different login user groups.
- If you are using the **Device Security White List Policy** setting, you must first specify **Hub** in the **Class** field by adding a row. If you do not add **Hub** to White list, all USB devices are inaccessible when connected to the thin client.
- When you set the **White List** or the **Black List** in the **Device Security** policy, it is not recommended to set **Vendor and Product ID** and **Class** simultaneously in the same row. However, if you configure both options simultaneously in the same row, the device first checks the **Vendor and Product ID** followed by the **Class** list.
- When you use the **Device Security** policy to define the class name of the White and Black list, it is recommended to use any of the supported class names—Interface\_Descriptions, Audio, CDC\_control, HID, Physical, Image, Printer, MASS\_STORAGE, Hub, CDC\_Data, Smart\_Card, Content\_Security, Video, Personal\_Healthcare, Audio\_Video, Billboard, Type-C, Diagnostic\_Device, Wireless, Miscellaneous, Application, and VendorSpecific.
- When you configure the Bluetooth, Wallpaper, Audio, Serial port, and Device Security settings using the Admin Policy Tool, ensure that you restart the thin client for settings to take effect.

- If you want to redirect your iPhone devices, ensure that you clear both **Exclude disk devices** and **Exclude audio devices** check boxes in the **Global Connection Settings** window.
- If you want to redirect or map your Android smartphones in a desktop session, ensure that you select the **Use USB for Transferring images** option on your smartphone. Do not select the **Use USB for Transferring media files** option.
- If you want to use a mapped printer in the ICA session, ensure that your printer supports the Post-Script format.
- If both IPv4 and IPv6 are enabled in the remote session, ensure that you enable both IPv4 and IPv6 options on your thin client.

## Tested environments matrix

The following tables display the testing environment for the respective attributes:

**Table 64. Tested environment - General components**

Component	Version
Wyse Management Suite	2.0
Imprivata OneSign	6.2
Citrix ADC (NetScaler ADC)	11.1/12.0/12.1
StoreFront	1811 and later versions
Web Interface	5.4

**Table 65. Test environment**

Citrix Virtual Apps and Desktops	Windows 7	Windows 10	Red Hat 6.6	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
Citrix Virtual Apps and Desktops 5.6	Tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Citrix Virtual Apps 6.5	Not tested	Not tested	Not tested	Tested	Not tested	Not tested	Not tested	Tested
Citrix Virtual Apps and Desktops/Citrix Virtual Apps 7.6	Tested	Not tested	Limited test*	Tested	Tested	Not tested	Not tested	Tested
Citrix Virtual Apps and Desktops/Citrix Virtual Apps 7.15 LTSR Cumulative Update 5 (CU5)	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested
Citrix Virtual Apps and Desktops/Citrix Virtual Apps 7.18	Not Tested	Tested	Not tested	Not tested	Tested	Tested	Not tested	Tested
Citrix Virtual Apps and Desktops 7 1811 and later	Not Tested	Tested	Not tested	Not tested	Tested	Tested	Tested	Tested

\*For Citrix Linux VDA, only the session sign-on and sign-off scenarios are tested.

**Table 66. Tested environment - RTME**

Citrix Virtual Apps and Desktops	Operating system	RTME client	RTME agent	Skype for Business client	Skype for Business Server
Citrix Virtual Apps and Desktops/ Citrix Virtual Apps 7.15 LTSR Cumulative Update 5 (CU5)	Windows 7	2.8	2.8, 2.4	Skype for Business 2016	Skype for Business 2015
	Windows 10	2.8	2.8, 2.4	Skype for Business 2016	Skype for Business 2015
Citrix Virtual Apps and Desktops 7 1811 and later					



**Table 66. Tested environment - RTME (continued)**

Citrix Virtual Apps and Desktops	Operating system	RTME client	RTME agent	Skype for Business client	Skype for Business Server
	Windows Server 2016	2. 8	2.8, 2.4	Skype for Business 2016	Skype for Business 2015
	Windows Server 2019 (Only for 1811 and later versions)	2. 8	2.8, 2.4	Skype for Business 2016	Skype for Business 2015

**Table 67. Tested environment - JVDI**

Citrix Virtual Apps and Desktops	Operating system	JVDI client	JVDI agent	Cisco Jabber application
Citrix Virtual Apps and Desktops/Citrix Virtual Apps 7.15 LTSR Cumulative Update 5 (CU5)	Windows 7	12.8	12.8	12.8
	Windows 10	12.8	12.8	12.8
Citrix Virtual Apps and Desktops 7 1811 and later	Windows Server 2016	12.8	12.8	12.8
	Windows Server 2019 (Only for 1811 and later versions)	12.8	12.8	12.8

## Tested peripheral devices

This section lists the tested peripheral devices.

- **Audio**

- Dell Pro Stereo Headset – UC150 – Skype for Business
- Dell Pro Stereo Headset - Skype for Business - UC350
- Dell Professional Sound bar (AE515M)
- Dell USB Sound Bar (AC511M)
- Jabra PRO 935 USB MS Lync Headset
- Dell 2.0 Speaker System - AE215
- Dell Wireless 2.1 Speaker System - AE415
- Jabra Evolve 65 MS Stereo - Headset
- Jabra Engage 65 Stereo Headset
- Plantronics Savi W440M-400 Series convertible wireless headset - DECT 6.0
- Plantronics Voyager Focus UC B825-M headset for Microsoft Lync
- Plantronics USB Headset-C320-M
- Sennheiser USB Headset-SC60
- Dell USB Headset-Jabra UC350
- Dell Analog Headset-Jabra UC350
- Boat Analog Headset-Boat Mobile Headset
- Jabra Pro 9450—Audio does not work if you hot plug the headset. If the audio device is not working, you must restart the thin client.
- Jabra Speak 510 MS Bluetooth
- Jabra BIZ 2400 Duo USB MS
- Jabra UC SUPREME MS /LINK 360 Bluetooth
- Jabra GN2000
- Plantronics BLACKWIRE C710 Bluetooth
- Plantronics BLACKWIRE C5210
- Plantronics SAVI W740/Savi W745—Bluetooth does not work.
- Plantronics SAVI W740 3IN1 Convertible, UC, DECT 6.0 NA—Bluetooth does not work.
- Plantronics Calisto P240 D1K3 USB handset
- Plantronics Calisto P820-M
- Plantronics AB J7 PLT
- Sennheiser USB SC 230
- Sennheiser SP 10 ML Speaker phone for Lync

- Sennheiser SC 660 USB ML
- Sennheiser D 10 USB ML-US Wireless DECT Headset
- Sennheiser SC 40 USB MS
- POLYCOM Desk phone CX300
- Dell USB Sound bar AC511
- Logitech h150 Analog Headset
- Philips Analog Headset
- **Bluetooth**
  - Logitech Bluetooth Keyboard -K380/K480
  - HP Bluetooth Keyboard -HP Slim Keyboard
  - Logitech Bluetooth Mouse -M336/M337/M535
  - Plantronics Bluetooth Headset Speaker 620
  - Plantronics Bluetooth Headset-PLT Focus
  - Dell Bluetooth Headset-Jabra
  - HP Bluetooth Headset 600
- **Keyboard and Mouse**
  - Dell Smart card Keyboard - KB813
  - Dell Laser Scroll USB 6-Buttons Silver and Black Mouse
  - Dell USB Wired Keyboard - KB216
  - Dell USB Wired Optical Mouse - MS116
  - Dell Premier Wireless Mouse - WM527
  - Dell Wireless Keyboard and Mouse - KM636
  - Dell Wireless Keyboard and Mouse - WM326
  - Dell Keyboard KB212-B
  - Dell Keyboard KB216p
  - Dell Mouse MS111-P
  - Dell Mouse MS116-P
  - Dell Keyboard SK-3205 (Smart card reader)
  - Dell Optical Wireless Mouse – WM122
  - Dell Optical Wireless Mouse – WM123
  - Microsoft Arc Touch Mouse 1428
  - Rapoo E6100, Bluetooth
  - Cherry RS 6700 USB (Smart card reader)
  - SpaceNavigator 3D Space Mouse
  - SpaceMouse Pro
- **Camera**
  - Logitech HD Web cam-C525
  - Logitech HD Web cam-C922 Pro stream
  - Logitech HD Web cam-C920 Pro stream
  - Logitech C920 HD Pro webcam
  - Logitech C922 Pro Stream webcam
  - Logitech C925e webcam
  - Microsoft LifeCam HD-3000
  - Logitech webcam C930e
- **Printer**
  - Dell Color Multifunction Printer - E525w
  - Dell Color Printer- C2660dn
  - Dell Multifunction Printer - E515dn wired
  - Dell B1265dnf Multifunction Laser Printer—PostScript is not supported; Redirection only.
  - Dell B2360d Laser Printer
  - Dell B2360dn Laser Printer
  - HP LaserJet P2055d
- **Adapters and cables**
  - Dell Adapter DisplayPort to DVI (Single Link)
  - Dell Adapter - DisplayPort to HDMI 2.0 (4K)
  - Dell Adapter - DisplayPort to VGA

- C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter
- Dell Adapter - USB-C to DisplayPort
- Dell Adapter - USB-C to HDMI
- Dell Adapter - USB-C to VGA
- Trend net USB to Serial Converter
- Dell Adapter - HDMI to DVI RS-232
- Dell Adapter - HDMI to VGA
- Dell USB-C Mobile Adapter - Slayer 3
- StarTech.com 1-Port USB to RS232 DB9 Serial Adapter Cable and Serial adapter with USB 2.0-RS-232
- **CD-ROM**
  - Samsung Portable DVD Writer SE-208
  - Dell DW316
  - Lomega USB CD-ROM-DVDRW8X-U
- **USB**
  - SanDisk USB Drive-Cruzer Blade
  - SanDisk C-Type USB Drive-USB 3.0
  - EVO plus micro-SDHC
  - Kingston USB Drive-DT50
  - USB Card Reader-HDW-IMP-80-RFID
  - TouchChip USB Finger-print-HDW-IMP-1C-STM32
  - SanDisk USB 3.0 16 GB
  - SanDisk Cruzer 16 GB
  - SanDisk Cruzer 8 GB
  - SanDisk USB 3.1 and Type-C 16 GB
  - Kingston DT micro-Duo 3C 32 GB
  - Kingston DataTraveler G3 8 GB
  - Bano type-c 16 GB
  - Dell Portable SSD, USB-C 250 GB
- **Monitor**
  - Dell E1916H
  - Dell P1917S
  - Dell E1920H
  - Dell E2016H
  - Dell E2016Hv (China only)
  - Dell P2017H
  - Dell P2018H
  - Dell E2020H
  - Dell E2218HN
  - Dell P2217
  - Dell P2217H
  - Dell P2219H
  - Dell P2219HC
  - Dell E2220H
  - Dell E2318H
  - Dell P2317H
  - Dell E2417H
  - Dell P2415Q
  - Dell P2417H
  - Dell 24-inch Monitor - P2418D
  - Dell P2418HZ
  - Dell P2419H
  - Dell P2419HC
  - Dell P2421D
  - Dell E2420H
  - Dell P2719H
  - Dell P2719HC

- Dell P2720D
- Dell E2720H
- Dell P3418HW
- Dell MR2416
- Dell U2415
- Dell U2419H
- Dell U2419HC
- Dell U2518D
- Dell U2520D
- Dell U2720Q
- Dell U2718Q (4K)
- Dell U2719D
- Dell U2719DC
- Dell UltraSharp 27 USB-C HUB monitor - U2721DE
- Dell E2216H
- Dell E2216Hv (China only)
- Dell E2318HN
- Dell E2420HS
- Dell E2720HS
- Dell P2016
- Dell P2319H
- Dell P2421DC
- Dell P2720DC
- Dell P4317Q
- Dell U2421HE
- Dell U4320Q
- Dell P2715Q (3840 x 2160)
- Dell U3219Q (3840 x 2160)
- Dell U2713HMT (2560 x 1440)
- Dell U2718Qb (3840 x 2160)
- Dell S2719HS (1920 x 1080)
- Dell S2817Q (3840 x 2160)
- Dell S2719DC
- Dell U4919DW (5120 x 1440)—On Wyse 5070 Extended thin client, the display is blurred.
- Dell P2418HT Touchscreen (1920 x 1080)

- **Dock**

- Dell WD19 Dock (Type-C)
- Dell Thunderbolt Dock - WD19TB

- **Speech Microphone**—LFH3610/00 SPEECHMIKE PREMIUM

- **Adapters and cables**

- Dell Adapter - DisplayPort to DVI (Single Link)
- Dell Adapter - DisplayPort to HDMI 2.0 (4K)
- Dell Adapter - DisplayPort to VGA
- C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter
- Dell Adapter - USB-C to DisplayPort
- Dell Adapter - USB-C to HDMI
- Dell Adapter - USB-C to VGA
- Trendnet USB to Serial Converter
- Dell Adapter - HDMI to DVI
- Dell Adapter - HDMI to VGA
- Dell Adapter - USB 3.0 to Ethernet PXE Boot
- StarTech.com 1-Port USB/DB9 Serial Adapter Cable with USB 2.0
- Dell Type-C-VGA convertor
- Dell Type-C-DP convertor
- Dell Type-C-HDMI convertor
- Dell DP-HDMI convertor

- USB-to-Serial converter
- **Network**—Add on 1000 Base-T SFP transceiver (RJ-45)

- **Storage**

- Dell Portable SSD, USB-C 250 GB
- Dell External Tray Load ODD (DVD Writer)

- **Smart card readers**

- Cherry keyboard RS 6700 with smart card
- Cherry keyboard RS 6600 with smart card
- Dell keyboard KB813
- Dell keyboard KB813t
- Dell Keyboard SK-3205
- Gemalto IDBridge CT710
- GemPC Twin
- Cherry ST-1144
- Identiv SCR3500 A
- Cherry KC 1000 SC (TAA)
- Sun microsystem SRC 3110
- IDBridge CT31 PIV

**NOTE:** Some HID OMNIKEY smart card readers are not supported in this release.

- **Proximity card readers**

- OMNIKEY 5025 CL
- OMNIKEY 5326 DFR
- HDW-IMP-60
- RDR-6082AKU
- Finger Print Keyboard KSI 1700

## Tested smart cards

**Table 68. Tested smart cards**

Smart Card information from the ThinOS event log	Driver	Provider (CSP)	Card type
ActivIdentity V1	ActivClient 7.1	ActivClient Cryptographic Service Provider	Oberthur CosmopolC 64k V5.2
ActivIdentity V1 (IDClassic 230)	ActivClient 7.1	ActivClient Cryptographic Service Provider	Gemalto Cyberflex Access 64K V2c
ActivIdentity v2 card	ActiveClient 7.2	ActivClient Cryptographic Service Provider	Gemalto TOP DL 144K FIPS
ActivIdentity v2 card	ActiveClient 7.2	ActivClient Cryptographic Service Provider	Giesecke and Devrient SmartCafe Expert v3.2 144K DI
ActivIdentity v2 card	ActiveClient 7.2	ActivClient Cryptographic Service Provider	Oberthur ID-One Cosmo v5.5 128K
ActivIdentity crescendo card	ActiveClient 7.2	ActivClient Cryptographic Service Provider	Giesecke and Devrient SmartCafe Expert v7.0 144K DI
ID Prime MD v 4.0.2 (Gemalto 840)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 840
ID Prime MD v 4.0.2 (Gemalto 840)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 840 B
ID Prime MD v 4.1.0 (Gemalto 3810)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 3810 MIFARE 1K
ID Prime MD v 4.1.3 (Gemalto 3811)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 3811 Mifare-Desfire

**Table 68. Tested smart cards (continued)**

<b>Smart Card information from the ThinOS event log</b>	<b>Driver</b>	<b>Provider (CSP)</b>	<b>Card type</b>
ID Prime MD v 4.1.1 (Gemalto 830)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 830-FIPS
ID Prime MD v 4.3.5 (Gemalto 830)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 830-FIPS Rev B
Etoken Java (aladdin) (black USB drive)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 510x
Etoken Java (aladdin) (black USB drive)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 5110
Etoken Java (aladdin) (black USB drive)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	SafeNet eToken 5110 FIPS
Etoken Java (aladdin) (black USB drive)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	SafeNet eToken 5110 CC
SafeNet High Assurance Applets Card	SafeNet High Assurance Client 2.12	SafeNet Smart Card Key Storage Provider	SC650 (SafeNet SC650 4.1t)
A.E.T. Europe B.V.	SafeSign-Identity-Client-3.0.76	SafeSign Standard Cryptographic Service Provider	G&D STARCOS 3.0 T=0/1 0V300
A.E.T. Europe B.V.	SafeSign-Identity-Client-3.0.76	SafeSign Standard Cryptographic Service Provider	Giesecke & Devrient StarCos 3.2
PIV (Yubico) (black USB drive)	YubiKey PIV Manager	Microsoft Base Smart Card Crypto Provider	YubiKey 4.3.3
PIV (Yubico Neo ) (black USB drive)	Yubikey Manager v 1.1.4	Microsoft Base Smart Card Crypto Provider	YubiKey 4.3.3
cv cryptovision gmbh (c) v1.0ns	cv_act_scinterface_6.1.6	cv act sc/interface CSP	G&D STARCOS 3.2
N/A (Buypass BelDu)	Net iD 6.8.1.31, 2.0.44	Net iD - CSP	BelDu 6.0.4
N/A (GEMALTO IDPrime SIS)	Net iD 6.8.1.31, 2.0.44	Net iD - CSP	IDPrime SIS 4.0.2
Rutoken ECP 2.0 (2100)	Rutoken Drivers 4.6.3.0	Aktiv ruToken CSP v1.0	Rutoken ECP 2.0 (2100)
Rutoken 2151	Rutoken Drivers 4.6.3.0	Aktiv ruToken CSP v1.0	Rutoken (2151)

## 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, **Wyse 3040 thin client** or **Wyse ThinOS**.

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 **Thin Clients**.
4. Click the desired category, either **Wyse Hardware** or **Wyse Software**.
5. Click the desired product.
6. Click **Documentation**.

## Contacting Dell

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 for technical support or customer service issues, see [www.dell.com/contactdell](http://www.dell.com/contactdell).

If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or the product catalog.