Dell Wyse ThinOS Version 8.6 and ThinOS Lite 2.6 Operating System

Release Notes

DELL EMC

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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Contents

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Overview

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. Dell Wyse ThinOS Lite family of products are zero clients built for Citrix Virtual Apps and Desktops environments. 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. Beyond the one year time period, new software releases are no longer certified for use with the older hardware, even though it is possible that they may still work. This allows us to advance our product with features and functions that might not have been supported by the previous hardware, with previous generation CPUs and supporting components.

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.

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Version matrix

The following version matrix lists the platforms supported in each ThinOS release, and helps you select which version of ThinOS software is appropriate for your work environment.

Table 1. Version matrix

Release version	Release date	Supported platforms	Release Notes
ThinOS 8.6_204	October 2019	• Wyse 5470 Thin Client • Wyse 5470 All-in-One Thin Client	Release version ThinOS 8.6_204
ThinOS 8.6_111	September 2019	Wyse 5070 Extended Thin Client	Release version ThinOS 8.6_111
ThinOS 8.6_108	August 2019	Wyse 5470 Thin Client	Release version ThinOS 8.6_108
ThinOS 8.6_106	August 2019	Wyse 5470 All-in-One Thin Client	Release version ThinOS 8.6_106
ThinOS 8.6_027	August 2019	• Wyse 3010 Thin Client with ThinOS (T10) • Wyse 3020 Thin Client with ThinOS (T10D) • Wyse 3030 LT Thin Client with ThinOS • Wyse 3030 LT Thin Client with PCoIP • Wyse 3040 Thin Client with ThinOS • Wyse 3040 Thin Client with PCoIP • Wyse 5010 Thin Client with ThinOS (D10D) • Wyse 5010 Thin Client with PCoIP (D10DP) • Wyse 5040 AIO Thin Client with ThinOS (5212) • Wyse 5040 AIO Thin Client with PCoIP (5213) • Wyse 5060 Thin Client with ThinOS • Wyse 5060 Thin Client with PCoIP • Wyse 5070 Thin Client with ThinOS • Wyse 5070 Thin Client with PCoIP • Wyse 5070 Extended Thin Client with ThinOS • Wyse 5070 Extended Thin Client with PCoIP • Wyse 7010 Thin Client with ThinOS (Z10D)	Release version ThinOS 8.6_027
ThinOS Lite 2.6_027	August 2019	• Wyse 3010 Zero Client for Citrix • Wyse 3020 Zero Client for Citrix • Wyse 5010 Zero Client for Citrix	Release version ThinOS Lite 2.6_027
ThinOS 8.6_024	June 2019	• Wyse 3010 Thin Client with ThinOS (T10) • Wyse 3020 Thin Client with ThinOS (T10D) • Wyse 3030 LT Thin Client with ThinOS • Wyse 3030 LT Thin Client with PCoIP • Wyse 3040 Thin Client with ThinOS • Wyse 3040 Thin Client with PCoIP • Wyse 5010 Thin Client with ThinOS (D10D) • Wyse 5010 Thin Client with PCoIP (D10DP) • Wyse 5040 AIO Thin Client with ThinOS (5212) • Wyse 5040 AIO Thin Client with PCoIP (5213) • Wyse 5060 Thin Client with ThinOS • Wyse 5060 Thin Client with PCoIP	Release version ThinOS 8.6_024

Release version	Release date	Supported platforms	Release Notes
		• Wyse 5070 Thin Client with ThinOS • Wyse 5070 Thin Client with PCoIP • Wyse 5070 Extended Thin Client with ThinOS • Wyse 5070 Extended Thin Client with PCoIP • Wyse 7010 Thin Client with ThinOS (Z10D)	
ThinOS Lite 2.6_024	June 2019	• Wyse 3010 Zero Client for Citrix • Wyse 3020 Zero Client for Citrix • Wyse 5010 Zero Client for Citrix	Release version ThinOS Lite 2.6_024
ThinOS 8.6_019	April 2019	• Wyse 3010 Thin Client with ThinOS (T10) • Wyse 3020 Thin Client with ThinOS (T10D) • Wyse 3030 LT Thin Client with ThinOS • Wyse 3030 LT Thin Client with PCoIP • Wyse 3040 Thin Client with ThinOS • Wyse 3040 Thin Client with PCoIP • Wyse 5010 Thin Client with ThinOS (D10D) • Wyse 5010 Thin Client with PCoIP (D10DP) • Wyse 5040 AIO Thin Client with ThinOS (5212) • Wyse 5040 AIO Thin Client with PCoIP (5213) • Wyse 5060 Thin Client with ThinOS • Wyse 5060 Thin Client with PCoIP • Wyse 5070 Thin Client with ThinOS • Wyse 5070 Thin Client with PCoIP • Wyse 5070 Extended Thin Client with ThinOS • Wyse 5070 Extended Thin Client with PCoIP • Wyse 7010 Thin Client with ThinOS (Z10D)	Release version ThinOS 8.6_019
ThinOS Lite 2.6_019	April 2019	• Wyse 3010 Zero Client for Citrix • Wyse 3020 Zero Client for Citrix • Wyse 5010 Zero Client for Citrix	Release version ThinOS Lite 2.6_019
ThinOS 8.6_015	June 2018	• Wyse 5040 AIO Thin Client with ThinOS (5212) • Wyse 5040 AIO Thin Client with PCoIP (5213)	Release version ThinOS 8.6_015
ThinOS 8.6_013	December 2018	• Wyse 3010 Thin Client with ThinOS (T10) • Wyse 3020 Thin Client with ThinOS (T10D) • Wyse 3030 LT Thin Client with ThinOS • Wyse 3030 LT Thin Client with PCoIP • Wyse 3040 Thin Client with ThinOS • Wyse 3040 Thin Client with PCoIP • Wyse 5010 Thin Client with ThinOS (D10D) • Wyse 5010 Thin Client with PCoIP (D10DP) • Wyse 5040 AIO Thin Client with ThinOS (5212) • Wyse 5040 AIO Thin Client with PCoIP (5213) • Wyse 5060 Thin Client with ThinOS • Wyse 5060 Thin Client with PCoIP • Wyse 5070 Thin Client with ThinOS • Wyse 5070 Thin Client with PCoIP • Wyse 5070 Extended Thin Client with ThinOS • Wyse 5070 Extended Thin Client with PCoIP • Wyse 7010 Thin Client with ThinOS (Z10D)	Release version ThinOS 8.6_013

Release version	Release date	Supported platforms	Release Notes
ThinOS Lite 2.6_013	December 2018	• Wyse 3010 Zero Client for Citrix • Wyse 3020 Zero Client for Citrix • Wyse 5010 Zero Client for Citrix	Release version ThinOS Lite 2.6_013

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ThinOS 8.6_204

Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. Patch or add-on 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 8.6_204

Release date

October 2019

Priority and recommendations

Recommended: Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will help keep your system software current and compatible with other system modules (firmware, BIOS, drivers and software).

Compatibility

Supported platforms

Table 2. Supported platforms

Platform	ThinOS	ThinOS with PCoIP
Wyse 5470 Thin Client	X10_wnos	PX10_wnos
Wyse 5470 All-in-one Thin Client	X10_wnos	PX10_wnos

Packages

Table 3. Packages

Package name	Version
FR	1.28.19061716
Horizon	5.1.19052918
RTME	2.8.54007
JVDI	12.1.19091610

BIOS information

Table 4. BIOS information

Platform	BIOS Version	BIOS BIN file name to use for ThinOS update
Wyse 5470 Thin Client	1.1.1	5470_bios.bin
Wyse 5470 All-in-one Thin Client	1.2.0	5470AIO_bios.bin

New and enhanced features

Disable touch screen on Dell Wyse 5470 Thin Client

The INI parameter to disable the touch screen in Dell Wyse 5470 Thin Client is Device=mobile TouchscreenDisable=yes, no.

Disable touchpad while typing on Dell Wyse 5470 Thin Client

- The touchpad can be enabled or disabled while typing on the integrated keyboard of the Dell Wyse 5470 Thin Client.
- The touchpad can be disabled momentarily when you type using the integrated keyboard and it will be enabled automatically when you stop typing.
- The touchpad can also be permanently disabled and enabled in the **Peripherals** > **Mouse** window.
- The INI parameter to enable or disable the touchpad is Device=Mobile TrackpadDisableOnType=yes, no.
- The INI parameter to enable or disable the touchpad permanently is Device=Mobile TrackpadDisable=yes, no.

Enable Wake-on-LAN on Dell Docking Station WD19

ThinOS supports the Wake-on-LAN feature over the Dell Docking Station WD19 to wake up thin clients from sleep mode or the shutdown state. To use this feature, you must add the INI parameter `wakeonusb=yes`.

Important notes

Limitations

- DP (HDMI/Type-C) audio limitations:
  - It is disabled by default and has to be enabled in the **Peripherals** window to use.
  - DP or HDMI or Type-C audio displays as DP audio on Wyse 5470 Thin Client.
  - It does not support hot plug, it should be plugged into HMDI or Type-C or DP cable first and then powered on.
  - It does not support converter.
  - If there is only one DP audio supported display on Dell docking station WD19, DP audio would work. If there are two DP audio supported monitors on Dell docking station WD19, DP audio does not work.
  - It does not support display power off or power on. For the following scenarios, you need to reboot to make DP audio work:
    - Press power button to power off the display and power it on again.
    - The screen saver mode is turn off screen.
    - Click **Apply** in the **Display Setup** window.
- Sleep mode limitations:
  - ThinOS cold reboots when resumed from sleep for 1 hour. You can change the timer by INI `Sleep=yes, MaxSleepPeriod=[0-255]` (does not reboot if set to 0).
  - If there is plug in or out Dell docking station WD19 and if there is a monitor plugged into Dell docking station WD19, ThinOS cold reboots when resumed from sleep mode
  - ThinOS resumes from sleep mode immediately for following scenarios:

- If enable USB wake up, (use INI wakeonusb=yes) click the **OK** button to manually enter sleep mode, do not move or click the mouse or press keyboard immediately, or system resumes immediately.
- If enable USB wake up, (use INI "wakeonusb=yes") do not press Sleep button on USB keyboard to manually enter sleep mode, or system resumes immediately.

- Only the USB devices on root hub wakes up unit from sleep mode. USB devices on USB hub or Dell docking station WD19 cannot wake up unit from sleep mode.
- Known issue:
  - It takes about 1 minute to enter sleep mode and resume when Dell docking station WD19 is connected.
  - If it enters sleep mode and resume with displays on Dell docking station WD19, the system may stop responding or second display may not be powered on.

- Audio jack ports on Dell docking station WD19—There are two ports on Dell docking station WD19, however ThinOS supports only one port. The global headset port works by default. You can use INI `EnableSecondaryPort=1` or `EnableSecondaryPort=yes` to make speaker out port work. The global headset jack port will be disabled.

INI parameters

Table 5. INI parameters

Usage	Description
wakeonusb=[yes,no]	This parameter enables or disables wake up from suspend state by using usb. The only limitation is that the USB devices must connect to root hub.
OsdRepeatRate={0,1,2}	This feature is only supported on the Wyse 5470 All-in-One Thin Client. This feature is designed to increase the speed of the OSD button used for adjusting the brightness of the screen. The value ranges from 0-2, for example, the parameter value is set to 0 which is default, it takes 20 seconds to adjust the brightness of the screen from 0 to 100. If the value is set to 2, it will take 10 seconds to adjust the brightness of the screen from 1 to 100.
OsdRepeatDelay={0,1,2}	This feature is only supported on the Wyse 5470 All-in-One Thin Client. This feature is designed to decrease the speed of the OSD button used for adjusting the brightness of the screen. The value ranges from 0-2, for example, the parameter value is set to 0 which is default, it takes 20 seconds to adjust the brightness of the screen from 0 to 100. If the value is set to 2, it will take 50 seconds to adjust the brightness of the screen from 1 to 100.
EnableSecondaryPort =[yes,no,1,0]	This parameter enables the secondary port. The INI parameter has to be set to 1 or yes to enable the secondary audio port which is present on the back of the Dell WD19 docking station port and disables the front one.
[TrackpadDisableOnType={yes, no}]	This parameter is available only for the Dell Wyse 5470 Thin Client. This option disables the trackpad while typing. The default INI parameter is set to no. This parameter can be enabled by changing the INI parameter to Yes.
[TouchScreenDisable={yes, no}]	This parameter is available only for the Dell Wyse 5470 Thin Client. The parameter allows you to disable the touchscreen of the Dell 5470 Thin Client. By default the value is set to no.

Fixed issues

Table 6. Fixed Issues for Wyse 5470 Thin Client

Issue umber	Description
THINOS-1266	Wake on LAN from the S3 power state failed from Dell docking station WD19.
THINOS-1447	DP audio does not work with HDMI or Type-C port.

Issue umber	Description
THINOS-1469	DP Audio does not work on Dell WD19 docking station through Type C and DP HDMI ports.
THINOS-1479	Multi Touch input does not work appropriately in RDP session when external display is connected.
THINOS-1488	Audio fails to work in stereo speaker output port from Dell WD19 docking station when any analog audio devices are connected.
THINOS-1508	Broker resource icon still displayed on desktop with Broker agent login dialog after waking up from sleep mode.
THINOS-1651	The U2718Q display does not power on after it is hot plugged from the HDMI port on the thin client.
THINOS-1656	The Wyse Management Suite setting is not automatically received from DHCP or DNS option. This issue is observed while using a Dell WD 19 docking station.
THINOS-1770	HD audio is rendered through the onboard speakers after deleting and re-plugging the analog headset.

Table 7. Fixed Issues for Wyse 5470 All-in-one Thin Client

Issue number	Description
THINOS-1177	Peripherals window and Troubleshooting window with Chinese or Japanese font are truncated.
THINOS-1164	ERR: /user/bin/vdloader -d /usr/lib/I: trap 14 occurs when disconnect ICA desktop during JVDI video call.

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ThinOS 8.6_111

Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. Patch or add-on 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 8.6_111

Release date

September 2019

Priority and recommendations

Recommended: Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will help keep your system software current and compatible with other system modules (firmware, BIOS, drivers and software).

Compatibility

Supported platforms

Table 8. Supported hardware platforms

Platform	Image file name	BIOS file name	BIOS version
Wyse 5070 Extended Thin Client with ThinOS	X10_wnos	X10_bios.bin	1.1.4
Wyse 5070 Extended Thin Client with PCoIP	PX10_wnos	X10_bios.bin	1.1.4

Packages

Table 9. Packages

Package name	Version
FR	1.27.53767
Horizon	5.0.53374
RTME	2.7.52738
TCX	7.1.41853
JVDI	12.1.52086

Previous version

Release 8.6_027

New and enhanced features

Sleep mode

The sleep mode enables the power-saving state and the thin client quickly resumes full power operations without loss of data.

ThinOS VDI broker and sessions log off due to security concern. You must log in to the broker sessions after resuming from sleep mode.

- To manually enter the sleep mode, open the ThinOS shut down menu, select the **Sleep** option and click **OK**. The device automatically enters sleep mode when ThinOS is idle for twenty minutes. This is the default value. You can set the idle time in the **System Preferences** dialog box. Sleep mode timer starts after screen is turned off by the screen saver. The screen flashes for one second before automatically entering the sleep mode.
- To resume from ThinOS sleep mode:
  - Press the power button.
  - Click the USB mouse or move the wireless USB mouse.

    NOTE: This feature is disabled by default. Use INI parameter `wakeonusb=yes` to enable the feature.
  - Press any key on the USB keyboard.

    NOTE: This feature is disabled by default. Use INI parameter `wakeonusb=yes` to enable the feature.
  - Use the **Wake on LAN** feature to wake up from sleep mode.

Important notes

Sleep mode limitations

- When using more than one display on a Wyse 5070 Extended Thin Client with different resolution settings, resuming from sleep mode may result in a distorted display. Disabling the sleep mode fixes the issue. To disable the sleep mode, perform either of the following steps:
  - On the ThinOS client desktop, go to **System Preference** > **General** and select **Disable** from the timer drop-down list of the **After Turn Off Screen** option.
  - Use the following INI parameter `sleep=no`.
- If you have enabled the USB Wake up option, clicking or moving the mouse pointer, or pressing any key on the keyboard resumes the thin client from sleep immediately.
- If the Bluetooth scan window is open, the thin client cannot enter the sleep mode.
- Only the USB 2.0 ports support the wake on USB.

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ThinOS 8.6_108

Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. The ThinOS version 8.6.1 is released to support the Wyse 5470 thin client.

Version

ThinOS 8.6_108

Release date

August 2019

Compatibility

BIOS information

The following table contains the details of the latest BIOS along with this release.

Table 10. BIOS information

Platform	BIOS version	BIOS BIN file name to use for ThinOS update
Wyse 5470 thin client	1.0.0	5470_bios.bin

Platform information

The following tables list the supported platforms and their firmware names in this release:

Table 11. Platform information

Platform	Firmware		Build number
	Wyse ThinOS	Wyse ThinOS with PCoIP	
Wyse 5470 thin client	X10_wnos	PX10_wnos	8.6_108

Table 12. Package information

Packages	Version
FR.i386.pkg	1.27.53767
JVDI.i386.pkg	12.1.52086
horizon.i386.pkg	5.0.53374
RTME.i386.pkg	2.7.52738

New and enhanced features

Display features

The default resolution on the Wyse 5470 thin client is 1366x768 or 1920x1080, depending on the configuration.

The following are the display behaviors:

- Wyse 5470 thin client supports up to three simultaneous displays.
- Built-in display stays on by default.
- The Wyse 5470 thin client supports up to two 4K extra displays.
- HDMI, DisplayPort over USB Type-C, and USB Type-C ports are prioritized over the VGA port.
- When a USB Type-C display is present, there will be no display on the VGA port.
- If a VGA display is present, a third display that is connected is prioritized and the VGA display is turned off.
- If a VGA display is not present, a third display that is connected is ignored.

DP audio port feature

ThinOS supports DP audio only over one port. You must select the relevant port in the Peripherals dialog box.

Troubleshooting features

- New target option `IDE` can be used to select the destination for importing and exporting files. If **IDE** is selected, the destination is redirected to ThinOS C: Disk of IDE.

  NOTE: Extract CMOS and Restore CMOS features are supported only in USB and File Server options.
- Click **Export IDE trouble_shoot** to export the folder `C:/wnos/trouble_shoot` from *IDE C:* to USB or file server. This button is enabled only when the target is USB or file server.
- Click **Delete IDE trouble_shoot** to delete the folder `C:/wnos/trouble_shoot` from IDE.
- You can select 1 day to 5 days in **Days to keep troubleshooting files in IDE**. After you reboot, the files in *C:/wnos/trouble_shoot* are checked. If the created date is older than the days that you set, the files are removed.
- Select the **Enable Application Console Log** check box to save all application console logs in the *trouble_shoot* folder with the name *TerminalName_proc_name_date_time.log*
- **Application list** is a filter for application console logs. It is empty by default and no filters are applied. When it is empty, the console logs of all applications are saved to the target folder.

  You can filter the applications for logs using **Application list**. The name in the list can be part of the application name. For example, PCoIP application name is /pcoip/pcoip and Blast application name is /usr/lib/vmware/view/usb/horizon. If you want the console log of these two applications, enter pcoip;vmware.

Frames per second (FPS) display

Frames per second (FPS) is displayed in the Performance Monitor window.

Text color customization on login window

You can customize the text color in the login window or the lock window by using the INI parameter—`Signon=yes SignonStatusColor="rrr ggg bbb"`.

NOTE: The default text color is gray.

Smart card as Proximity Card of Imprivata

The feature to treat smart card authentications as proximity card authentications is added.

You can use a smart card as proximity card and authenticate the user. When you insert the smart card, it is considered as a proximity card tap and removing the smart card is considered as tap-out. To use a smart card as proximity card, go to **Policies** > **Computer Policy** in the OneSign Administrator console and select the **Treat smart card authentications as proximity card authentications** check box.

New system variable for MAC address

New system variable $UMAC for MAC address in uppercase format is added.

Reconnect workflow for VMware Horizon View broker

The INI parameter `VMWaitTimer={0-3600}` is added to enhance the reconnect workflow of the VMware Horizon View broker.

The option **VMWaitTimer** specifies the time remaining in seconds to reconnect to a Horizon desktop before exiting the desktop. When the connection fails while connecting to a Horizon desktop, a message *Horizon Error- Waiting to recover* is displayed along with the countdown timer. The range is 0–3600. The value is taken as 20 by default if the value set is lesser than 20. If the value set is greater than 3600, 3600 is taken as the value by default. After the count down reaches 0, the connection is canceled and you can exit to the ThinOS desktop.

VMware Horizon package

VMware Horizon package is updated to version 5.0.53374.

- Supports the relative mouse feature in a PCoIP session.

  When you enable the relative mouse feature, Horizon Client uses absolute coordinates to transmit data about the mouse pointer movements and improves the mouse performance. To enable the relative mouse feature on a classic desktop, right-click the remote desktop icon on the ThinOS taskbar, and click **Enable Relative Mouse**. To enable the relative mouse feature on a zero desktop, go to the ThinOS connection menu, and click the **A** icon that is displayed after the PCoIP session name.
- Supports the High Color Accuracy feature in a Blast session with H.264 enabled.

  This option enables Horizon Client to use a superior color fidelity when H.264 decoding is enabled. To enable the High Color Accuracy feature, go to **Global Connection Settings**, click the **Horizon** tab, and select the **High Color Accuracy** check box.

Teradici Cloud Access broker type

Teradici Cloud Access is added as a new broker type. You can enter the FQDN name or the IP address of the broker server.

Username Hint option for VMware Horizon View broker

ThinOS 8.6.1 supports the **Username Hint** option during smart card authentication for the Horizon View broker.

You can enable users to specify the account to be used in the **Username Hint** field when you log in to a Horizon View session using a smart card. To enable the **Username Hint** option, go to the View Administrator Admin console, and select the **Allow smart card user hints** check box when editing the View Server Connection settings. Enabling this option allows you to use a single smart card certificate to authenticate to multiple user accounts.

When signing in using a smart card, you must enter the username besides the smart card PIN. If the username does not match the smart card certificate, the sign in fails with an error message *No user could be found for your Certificate*.

Touchpad

The touchpad on the Wyse 5470 thin client contains two buttons for the right and left mouse-clicks. ThinOS supports the following touchpad gestures on the Wyse 5470 thin client:

- Moving the mouse cursor
  - Moving with one finger, the entire touchpad including the area with the buttons can be used for the mouse cursor movement.

    NOTE: The sensitivity of the cursor movement on the area with the buttons is slower compared to the other areas. This design is for the stability of the buttons.
- Left-click
  - Tapping with one finger anywhere on the touchpad works as the mouse left-click.
  - Pressing the left button on the touchpad works as the mouse left-click.
- Right-click
  - Tapping with two fingers anywhere on the touchpad works as the mouse right-click.
  - Pressing the right button on the touchpad as the mouse right-click.

- Moving windows
  - Press and hold the left button and move the window by dragging a second finger on the touchpad.
  - Dragging a window by tapping twice on the touchpad with one finger is not supported.

Disabling touchpad

- You can disable the touchpad by going to **Start menu** > **System Setup** > **Peripherals** > **Mouse** and checking the **Disable trackpad** option.
- You can also disable the touchpad using the INI parameter `Device=Mobile TrackpadDisable=yes`.

Wyse Management Suite support

You can manage Wyse 5470 thin client using Wyse Management Suite 1.4 and later versions.

NOTE: If you disable the internal network interface card (NIC), Wyse Management Suite cannot recognize the thin client.

Wyse Management Suite 1.4 can differentiate between the BIOS of Wyse 5070 and 5470 thin clients. But it cannot differentiate between the ThinOS images. All images are treated as of Wyse 5070 thin client.

There are two ways to separate a Wyse ThinOS image

- Add a description while uploading the image.
- Create separate groups for different platforms.

NOTE: Group Registration Key is encrypted and is displayed as asterisks (*).

New connection under low privilege

A new connection under low privilege can be added.

Battery information

To view the battery information, go to **System information** > **Status window**. With the AC adapter plugged in and charging, the remaining time is displayed as Charging.

Battery indicator is on systray in classic mode and on the zero toolbar in zero mode.

The following table contains the battery indicators:

Table 13. Battery indicators

Battery status	Icon
While charging with the AC adapter	
Battery 90% - 100% without connecting the AC adapter	
Battery 50% - 89% without connecting the AC adapter	
Battery 25% - 49% without connecting the AC adapter	
Battery 9% - 24% without connecting the AC adapter	
Battery 0% - 8% without connecting the AC adapter	

- When the battery is lower than 12%, a notification is displayed at the right-bottom with the remaining percentage.
- Plugging in the AC adapter to charge the device increases the brightness by and disconnecting the AC adapter decreases the brightness by 10%.
- If you adjust the brightness after disconnecting the AC adapter, the brightness does not change after the adapter is plugged in. In this case, the current brightness replaces the default value.
- It takes approximately 5 seconds for the battery icon to be updated after plugging in or plugging out the AC adapter.
- Critical battery level is 5% by default. You can change the default value by using the INI parameter `Device=Mobile BatteryAutoPowerOff={3-20}`.

- When the battery reaches the critical level, ThinOS powers off automatically. You must plug in the AC power to power on the thin client.

Behavior while closing the lid

Thin client behaves in the following manner when lid is closed:

- With the AC adapter plugged in—Closing the lid turns off all the screens including external displays.
- Without the AC adapter plugged in—Closing the lid turns off the system.

You can change close lid behavior by using the following INI parameters:

- Behavior change with the AC adapter—`Device=Mobile CloseLidCharge={No, ShutDown, OffDisplay}`
- Behavior change without the AC adapter—`Device=Mobile CloseLidDisCharge={No, ShutDown, OffDisplay}`

NOTE: Closing the lid turns off all screens including external displays.

Fn key combinations

Wyse 5470 thin client supports the following Fn key combinations:

NOTE: Blast protocol does not support Fn keys.

Table 14. Fn key combinations

Key	ThinOS Local	VDI Session (RDP/ICA/ PCoIP)
Fn + Esc	Fn lock/unlock	Fn lock/unlock
Fn + F1	Mute	Mute
Fn + F2	Volume down	Volume down
Fn + F3	Volume up	Volume up
Fn + F4	Not applicable—session only	Previous file in media player list
Fn + F5	Not applicable—session only	Play/Pause in media player
Fn + F6	Not applicable—session only	Next file in media player list
Fn + F7	Not applicable	Not applicable
Fn + F8	Displays the Setup window	Not applicable—ThinOS local only
Fn + F9	Not applicable—session only	Displays the search window
Fn + F10	Keyboard light	Not applicable—ThinOS local only
Fn + F11	Screen dimming	Not applicable—ThinOS local only
Fn + F12	Screen lighting	Not applicable—ThinOS local only
Fn + Ctrl	Mouse right-click	Mouse right-click
Fn + PrtScr	Turn on/off wireless	Not applicable—ThinOS local only
Fn + Right arrow	Not applicable—session only	End
Fn + Left arrow	Not applicable—session only	Home
Fn + Up arrow	Not applicable—session only	Page up
Fn + Down arrow	Not applicable—session only	Page down

If the WiFi is turned on, pressing **Fn + PrtScr** disables the WiFi on the thin client. The **Disable Wireless Device** check box and the **Always** option are selected in the Network Setup window.

If the WiFi is turned off, pressing **Fn + PrtScr** enables the WiFi on the thin client. The **Disable Wireless Device** check box is cleared in the Network Setup window.

FR package

FR package is updated to version 1.27.53767.

Network features and limitations

Wyse ThinOS supports only the following two networks simultaneously.

- Internal network interface card (NIC) and the NIC on the docking station.
- Internal NIC and WiFi.

NOTE: A combination of internal NIC + NIC on the docking station + WiFi is not supported.

Disabling the internal NIC and using the NIC on the docking station causes the following issues:

- Wyse Management Suite fails to recognize the thin client.
- ThinOS displays all network information as 0.

Docking station features and limitations

Wyse 5470 thin client supports only the Dell docking station WD19. The features and limitations are the following:

- USB Type-C port and the HDMI ports on the Dell docking station WD19 are mutually exclusive.
- Supports one Quad HD display at 30 Hz and two Full HD displays at 60 Hz.
- If two displays with resolution greater than 1920x1080 are connected simultaneously, only one display works. You must change the resolutions to 1920x1080 or lower in **Display Setup** to make both the displays work.
- DisplayPort, HDMI, and USB Type-C audio over the Dell WD19 docking station is not supported.
- Wake-on-LAN feature over the Dell WD19 docking station is not supported.
- Audio port on the Dell WD19 docking station is not supported.

NOTE: You can update the Dell Docking Station - WD19 firmware using VDI session on Wyse ThinOS.

- **WD19 dock is redirected to the VDI session by default.**
- **Launch the Dock firmware update utility in the VDI session to update the firmware.**

SD card reader

Wyse 5470 thin client contains an SD card reader. You can insert an SD card and use it as removable storage in ThinOS.

Sleep mode

The sleep mode enables the power-saving state and the thin client resumes power without loss of data.

- ThinOS VDI broker session logs off after resuming from sleep mode for security. You must log in to the broker session again after resuming from sleep mode.

  NOTE: If you do not want to lose VDI sessions or to login to broker again, it is recommended to disable sleep mode by using the INI parameter `Sleep=no`.
- The device automatically enters sleep mode when ThinOS is idle for 20 minutes. This value is the default value. You can set the idle time in the **System Preferences** dialog box.

  NOTE: The option Battery is for the status without AC power and plugged in is for the status with AC power.
- To enable the thin client to automatically enter the sleep mode, set the **Turn Off Screen** as screen saver. Sleep mode timer starts after screen is turned off by the screen saver.
- Before automatically entering the sleep mode the screen flashes for one second.
- To manually enter sleep mode, open the ThinOS shut down menu, select the **Sleep** option, and click **OK**.

- **Screen Saver** and **After Turn Off Screen** options are always the same when the thin client is on **Battery** or if the AC adapter is **Plugged in**. Only the **Timer** option is different.
- To resume the thin client from sleep mode, perform any of the following steps:
  - Press the power button.
  - Click the USB mouse or move the wireless USB mouse.

    NOTE: This feature is disabled by default and requires the AC adapter to be plugged in. Use INI parameter `wakeonusb=yes` to enable the feature.
  - Press any key on the USB keyboard.

    NOTE: This feature is disabled by default and requires the AC adapter to be plugged in. Use INI parameter `wakeonusb=yes` to enable the feature.
  - Press any key on the default keyboard.
  - Use the Wake on LAN feature to wake up from sleep mode.

  NOTE: This feature requires the AC adapter to be plugged in.
- When you resume the system from sleep mode in the following scenarios, the system is first turned off and then turned on to load the ThinOS operating system (cold reboot):
  - If the system is on sleep mode for 1 hour.

    NOTE: You can change the timer setting using the INI parameter `Sleep=yes, MaxSleepPeriod={0-255}`.
  - If the Dell docking station WD19 is plugged in or out with a display attached to the docking station.

Known issues

- The thin client fails to enter sleep mode if the Bluetooth scan window is open.
- The following scenarios resume the thin client from sleep mode if you enable the INI parameter `wakeonusb=yes`:
  - If you move the mouse or press the keys on the keyboard immediately after clicking the OK button to enter the sleep mode .
  - If you press the sleep button on the USB keyboard to enter the sleep mode .

Touch Panel

Touch screen is an optional configuration for Wyse 5470 thin client. It is recommended to use the default 1920x1080 resolution on the touch screen version of the thin client. If you use a custom resolution, the touch screen does not calibrate accurately.

Table 15. Single and multi touch support

Local and Sessions	Single touch	Multi touch
ThinOS local	Supported	Not applicable
RDP	Supported	Supported—both desktop and application
ICA	Supported	Not Supported
Blast	Supported	Not Supported
PCoIP	Supported	Not Supported

Important notes

Wyse 5470 thin client does not support Device Manager (WDM) and Wyse TCX.

Limitations

DP audio

There are some feature limitations for DP audio on the Wyse 5470 thin client.

- DP audio is disabled by default.
- HDMI, DisplayPort over USB Type-C port, and USB Type-C port audio displays as DP audio.
- Hot plugging is not supported. Plug in HDMI or USB Type-C device and reboot the thin client for the DP audio to work.

- Converter is not supported.
- USB Type-C audio is not supported.
- Supports only audio over the integrated HDMI port with selected monitors.
- Audio over DisplayPort, HDMI, and USB Type-C using the Dell WD19 docking station is not supported.
- Turning off or turning on the display is not supported. Restart the thin client for the DP audio to work in the following scenarios:
  - If the power button is pressed, to power off, and then power on the display
  - If you use **Turn Off Screen** as the screen saver
  - If you click **Apply** on the Display setup window

Camera

The features and limitations depend on the type of camera that is used. It is recommended to use a camera such as Logitech C930e that supports hardware encoding.

The integrated camera on the Wyse 5470 thin client does not support hardware encoding, so the performance is limited as the following:

- On an RTME-enabled thin client, the camera performance on Skype for Business is limited to a maximum resolution of 640 x 360 using HD configuration, 960 x 540 using Full HD configuration, and 1280 x 720 if Logitech C930e camera is used.
- On a JVDI-enabled client, the CPU usage of the integrated camera is 10% higher than the CPU usage of Logitech C930e camera. The difference in the CPU usage is observed while video calling on Cisco Jabber in an ICA session.

Tested environment

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

Table 16. Tested environment - General components

Component	Version
Wyse Management Suite	1.4.0
Imprivata OneSign	5.5
Caradigm	6.3.1
NetScaler	11.1/12.0/12.1
StoreFront	3.15
Web Interface	5.4
SecureMatrix	4.1.0

Table 17. Tested environment

	Windows 7	Windows 10	Ubuntu 16	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
VMware Horizon 7.5	Tested	Tested	Tested[1]	Tested	Tested	Tested	Tested	Tested
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	Not tested	Not tested	Tested	Not tested	Not tested	Not tested
Citrix Virtual Apps and	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested

	Windows 7	Windows 10	Ubuntu 16	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
Desktops/ Citrix Virtual Apps 7.15								
Citrix Virtual Apps and Desktops/ Citrix Virtual Apps 7.18	Tested	Tested	Not tested	Not tested	Tested	Tested	Not tested	Tested
Tera PCM for Amazon Web Services (AWS) 1.03	Tested *	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Tera Cloud Access	Tested *	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Microsoft RDS 2012 R2 and 2016	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested

*AWS Workspace VM Operating System Windows 7 style is based on 2008 R2 RDSH.

[1]Only supports desktop connectivity to the Ubuntu desktop; USB redirection or other Multimedia optimization techniques are currently not supported.

Table 18. Tested environment - Citrix Virtual Apps and Desktops

Citrix Virtual Apps and Desktops/Citrix Virtual Apps	Operating system	RTME	Skype for Business client	Skype for Business Server
7.15	Windows 7	2. 7	Skype for Business 2016	Skype for Business 2015
	Windows 10	2. 7	Skype for Business 2016	Skype for Business 2015
	Windows Server 2016	2. 7	Skype for Business 2016	Skype for Business 2015
7.18	Windows 7	2. 7	Skype for Business 2016	Skype for Business 2015
	Windows 10	2. 7	Skype for Business 2016	Skype for Business 2015
	Windows Server 2016	2. 7	Skype for Business 2016	Skype for Business 2015

Tested peripherals matrix

The following are the list of tested devices for this release:

Audio

- UC150 - Dell Stereo Headset - Skype for Business
- UC 350 - Dell Pro Stereo Headset - Skype for Business
- Dell USB Sound Bar (AC511M)
- Dell Professional Sound Bar (AE515M)
- AE215 - 2.0 Speaker System
- Dell 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
- Dell USB SoundBar AC511

Cables

- C2G USB C to DisplayPort Adapter Converter - USB-C to DisplayPort Black external video adapter - black
- Belkin Universal HDMI to VGA Adapter with Audio - Video converter - HDMI - B2B
- Dell USB to Ethernet adapter
- Trendnet USB to Serial Converter RS-232 - 2.25 ft
- C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter
- StarTech.com 1 Port USB to RS232 DB9 Serial Adapter Cable - Serial adapter - USB 2.0 - RS-232
- Dell TYPE-C-DP convertor
- Dell TYPE-C-HDMI convertor
- USB-to-Serial converter

Keyboard/Mouse

- Dell Laser Scroll USB 6-Buttons Silver and Black Mouse
- Dell MS116 USB Wired Optical Mouse Black
- Dell Wireless Mouse - WM326
- Dell Premier Wireless Mouse - WM527
- Dell Wireless Keyboard and Mouse Combo- KM636
- Dell USB Wired keyboard with Smartcard Reader - KB813
- Cherry smartcard keyboard - JK-A0104EU-2
- Dell KM636 Wireless Keyboard and Mouse
- Dell wireless Keyboard/mouse KM632
- Dell Keyboard KB212-B
- Dell Keyboard KB216p
- Dell Mouse MS111-P
- Dell keyboard KB813 (Smartcard reader)
- Dell Keyboard SK-3205 (Smartcard reader)
- Cherry RS 6700 USB (Smartcard reader)
- Dell Optical Wireless Mouse – WM122
- Dell Optical Wireless Mouse – WM123
- Logitech M557 mouse, Bluetooth
- Microsoft ARC mouse 1350
- Microsoft ARC touch mouse 1592, Bluetooth
- Rapoo E6100, BlueTooth

Monitors

- Dell 20 Monitor | E2016H
- Dell 20 Monitor | E2016Hv (China only)
- Dell 22 Monitor | E2216H
- Dell 22 Monitor | E2216Hv (China only)
- Dell 22 Monitor | E2218HN
- Dell 23 Monitor | E2318H
- Dell 24 Monitor | E2417H
- Dell 20 Monitor | P2018H
- Dell 22 Monitor | P2219H
- Dell 23 Monitor | P2319H
- Dell 24 Monitor | P2419H
- Dell 27 Monitor | P2719H
- Dell 22 Monitor | P2219HC
- Dell 24 Monitor | P2419HC
- Dell 27 Monitor | P2719HC
- Dell UltraSharp 24 Monitor U2419H
- Dell UltraSharp 24 Monitor U2419HC
- Dell UltraSharp 27 Monitor U2719D
- Dell UltraSharp 27 Monitor U2719DC
- Dell UltraSharp 27 Monitor U2718Q 4K
- Dell P2415Q (3480X2160)
- Dell P2715Q (3840x2160)
- Dell U2414HB (1920x1080)
- Dell U2518D (2560x1440)

- Dell U2713HMt (2560x1440)
- Dell U2713HMt (2560x1440)
- Dell U2718Q (3840x2160)
- Dell S2718D (2560x1440)
- Dell S2817Q (3840x2160)
- Dell P2418HZ (1920x1080)
- Dell S2817Q (3840x2160)
- Dell P2419H (2560x1440)
- Dell P3418HW (2560x1080)
- Dell E2318H (1920x1080)

Printers

- Dell B1163 Mono Multifunction Printer—Not supported Generic / Text Only
- Dell B1165nfw Mono Multifunction Printer—Not supported Generic / Text Only
- Dell B1260dn Laser Printer
- Dell B1265dnf Multifunction Laser Printer
- Dell B2360d Laser Printer
- Dell B2360dn Laser Printer
- Dell B2375dnf Mono Laser Multifunction Printer
- HP LaserJet P2055d
- HP LaserJet P2035
- HP LaserJet 1022n
- HP Color LaserJet CM1312MFP
- EPSON PLQ-20K

USB headsets

- Jabra PRO 935 MS
- Jabra Speak 510 MS, Bluetooth
- Jabra Evolve 75
- Jabra Evolve 40 MS Mono
- Jabra GN2000
- Jabra PRO 9470, Bluetooth—Only by USB, does not support Bluetooth
- Plantronics BLACKWIRE C710, BlueTooth
- Plantronics Calisto P240 D1K3 USB handset
- Plantronics DA80
- Plantronics Voyager Focus UC B825
- SENNHEISER SC 260 USB MS II
- SENNHEISER SC 660 USB ML
- SENNHEISER D 10 USB ML-US Wireless DECT Headset
- SENNHEISER SP 10 ML Speakerphone for Lync
- POLYCOM Deskphone CX300
- Plantronics Blackwire 3220 USB-A

Analog headset

- Logitech h150
- Philips

Speechmike Premium

- LFH3610/00 SPEECHMIKE PREMIUM—only redirect tested

USB webcam

- Logitech C920 HD Pro Webcam
- Logitech C930e HD Webcam
- Microsoft LifeCam HD-3000
- Logitech C922 HD Webcam
- Microsoft LifeCam Studio

Data storage

- SanDisk USB 3.0 16 GB

- SanDisk USB3.1 and Type-C 16 GB
- Sony N50 16 GB

Storage

- Dell Portable SSD, USB-C 250GB (Edison)—NTFS by default and can only work by redirecting to VDI session
- Dell External Tray Load ODD (Agate) (DVD Writer)

USB DVD RW

- BENQ DVD Drive
- Dell external DVDRW Drive
- Dell DW316

Mobile Phone

- Samsung Galaxy S7

Smartcard reader

- OMNIKEY HID 3021
- HID OMNIKEY 5125
- HID OMNIKEY 5421
- HID OMNIKEY 5325 CL
- Actividentity USB reader 2.0
- Cherry keyboard RS 6600 with smart card
- Cherry keyboard RS 6700 with smart card
- Dell keyboard KB813 (Smartcard reader)
- Dell Keyboard SK-3205 (Smartcard reader)

Remote connection card

- Teradic host card 2220

Proximity card reader

- HID OMNIKEY 5321
- OMNIKEY 5025 CL
- OMNIKEY 5326 DFR
- HDW-IMP-75
- HDW-IMP-60
- RDR-6082AKU

Keyboard/reader

- Finger Print Keyboard KSI 1700

Finger print reader

- Finger Print HDW-IMP-1C

Table 19. Smart card details

Smart card information from ThinOS event log	Driver	Provider (CSP)	Card type
ActivIdentity V1	ActivClient 6.2	ActivClient Cryptographic Service Provider	Oberthur CosmopolC 64k V5.2
ActivIdentity V1 (IDClassic 230)	ActivClient 6.2	ActivClient Cryptographic Service Provider	Gemalto Cyberflex Access 64K V2c
Gemalto/IDPrime.NET (Gemalto .net 510)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	Axalto Cryptoflex.NET(V7.2.1.0)
ID Prime MD v 4.0.2 (Gemalto 840)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T=0 (V 7.3.2.11)
ID Prime MD v 4.1.0 (Gemalto 3810)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T=0 (V 7.4.0.7)
ID Prime MD v 4.1.1 (Gemalto 830)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T=0 (V 7.4.1.7)

Smart card information from ThinOS event log	Driver	Provider (CSP)	Card type
ID Prime MD v 4.3.5 (Gemalto 830)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T=0 (V 7.6.5.4)
Etoken CardOS	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	Siemens CardOS V4.2B
Etoken CardOS (white USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	Siemens CardOS V4.2
Etoken Java(aladdin) (blue USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	eToken PRO Java 72K OS755
Etoken Java(aladdin) (black USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 510x
Etoken Java(aladdin) (black USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 5110
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 key)	YubiKey PIV Manager	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
Buypass BelDu	Net iD 6.7.2.36, 2.0.37	Net iD - CSP	BelDu 6.0.4
GEMALTO IDPrime SIS	Net iD 6.7.2.36, 2.0.37	Net iD - CSP	IDPrime SIS 4.0.2
ActivIdentity V2	ActiveClient 7.0	ActivClient Cryptographic Service Provider	Oberthur ID One 128 v5.5
ActivIdentity V2	ActiveClient 7.0	ActivClient Cryptographic Service Provider	G&D FIPS 201 SCE 3.2
ActivIdentity V2	ActiveClient 7.0	ActivClient Cryptographic Service Provider	Gemalto TOPDLGX4 144

INI parameters

The following table provides the list of INI parameters:

NOTE: Every INI parameter is associated with a parent INI parameter. Use these INI parameters along with the corresponding parent INI parameters.

Table 20. INI parameters

INI parameters	Description
MACPASSConfigure={yes, no, Integrated}	The parameter allows the thin client to enable or disable the MAC Address Pass Through function, or use the integrated NIC.
MaxSleepPeriod={0-255}	This parameter specifies the maximum time period the thin client is allowed to be in sleep mode. The thin client reboots after resuming from sleep mode. If the value is set to 0, the thin client resumes from sleep without rebooting.
CloseLidCharge={No, ShutDown, OffDisplay}	The parameter allows you to set the behavior of thin client when you close the lid with the AC adapter connected.
CloseLidDisCharge={No, ShutDown, OffDisplay}	The parameter allows you to set the behavior of thin client when you close the lid with the device running on battery.

INI parameters	Description
BatteryAutoPowerOff={3-20}	The parameter shuts down the thin client when the battery capacity is lower than a set value.

Known issues

Table 21. Known issues

ID	Description	Workaround
THINOS-1266	The Wakeup-On-Lan functionality stops working when you attempt to resume the thin client from the S3 and S5 power states using WD19 docking station.	Use Wakeup-On-Lan functionality from the integrated Ethernet port.
THINOS-1447	DisplayPort audio does not work with HDMI or USB Type-C port.	There is no workaround in this release.
THINOS-1469	DisplayPort audio does not work when using USB Type-C port, DisplayPort, and HDMI port over Dell WD19 docking station.	There is no workaround in this release.
THINOS-1479	Multi-touch input fails to work properly in an RDP session when an external display is connected.	Use multi-touch in RDP without the external display or with only one external display connected.
THINOSH-1485	After restoring the thin client to factory restore settings, the Bluetooth connection may fail when you connect to a Bluetooth device the first time. However, the thin client connects to the Bluetooth device from second instance onwards.	There is no workaround in this release.
THINOS-1488	Audio does not work from stereo speaker output jack on WD19 docking station when you connect an analog audio device.	Use the integrated audio output jack.
THINOS-1651	The U2718Q display does not turn on after hot plugging to the integrated HDMI port.	Reboot the thin client after hot plugging the display.
THINOS-1656	Wyse Management Suite settings are not automatically fetched from the DHCP/DNS options when you use the WD19 dock.	Use the integrated Ethernet port.

6

ThinOS 8.6_106

Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. The ThinOS version 8.6.1 is released to support the Wyse 5470 All-in-One thin client.

Version

ThinOS 8.6_106

Release date

August 2019

Compatibility

BIOS information

Table 22. BIOS information

Platform	BIOS Version	BIOS BIN file name to use for ThinOS update
Wyse 5470 All-in-One thin client	1.0.0	5470AIO_bios.bin

Platform information

Table 23. Platform information

Platform	Firmware name		Build number
	Wyse ThinOS	Wyse ThinOS with PCoIP	
Wyse 5470 All-in-One thin client	X10_wnos	PX10_wnos	8.6_106

Table 24. ThinOS packages

Packages	Version
FR.i386.pkg	1.27.53767
JVDI.i386.pkg	12.1.52086
horizon.i386.pkg	5.0.53374
RTME.i386.pkg	2.7.52738

New and enhanced features

Display resolution

The Wyse 5470 All-in-One thin client supports a default resolution of 1920 x 1080.

DP audio port

Wyse 5470 All-in-One thin client uses only one port for DP audio. Only **Port 1** is available on the **Audio** tab.

Troubleshooting features

- New target option `IDE` can be used to select the destination for importing and exporting files. If **IDE** is selected, the destination is redirected to ThinOS C: Disk of IDE.

  NOTE: Extract CMOS and Restore CMOS features are supported only in USB and File Server options.
- Click **Export IDE trouble_shoot** to export the folder `C:/wnos/trouble_shoot` from *IDE C:* to USB or file server. This button is enabled only when the target is USB or file server.
- Click **Delete IDE trouble_shoot** to delete the folder `C:/wnos/trouble_shoot` from IDE.
- You can select 1 day to 5 days in **Days to keep troubleshooting files in IDE**. After you reboot, the files in *C:/wnos/trouble_shoot* are checked. If the created date is older than the days that you set, the files are removed.
- Select the **Enable Application Console Log** check box to save all Linux application console logs in the *trouble_shoot* folder with the name *TerminalName_proc_name_date_time.log*
- **Application list** is a filter for application console logs. It is empty by default and no filters are applied. When it is empty, the console logs of all applications are saved to the target folder.

  You can filter the applications for logs using **Application list**. The name in the list can be part of the application name. For example, PCoIP application name is /pcoip/pcoip and Blast application name is /usr/lib/vmware/view/usb/horizon. If you want the the console log of these two applications, enter pcoip;vmware .

On-Screen Display (OSD) feature

Use the On-Screen Display (OSD) buttons on the right of the device to adjust the luminance of the backlight. Minimum is 1 and maximum is 100.

- Press and hold the first button from the top to increase brightness.
- Press and hold the second button from the top to decrease brightness.
- Press the screen-off button to turn off or turn on the display. When the display is turned off, you can use a mouse or a keyboard to wake up the thin client.

Frames per second (FPS) display

Frames per second (FPS) is displayed in the Performance Monitor window.

Text color customization on login window

You can customize the text color in the login window or the lock window by using the INI parameter—`Signon=yes SignonStatusColor="rrr ggg bbb`.

NOTE: The default text color is gray.

Smart card as Proximity Card of Imprivata

The feature to treat smart card authentications as proximity card authentications is added.

You can use a smart card as proximity card and authenticate the user. When you insert the smart card, it is considered as a proximity card tap and removing the smart card is considered as tap-out. To use a smart card as proximity card, go to **Policies** > **Computer Policy** in the OneSign Administrator console and select the **Treat smart card authentications as proximity card authentications** check box.

New system variable for MAC address

New system variable $UMAC for MAC address in uppercase format is added.

Reconnect workflow for VMware Horizon View broker

The INI parameter `VMWaitTimer={0-3600}` is added to enhance the reconnect workflow of the VMware Horizon View broker.

The option **VMWaitTimer** specifies the time remaining in seconds to reconnect to a Horizon desktop before exiting the desktop. When the connection fails while connecting to a Horizon desktop, a message *Horizon Error- Waiting to recover* is displayed along with the countdown timer. The range is 0–3600. The value is taken as 20 by default if the value set is lesser than 20. If the value set is greater than 3600, 3600 is taken as the value by default. After the count down reaches 0, the connection is canceled and you can exit to the ThinOS desktop.

VMware Horizon package

VMware Horizon package is updated to version 5.0.53374.

- Supports the relative mouse feature in a PCoIP session.

  When you enable the relative mouse feature, Horizon Client uses absolute coordinates to transmit data about the mouse pointer movements and improves the mouse performance. To enable the relative mouse feature on a classic desktop, right-click the remote desktop icon on the ThinOS taskbar, and click **Enable Relative Mouse**. To enable the relative mouse feature on a zero desktop, go to the ThinOS connection menu, and click the **A** icon that is displayed after the PCoIP session name.
- Supports the High Color Accuracy feature in a Blast session with H.264 enabled.

  This option enables Horizon Client to use a superior color fidelity when H.264 decoding is enabled. To enable the High Color Accuracy feature, go to **Global Connection Settings**, click the **Horizon** tab, and select the **High Color Accuracy** check box.

Teradici Cloud Access broker type

Teradici Cloud Access is added as a new broker type. You can enter the FQDN name or the IP address of the broker server.

Username Hint option for VMware Horizon View broker

ThinOS supports the **Username Hint** option during smart card authentication for the Horizon View broker.

You can enable users to specify the account to be used in the **Username Hint** field when you log in to a Horizon View session using a smart card. To enable the **Username Hint** option, go to the View Administrator Admin console, and select the **Allow smart card user hints** check box when editing the View Server Connection settings. Enabling this option allows you to use a single smart card certificate to authenticate to multiple user accounts.

When signing in using a smart card, you must enter the username besides the smart card PIN. If the username does not match the smart card certificate, the sign in fails with an error message *No user could be found for your Certificate*.

Wyse Management Suite support

You can manage Wyse 5470 All-in-One thin client using Wyse Management Suite 1.4 and later versions. Wyse Management Suite 1.4 can differentiate between the BIOS of Wyse 5070 and 5470 All-in-One thin clients. But it cannot differentiate between the ThinOS images. All images are treated as of Wyse 5070 thin client.

There are two ways to separate a Wyse ThinOS image:

- Add a description while uploading the image.

- Create separate groups for different platforms.

NOTE: Group Registration Key is encrypted and is displayed as asterisks (*).

New connection under low privilege

A new connection under low privilege can be added.

FR package

FR package is updated to version 1.27.53767.

Sleep mode

The sleep mode enables the power-saving state and the thin client resumes power without loss of data.

- ThinOS VDI broker session logs off after resuming from sleep mode for security. You must log in to the broker session again after resuming from sleep mode.

  NOTE: If you do not want to lose VDI sessions or to login to broker again, it is recommended to disable sleep mode by using the INI parameter `Sleep=no`.
- The device automatically enters sleep mode when ThinOS is idle for 20 minutes. This value is the default value. You can set the idle time in the **System Preferences** dialog box.
- To enable the thin client to automatically enter the sleep mode, set the **Turn Off Screen** as screen saver. Sleep mode timer starts after screen is turned off by the screen saver.
- As the Wyse 5470 All-in-One thin client does not have a battery, **plugged in** is always selected.
- To manually enter sleep mode, open the ThinOS shut down menu, select the **Sleep** option, and click **OK**.
- To resume the thin client from sleep mode, perform any of the following steps:
  - Press the power button.
  - Click the USB mouse or move the wireless USB mouse.

    NOTE: This feature is disabled by default. Use INI parameter `wakeonusb=yes` to enable the feature.
  - Press any key on the USB keyboard.

    NOTE: This feature is disabled by default. Use INI parameter `wakeonusb=yes` to enable the feature.
  - Use the Wake on LAN feature to wake up from sleep mode.
- **Known issues**
  - After you enable the INI parameter `wakeonusb=yes`, the thin client resumes from sleep mode when you click the **OK** button, and immediately move the mouse cursor or press any key on the keyboard.
  - If you press the `Sleep` key on the USB keyboard to enter sleep mode, the system stops responding.

Important notes

Wyse 5470 AIO does not support Wyse Device Manager (WDM) and Wyse TCX.

Limitations

DP audio features and limitations

There are some feature limitations for DP audio on the Wyse 5470 All-in-One thin client.

- DP audio is disabled by default.
- Hot plug is not supported. The DP cable must be plugged in first, the power on or reboot the AIO to make the DP audio function.
- Converter is not supported.
- Turning off or turning on the display is not supported. Restart the thin client for the DP audio to work in the following scenarios:
  - If the power button is pressed, to power off, and then power on the display
  - If you use **Turn Off Screen** as the screen saver

- If you click **Apply** in the Display setup window

Camera

The features and limitations depend on the type of camera that is used. It is recommended to use a camera such as Logitech C930e that supports hardware encoding.

The integrated camera on the Wyse 5470 All-in-One thin client does not support hardware encoding, so the performance is limited as the following:

- On an RTME-enabled thin client, the camera performance is limited to a maximum resolution of 960 x 540 using Full HD configuration, and 1280 x 720 if Logitech C930e camera is used.
- On a JVDI-enabled client, the CPU usage of the integrated camera is 10% higher than the CPU usage of Logitech C930e camera. The difference in the CPU usage is observed while video calling on Cisco Jabber in an ICA session.

Tested environments matrix

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

Table 25. Tested environment - General components

Component	Version
Wyse Management Suite	1.4.0
Imprivata OneSign	5.5
Caradigm	6.3.1
NetScaler	11.1/12.0/12.1
StoreFront	3.15
Web Interface	5.4
SecureMatrix	4.1.0

Table 26. Test environment

	Windows 7	Windows 10	Ubuntu 16	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
VMware Horizon 7.5	Tested	Tested	Tested[1]	Tested	Tested	Tested	Tested	Tested
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	Not tested	Not tested	Tested	Not tested	Not tested	Not tested
Citrix Virtual Apps and Desktops/ Citrix Virtual Apps 7.15	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested
Citrix Virtual Apps and Desktops/	Tested	Tested	Not tested	Not tested	Tested	Tested	Not tested	Tested

	Windows 7	Windows 10	Ubuntu 16	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
Citrix Virtual Apps 7.18								
Tera PCM for Amazon Web Services (AWS) 1.03	Tested *	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Tera Cloud Access	Tested *	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Microsoft RDS 2012 R2 and 2016	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested

*AWS Workspace VM Operating System Windows 7 style is based on 2008 R2 RDSH.

[1]Only supports desktop connectivity to the Ubuntu desktop; USB redirection or other Multimedia optimization techniques are currently not supported.

Table 27. Tested environment - Citrix Virtual Apps and Desktops

Citrix Virtual Apps and Desktops/Citrix Virtual Apps	Operating system	RTME	Skype for Business client	Skype for Business Server
7.15	Windows 7	2. 7	Skype for Business 2016	Skype for Business 2015
	Windows 10	2. 7	Skype for Business 2016	Skype for Business 2015
	Windows Server 2016	2. 7	Skype for Business 2016	Skype for Business 2015
7.18	Windows 7	2. 7	Skype for Business 2016	Skype for Business 2015
	Windows 10	2. 7	Skype for Business 2016	Skype for Business 2015
	Windows Server 2016	2. 7	Skype for Business 2016	Skype for Business 2015

Tested peripherals matrix

The following are the list of tested devices for this release:

Audio

- UC150 - Dell Stereo Headset - Skype for Business
- UC 350 - Dell Pro Stereo Headset - Skype for Business
- AE215 - 2.0 Speaker System
- Dell 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

Cables

- Dell Adapter - DisplayPort to HDMI 2.0 (4K)
- Dell Adapter - DisplayPort to VGA
- Dell USB to Ethernet adapter
- C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter
- StarTech.com 1 Port USB to RS232 DB9 Serial Adapter Cable - Serial adapter - USB 2.0 - RS-232

Keyboard/Mouse

- Dell Laser Scroll USB 6-Buttons Silver and Black Mouse
- Dell MS116 USB Wired Optical Mouse Black

- Dell Wireless Mouse - WM326
- Dell Wireless Keyboard and Mouse Combo- KM636
- Dell USB Wired keyboard with Smartcard Reader - KB813
- Seal Shield Silver Seal Waterproof - Keyboard - USB - US - waterproof - white
- SEAL SHIELDTM MEDICAL GRADE OPTICAL
- Man & Machine Its Cool Flat - Keyboard - USB - UK layout - white
- Man & Machine C Mouse - Mouse - right and left-handed - optical - 2 buttons - wired - USB - white
- Dell Wireless Keyboard and Mouse - Tangerine MLK
- Dell wireless Keyboard/mouse KM632

Monitors

- Dell 20 Monitor | E2016H
- Dell 22 Monitor | E2216H
- Dell 22 Monitor | E2218HN
- Dell 23 Monitor | E2318H
- Dell 24 Monitor | E2417H
- Dell 27 Monitor | P2719H
- Dell 24 Monitor | P2418HT
- Dell 27 Monitor | P2719HC
- Dell UltraSharp 24 Monitor U2415H
- Dell UltraSharp 24 Monitor U2419HC
- Dell UltraSharp 27 Monitor U2719D
- Dell UltraSharp 27 Monitor U2719DC
- Dell UltraSharp 27 Monitor U2718Q 4K
- Dell UltraSharp 34 Monitor P3418HW
- Dell P2415Q (3480X2160)
- Dell P2715Q (3840x2160)
- Dell U2414HB (1920x1080)
- Dell U2518D (2560x1440)
- Dell U2713HMt (2560x1440)
- Dell U2713HMt (2560x1440)
- Dell U2718Q (3840x2160)
- Dell S2718D (2560x1440)
- Dell S2817Q (3840x2160)
- Dell P2418HZ (1920x1080)
- Dell S2817Q (3840x2160)
- Dell P2419H (2560x1440)
- Dell P3418HW (2560x1080)
- Dell E2318H (1920x1080)

Printers

- Dell B1163 Mono Multifunction Printer—Not supported Generic / Text Only
- Dell B1165nfw Mono Multifunction Printer—Not supported Generic / Text Only
- Dell B1260dn Laser Printer
- Dell B1265dnf Multifunction Laser Printer
- Dell B2360d Laser Printer
- Dell B2360dn Laser Printer
- Dell B2375dnf Mono Laser Multifunction Printer
- HP LaserJet P2055d
- HP LaserJet P2035
- HP LaserJet 1022n
- HP Color LaserJet CM1312MFP
- EPSON PLQ-20K

USB headsets

- Jabra PRO 935 MS
- Jabra Speak 510 MS, Bluetooth
- Jabra Evolve 75

- Jabra Evolve 40 MS Mono
- Jabra GN2000
- Jabra PRO 9470, Bluetooth—Only by USB, does not support Bluetooth
- Plantronics BLACKWIRE C710, BlueTooth
- Plantronics Calisto P240 D1K3 USB handset
- Plantronics DA80
- Plantronics Voyager Focus UC B825
- SENNHEISER SC 260 USB MS II
- SENNHEISER SC 660 USB ML
- SENNHEISER D 10 USB ML-US Wireless DECT Headset
- SENNHEISER SP 10 ML Speakerphone for Lync
- POLYCOM Deskphone CX300
- Plantronics Blackwire 3220 USB-A

Analog headset

- Logitech h150
- Philips
- DJ400

USB webcam

- Logitech C920 HD Pro Webcam
- Logitech C930e HD Webcam
- Microsoft LifeCam HD-3000
- Logitech C922 HD Webcam
- Microsoft LifeCam Studio
- Jabra PRO 9470, Bluetooth

Data storage

- SanDisk USB 3.0 16 GB
- SanDisk USB3.1 and Type-C 16 GB
- SanDisk USB 3.0 16GB
- Sony N50 16 GB
- Kingston DataTraveler G3 8GB
- Kingston DTM30 32GB

USB DVD RW

- SAMSUNG PorTable DVD Writer SE-208
- Dell external DVDRW Drive
- Dell DW316

Mobile Phone

- Samsung Galaxy S7

Smartcard reader

- OMNIKEY HID 3021
- HID OMNIKEY 5125
- HID OMNIKEY 5421
- HID OMNIKEY 5325 CL
- Actividentity USB reader 2.0
- Cherry keyboard RS 6600 with smart card
- Cherry keyboard RS 6700 with smart card
- Dell keyboard KB813 (Smartcard reader)
- Dell Keyboard SK-3205 (Smartcard reader)

Remote connection card

- Teradic host card 2220

Proximity card reader

- HID OMNIKEY 5321
- OMNIKEY 5025 CL

- OMNIKEY 5326 DFR
- HDW-IMP-75
- HDW-IMP-60
- RDR-6082AKU

Keyboard/reader

- Finger Print Keyboard KSI 1700

Finger print reader

- Finger Print HDW-IMP-1C

Table 28. Smart card details

Smart card information from ThinOS event log	Driver	Provider (CSP)	Card type
ActivIdentity V1	ActivClient 6.2	ActivClient Cryptographic Service Provider	Oberthur CosmopolC 64k V5.2
ActivIdentity V1 (IDClassic 230)	ActivClient 6.2	ActivClient Cryptographic Service Provider	Gemalto Cyberflex Access 64K V2c
Gemalto/IDPrime.NET (Gemalto .net 510)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	Axalto Cryptoflex.NET(V7.2.1.0)
ID Prime MD v 4.0.2 (Gemalto 840)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T=0 (V 7.3.2.11)
ID Prime MD v 4.1.0 (Gemalto 3810)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T=0 (V 7.4.0.7)
ID Prime MD v 4.1.1 (Gemalto 830)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T=0 (V 7.4.1.7)
ID Prime MD v 4.3.5 (Gemalto 830)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T=0 (V 7.6.5.4)
Etoken CardOS	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	Siemens CardOS V4.2B
Etoken CardOS (white USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	Siemens CardOS V4.2
Etoken Java(aladdin) (blue USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	eToken PRO Java 72K OS755
Etoken Java(aladdin) (black USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 510x
Etoken Java(aladdin) (black USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 5110
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 key)	YubiKey PIV Manager	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
Buypass BelDu	Net iD 6.7.2.36, 2.0.37	Net iD - CSP	BelDu 6.0.4
GEMALTO IDPrime SIS	Net iD 6.7.2.36, 2.0.37	Net iD - CSP	IDPrime SIS 4.0.2

INI parameters

The following table provides the list of INI parameters:

NOTE: Every INI parameter is associated with a parent INI parameter. Use these INI parameters along with the corresponding parent INI parameters.

Table 29. INI parameters

INI parameters	Description
OSDConfigure={yes, no}	This parameter allows you to enable or disable the On-Screen Display (OSD) function on the thin client.
USBSidePortTop={yes, no}	This parameter allows you to enable or disable the top USB port on the left side of the thin client. If the USB port is disabled, the operating system cannot detect the device that is attached to this port.
USBSidePortBottom={yes, no}	This parameter allows you to enable or disable the bottom USB port on the left side of the thin client. If the USB port is disabled, the operating system cannot detect the device that is attached to this port.
USBRearPortTopLeft={yes, no}	This parameter allows you to enable or disable the top-left USB port on the back of the thin client. If the USB port is disabled, the operating system cannot detect the device that is attached to this port.
USBRearPortTopRight={yes, no}	This parameter allows you to enable or disable the top-right USB port on the back of the thin client. If the USB port is disabled, the operating system cannot detect the device that is attached to this port.
USBRearPortBottomLeft={yes, no}	This parameter allows you to enable or disable the bottom-left USB port on the back of the thin client. If the USB port is disabled, the operating system cannot detect the device that is attached to this port.
USBRearPortBottomRight={yes, no}	This parameter allows you to enable or disable the bottom-right USB port on the back of the thin client. If the USB port is disabled, the operating system cannot detect the device that is attached to this port.
MaxSleepPeriod={0-255}	This parameter specifies the maximum time period the thin client is allowed to be in sleep mode. The thin-client reboot after resuming from sleep mode. When this parameter is set to 0, the thin client resumes from sleep mode without rebooting.

Known issues

Table 30. Known issues

ID	Description	Workaround
THINOS-1177	Chinese/Japanese fonts in the Peripheral and Troubleshooting windows are distorted or shortened.	Use the Locale option and change the language to English.
THINOS-1164	A trap error `: /user/bin/vdloader -d /usr/lib/I: trap 14` occurs when you disconnect an ICA desktop during the JVDI video call.	End the JVDI video call and then disconnect the ICA desktop.

7

ThinOS 8.6_027 and ThinOS Lite 2.6_027

Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. Patch or add-on 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 8.6_027

ThinOS Lite 2.6_027

Release date

August 2019

Priority and recommendations

Recommended: Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will help keep your system software current and compatible with other system modules (firmware, BIOS, drivers and software).

Compatibility

Supported platforms

Table 31. Supported platforms

Platform	Image file name	BIOS file name	BIOS version
Wyse 3010 Thin Client with ThinOS (T10)	DOVE_boot	Not applicable	Not applicable
Wyse 3010 zero client for Citrix	T00_xen.bin	Not applicable	Not applicable
Wyse 3020 Thin Client with ThinOS (T10D)	T10D_wnos	Not applicable	Not applicable
Wyse 3020 zero client for Citrix	T00D_xen	Not applicable	Not applicable
Wyse 3030 LT Thin Client with ThinOS	U10_wnos	U10_bios.bin	1.0G
Wyse 3030 LT Thin Client with PCoIP	PU10_wnos	PU10_bios.bin	1.0G
Wyse 3040 Thin Client with ThinOS	A10Q_wnos	A10Q_bios.bin	1.2.5
Wyse 3040 Thin Client with PCoIP	PA10Q_wnos	A10Q_bios.bin	1.2.5
Wyse 5010 Thin Client with ThinOS (D10D)	ZD10_wnos	D10G_bios.bin	3.0U

Platform	Image file name	BIOS file name	BIOS version
Wyse 5010 Thin Client with PCoIP (D10DP)	PD10_wnos	PD10G_bios.bin	3.0U
Wyse 5010 zero client for Citrix	ZD00_xen	D10G_bios.bin	3.0U
Wyse 5040 AIO Thin Client (5212)	ZD10_wnos	AIO10G_bios.bin	3.0U
Wyse 5040 AIO Thin Client with PCoIP (5213)	PD10_wnos	PAIO10G_bios.bin	3.0U
Wyse 5060 Thin Client with ThinOS	D10Q_wnos	D10Q_bios.bin	1.0J
Wyse 5060 Thin Client with PCoIP	PD10Q_wnos	PD10Q_bios.bin	1.0J
Wyse 5070 Thin Client with ThinOS	X10_wnos	X10_bios.bin	1.1.4
Wyse 5070 Thin Client with PCoIP	PX10_wnos	X10_bios.bin	1.1.4
Wyse 7010 Thin Client with ThinOS (Z10D)	ZD10_wnos	Z10G_bios.bin	3.0U

Previous versions

ThinOS 8.6_024

ThinOS Lite 2.6_024

Supported packages

Table 32. Supported packages

Platform name	Packages				
	FR v1.28.19061716	Horizon v5.1.19052918	RTME v2.8.54007	TCX v7.1.41853	JVDI v12.1.52977
Wyse 3010 Thin Client with ThinOS (T10)	Not supported	Not supported	Not supported	Not supported	Not supported
Wyse 3010 Zero Client for Citrix	Not supported	Not supported	Supported	Not supported	Not supported
Wyse 3020 Thin Client with ThinOS (T10D)	Not supported	Not supported	Not supported	Not supported	Not supported
Wyse 3020 Zero Client for Citrix	Not supported	Not supported	Supported	Not supported	Not supported
Wyse 3030 LT Thin Client with ThinOS	Supported	Supported	Supported	Supported	Not supported
Wyse 3030 LT Thin Client with PCoIP	Supported	Supported	Supported	Supported	Not supported
Wyse 3040 Thin Client with ThinOS	Supported	Supported	Supported	Supported	Supported
Wyse 3040 Thin Client with PCoIP	Supported	Supported	Supported	Supported	Supported
Wyse 5010 Thin Client with ThinOS (D10D)	Supported	Supported	Supported	Supported	Not supported
Wyse 5010 Thin Client with PCoIP (D10DP)	Supported	Supported	Supported	Supported	Not supported
Wyse 5010 Zero Client for Citrix	Supported	Supported	Supported	Supported	Not supported
Wyse 5040 AIO Thin Client (5212)	Supported	Supported	Supported	Supported	Not supported
Wyse 5040 AIO Thin Client with PCoIP (5213)	Supported	Supported	Supported	Supported	Not supported
Wyse 5060 Thin Client with ThinOS	Supported	Supported	Supported	Supported	Supported
Wyse 5060 Thin Client with PCoIP	Supported	Supported	Supported	Supported	Supported

Platform name	Packages				
	FR v1.28.19061716	Horizon v5.1.19052918	RTME v2.8.54007	TCX v7.1.41853	JVDI v12.1.52977
Wyse 5070 Thin Client with ThinOS	Supported	Supported	Supported	Supported	Supported
Wyse 5070 Thin Client with PCoIP	Supported	Supported	Supported	Supported	Supported
Wyse 7010 Thin Client with ThinOS (Z10D)	Supported	Supported	Supported	Supported	Not supported

New and enhanced features

Updates to ThinOS packages

- Updated the Citrix Real-time Media Engine (RTME) package to version 2.8.54007.
- Updated the VMware Horizon package to version 5.1.19052918.
- Updated the Flash Redirection (FR) package to version 1.28.19061716.

VMware updates

Horizon Client version update

VMware Horizon Client is updated from version 5.0 to 5.1. The latest version offers increased Blast performance on ThinOS.

Relative mouse feature in Blast session

ThinOS supports the relative mouse feature in a Blast session.

When you enable the relative mouse feature, Horizon Client uses absolute coordinates to transmit data about the mouse pointer movement and improve the mouse performance. To enable the relative mouse feature, use the INI parameter `SessionConfig=Blast EnableRelativeMouse=yes`.

The relative mouse feature is applicable only for the following thin clients:

- Wyse 3030 LT Thin Client
- Wyse 3040 Thin Client
- Wyse 5010 Thin Client
- Wyse 5040 AIO Thin Client
- Wyse 5060 Thin Client
- Wyse 5070 Thin Client

NOTE: The Blast performance is improved on all the supported thin clients except the Wyse 5060 Thin Client.

Known issue

When the relative mouse feature is enabled in a Blast session, you must press Ctrl+Alt to release the mouse pointer in the following scenarios:

Table 33. Scenarios

Desktop mode	Scenario
Classic mode	In a session window (not full screen), you cannot move the mouse pointer to the local ThinOS taskbar, and you cannot move the mouse pointer outside the session window.
Zero mode	In a session where the mouse pointer is positioned on the left panel of the screen, the ThinOS taskbar does not work.

USB device splitting in Blast session

ThinOS supports the USB device splitting feature on the Nuance Dictaphone PowerMic II microphone in a Blast session. The USB device splitting feature enables you to split the composite device into its components. To enable this feature, use the following INI parameters:

```
Device=vusb InterfaceRedirect=yes
Device=vusb ForceRedirect=0x00,0x00,0x03,0x00,0x00
SessionConfig=Blast viewusb.IncludeVidPid=Vid-0554_Pid-1001
viewusb.SplitVidPid=Vid-0554_Pid-1001(exintf:00;exintf:01;exintf:02)
```

After you enable the USB device splitting feature, the buttons on the PowerMic II are redirected to the blast session, and the audio mapping is retained in the local device.

For more information about the supported USB devices and USB configurations, see the *Nuance SpeechMagic VMware View Extension - Supported USB Devices and USB Configuration* article at kb.vmware.com.

VMware Horizon Client feature matrix

Table 34. VMware Horizon Client feature matrix

	Client type	ThinOS
Client Appearance and Workflow	Customer branding	Not supported
	Kiosk mode	Supported
	In-product help	Not supported
	Online help	Not supported
	English localization	Supported
	French localization	Supported
	German localization	Supported
	Japanese localization	Supported
	Traditional Chinese localization	Supported
	Simplified Chinese localization	Supported
	Korean localization	Not supported
	Spanish localization	Not supported
Broker Connectivity	XML-API version	13
	SSL	Supported
	SSL certificate verification	Supported
	Disclaimer dialog	Supported
	Security Server compatibility	Supported
	UAG compatibility	Supported
	Multi-broker/Multi-site redirection - DaaS	Not supported
	Client info	Supported
	Phonehome	Not supported
Broker Authentication	Password authentication	Supported
	Password change	Supported
	RSA authentication	Supported
	Radius	Supported
	Integrated RSA SecurID token generator	Not supported

	Client type	ThinOS
	Single Sign On	Supported
	Log in as current user	Not supported
	Nested log in as current user	Not supported
	Biometric authentication	Not supported
	Unauthentication access	Supported
Smart card	x.509 certificate authentication (Smart Card)	Supported
	CAC support	Supported
	.Net support	Supported
	PIV support	Not supported
	Java support	Not supported
	Purebred derived credentials	Not supported
Desktop Operations	Reset	Supported
	Restart	Not supported
	Log off	Supported
Session Management (Blast Extreme and PCoIP)	Switch desktops	Supported
	Multiple Connections	Supported
	App Launch on Multiple end points	Supported
	Auto-Retry	Supported
	Auto-Retry 5+ minutes	Supported
	Fullscreen mode	Supported
	Fullscreen toolbar	Not supported
	Windowed mode	Supported
	Time Zone Synchronization	Supported
	Jumplist integration (Windows 7-Windows 10)	Not supported
Client Customization	Command Line Options	Not supported
	URI Schema	Not supported
	Preference File	Supports only Blast
	Non Interactive Mode	Not supported
	GPO-based customization	Not supported
Protocols supported	Blast Extreme	Supported
	H.264 - HW decode	Supported
	H.265 - HW decode	Not supported
	JPEG/PNG	Supported
	Blast Extreme Adaptive Transportation	Supported
	RDP 6.x	Supported
	RDP 7.x	Supported
	RDP 8.x, 10.x	Supported

	Client type	ThinOS
	PCoIP	Supported
Protocol Enhancements Protocol Enhancements	RDP-VC Bridge	Supports only Blast
	Session Enhancement SDK	Not supported
Features / Extensions Monitors / Displays	Dynamic Display Resizing	Supported
	Multiple Monitor Support	Supported
	External Monitor Support	Supported
	Display Pivot	Supported
	Multiple Aspect Ratio support	Supported
	Number of displays supported	4
	Maximum Resolution	3840x2160
	Video out	Supported
	High DPI scaling	Not supported
	DPI Sync	Supported
	Exclusive Mode	Not supported
	Multiple Monitor Selection	Supported
Input Device (Keyboard / Mouse)	Relative mouse	Supported
	External Mouse Support	Supported
	Local buffer text input box	Not supported
	Keyboard Mapping	Supported
	Unicode Keyboard Support	Not supported
	International Keyboard Support	Supported
	Input Method local/remote switching	Not supported
	IME Sync	Not supported
Clipboard Services	Clipboard Text	Supports only Blast
	Clipboard Graphics	Not supported
	Clipboard memory size configuration	Not supported
	Drag and Drop	Not supported
Client Caching	View Agent to Client-side caching	Supports only Blast
Connection Management	Blast network recovery	Supported
	IPv6 support	Supported
	PCoIP IP roaming	Supported
High-Level Device Redirection	Serial (COM) Port Redirection	Not supported
	Client Drive Redirection/File Transfer	Not supported
	Scanner (TWAIN/WIA) Redirection	Not supported
	x.509 Certificate (Smart Card)	Supported
	Gyro Sensor Redirection	Not supported
Real-Time Audio-Video	Analog in (input)	Supported
	Real-Time Audio-Video	Supported

	Client type	ThinOS
	Multiple webcams	Not supported
USB Redirection	Generic USB/HID	Supported
	Policy: ConnectUSBOnInsert	Supported
	Policy: ConnectUSBOnStartup	Supported
	Connect/Disconnect UI	Not supported
	USB device filtering (client side)	Supported
	Isochronous Device Support	Supported
	Split device support	Supported
	Bloomberg Keyboard compatibility	Not supported
	Smartphone sync	Supported
	USB 3.0	Supported
	USB Redirection USB storage devices	Supported
Unified Communications	Cisco UC Jabber	Not supported
	Avaya UC One-X Desktop	Not supported
	Mitel UCA	Not supported
	Microsoft Lync 2013	Not supported
	Skype for business	Supports only Blast
Multimedia Support	Multimedia Redirection (MMR)	Not supported
	Flash URL Redirection (Unicast/Multicast)	Not supported
	Flash Redirection	Not supported
	HTML5 Redirection	Not supported
Graphics	vDGA	Supported
	vSGA	Supported
	NVIDIA GRID VGPU	Supported
	Intel vDGA	Supported
	AMD vGPU	Supported
Mobile Support	Client-side soft keyboard	Not supported
	Client-side soft touchpad	Not supported
	Full Screen Trackpad	Not supported
	Gesture Support	Not supported
	Multi-touch Redirection	Not supported
	Presentation Mode	Not supported
	Unity Touch	Not supported
Printing	Printer Redirection	Supports only Blast
	Location Based Printing	Supports only Blast
	Native Driver Support	Not supported
	PDF Download	Not supported
Security	FIPS-140-2 Mode Support	Not supported

	Client type	ThinOS
	Imprivata Integration	Supported
	TLS 1.0	Supported
	TLS 1.1	Supported
	TLS 1.2	Supported
	Client Device Authentication	Not supported
Session Collaboration	Session Collaboration	Not supported
	Read-only Collaboration	Not supported
Update	Automatic Updates	Not supported
	App Store update	Not supported
Other	Smart Policies	Not supported
	File Type Association	Not supported
	URL content redirection	Not supported
	Remember credentials	Supported
	Access to Linux Desktop - Blast Protocol	Supported
	Audio Playback	Supported
	Seamless Window	Not supported
	Launching multiple client instances using URI	Not supported
	One-click Install of Client	Not supported
	Parameter pass-through to RDSH apps	Not supported
	Performance Tracker	Supported
	Shortcuts from server	Not supported
	Workspace ONE mode	Not supported

Supported—Both PCoIP and Blast protocols are supported.

Not supported—Both PCoIP and Blast protocols are not supported.

Amazon WorkSpaces updates

Direct connection mode support

ThinOS supports a direct connection mode that enables you to connect to the Amazon WorkSpace by using your WorkSpace registration code. To connect to Amazon WorkSpaces using the registration code, select the **Connect via registration code** check box, and enter the WorkSpace registration code.

NOTE: The WorkSpace registration code is provided to you in your welcome email after you set up Amazon WorkSpaces.

In this release, the **MFA token** option is disabled in the login window when you connect to Amazon WorkSpaces using the registration code.

If you do not select the **Connect via registration code** check box, you must enter the broker server IP to connect to WorkSpaces.

NOTE: You cannot configure the direct connection mode using the INI parameter or Wyse Management Suite.

Imprivata updates

Grace period to skip second authentication factor

Imprivata enables you to establish grace periods to skip the second authentication factor. ThinOS supports the grace period feature during subsequent logins.

You must specify a time limit for the grace period on the OneSign server. After you specify the grace period, you must first use the proximity badge, and then enter password or OneSign PIN for the initial login. During subsequent logins within the configured grace period, you are promoted only for a single factor authentication, and you can log in without the second authentication factor.

If you tap the proximity card after the time limit that you have specified for the grace period, the Grace period expired message is displayed in the second factor authentication window. If a wrong password or a PIN is entered, a warning message is displayed.

ThinOS enhancements

Disable onboard serial port

ThinOS enables you to disable the onboard serial port on the following platforms:

- Wyse 5070 Thin Client with Celeron processor
- Wyse 5070 Thin Client with Pentium processor
- Wyse 5070 Extended Thin Client with Pentium processor

To disable or enable the onboard serial port, use the INI parameter `Device=SerialDisable={yes, no}`. The default value is no. This option does not affect the USB serial devices. The value that you specify is saved into NVRAM and a system reboot is required for changes to take effect.

After the onboard port is disabled, all the port values—COM1, COM2, COM3, and COM4—are available for USB serial device mapping. You can view the ThinOS event log to know the local serial port name that is used when a USB serial device is attached to the thin client.

CA validation default value for Wyse Management Suite

CA validation is required when you import certificates into your Wyse Management Suite server. By default, the **CA Validation** check box is selected to improve the security when using the Wyse Management Suite cloud. This change affects connections to any of the following servers:

- *.dellmobilitymanager.com
- *.cloudclientmanager.com
- *.wysemanagementsuite.com

Table 35. CA Validation

Wyse Management Suite deployment	CA Validation
Private cloud	When you deploy Wyse Management Suite on a private cloud, the **Enable CA Validation** check box is available to configure after you specify the server details in the **WMS Server** field. By default, the check box is selected.
Public cloud	When you deploy Wyse Management Suite on a public cloud, the **Enable CA Validation** check box is selected by default. You cannot disable the **Enable CA Validation** option.

Rutoken smart card support

Rutoken smart card supports two-factor user authentication and enables you to store digital certificates. ThinOS supports the following Rutoken devices:

- Rutoken 2151
- Rutoken ECP 2.0 (2100)

OMNIKEY smart card reader support

ThinOS supports the OMNIKEY 5321v2 smart card reader by HID Global.

Important notes

If Cisco Jabber (JVDI) fails to register with Cisco Unified Communications Manager, add the DNS servers and DNS domains that are used by the Citrix host and the Cisco Unified Communications Manager servers to ThinOS. You can either specify the domain name and server IP on the **General** tab in **Network Setup**, or add the DNS server and the domain value to the DHCP server that provides the IP address information to the ThinOS client. For issues related to Cisco Unified Communications, contact the Cisco support at www.cisco.com.

Tested environment

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

Table 36. Tested environment - General components

Component	Version
Wyse Management Suite	1. 4 .0
Wyse Device Manager	5.7.3
Imprivata OneSign	6.2.1
Caradigm	6.3.1
NetScaler	11.1/12.0/12.1
StoreFront	3.15
Web Interface	5.4
SecureMatrix	4.1.0

Table 37. Tested environment

	Windows 7	Windows 10	Ubuntu 16	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
VMware Horizon 7.5	Tested	Tested	Tested[1]	Tested	Tested	Tested	Tested	Tested
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 7.6 and Citrix Virtual Apps 7.6	Tested	Not tested	Not tested	Not tested	Tested	Not tested	Not tested	Not tested
Citrix Virtual Apps and Desktops 7.5 and Citrix Virtual Apps 7.15	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested
Citrix Virtual Apps and Desktops 7.18 and Citrix Virtual Apps7.18	Tested	Tested	Not tested	Not tested	Tested	Tested	Not tested	Tested

	Windows 7	Windows 10	Ubuntu 16	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
Tera PCM for Amazon Web Services (AWS) 1.03	Tested*	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Tera Cloud Access	Tested*	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Remote Desktop Services (RDS)	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested

*AWS Workspace VM Operating System **Windows 7 style** is based on 2008 R2 RDSH.

[1]Only supports desktop connectivity to the Ubuntu desktop; USB redirection or other Multimedia optimization techniques are currently not supported.

Table 38. Tested environment - Citrix Virtual Apps and Desktops

Citrix Virtual Apps and Desktops/ Citrix Virtual Apps	Operating System	RTME	Lync client	Skype for Business (SFB) server
7.15	Windows 7	2.8	Skype For Business 2016	Skype For Business 2015
	Windows 10	2.8	Skype For Business 2016	Skype For Business 2015
	Windows 2016	2.8	Skype For Business 2016	Skype For Business 2015
7.18	Windows 7	2.8	Skype For Business 2016	Skype For Business 2015
	Windows 10	2.8	Skype For Business 2016	Skype For Business 2015
	Windows 2016	2.8	Skype For Business 2016	Skype For Business 2015

Fixed issues

Table 39. Fixed issues

Issue number	Summary
THINOS-1808	Resolved an issue where Wyse 5040 Thin Clients with PCoIP display an incorrect BIOS file in the **System Information** window.
THINOS-1786/ THINOS-1753	Resolved an issue where ThinOS cannot connect to an RDS Gateway after applying the latest NTLM security patch.
THINOS-1710	Resolved an issue where changing display settings results in the ICA session login failure.
THINOS-1672	Resolved an issue where the event log in the **System Information** window does not show information related to displays attached to the thin client.
THINOS-1648	Resolved an issue where Wyse 5070 Thin Clients with an internal smart card reader cannot detect PIV cards.
THINOS-1635/ THINOS-1207	Resolved an issue that results in a trap event.
THINOS-1620	Resolved an issue where the cursor disappears when you use an RDP to connect to Server 2016 from a Citrix desktop session.
THINOS-1612	Resolved an issue where Excel does not render properly on a Windows 7 virtual machine.
THINOS-1587	Resolved an issue where the cursor may be not available in a Citrix desktop session.

Issue number	Summary
THINOS-1583	Resolved an issue where the USB device splitting feature on Nuance PowerMic II (allowing RTAV to be used for audio and USB redirection for HID button controls) does not work properly.
THINOS-1575	Resolved an issue where scanning a smart card with an HID-compliant RFID reader results in system failure.
THINOS-1541	Resolved an issue where ThinOS fails to authenticate with Citrix NetScaler 11.1.57.3 when you use the RSA two-factor authentication.
THINOS-1463	Resolved an issue where the `No More Active Sessions` message is displayed when you launch a published application from Citrix StoreFront.
THINOS-1431	Resolved an issue where the fiber network module defaults to ENET01 on the Wyse 5070 Thin Client and the 802.1x parameters cannot be assigned.
THINOS-1406	Resolved an issue where the system response is slow when you move an application window in a Citrix session.
THINOS-1392	Resolved an issue where multiple login screens may be displayed.
THINOS-1377	Resolved an issue with the `SelectServerList` parameter where the default desktop fails when you define two desktops from the same server.
THINOS-1327	Resolved an issue where you can access the locked session when you change the thin client display settings locally.
THINOS-1284	Resolved an issue where the display order is changed after you upgrade the ThinOS firmware to 8.6_013.
THINOS-1264	Resolved an issue where the administrator cannot export screenshots using the HTTPS file server.
THINOS-1195	Resolved an issue where a wireless policy with a hidden SSID cannot automatically connect after the access point reboot.
THINOS-1193	Resolved an issue with audio quality. This issue is observed when an audio file is played for more than 30 seconds.
THINOS-1192	Resolved an issue where the thin client may not boot to the ThinOS desktop when you do not connect a display to the device.
THINOS-1174/ THINOS-1110	Resolved an issue where the device locks the Active Directory user account after two failed attempts.
THINOS-1172	Resolved an issue where the direct RDP connection policies create duplicate connections on the ThinOS desktop.
THINOS-1051	Resolved an issue where the wireless connection is disconnected when you use Cisco 2800/3800 access points.
THINOS-1017	Resolved an issue where the VDI session stops responding.
THINOS-928	Resolved an issue where the connection to Wyse Management Suite fails.
THINOS-924	Resolved an issue where the administrator cannot export INI settings using the HTTPS file server.
THINOS-916	Resolved the issue where the system takes a long time to boot. This issue occurs when the file server is not defined.
THINOS-892	Resolved an issue where the video does not play smoothly when the Citrix RAVE is enabled.
THINOS-836	Resolved an intermittent issue where the inserted CAC smart card is not detected and the `Insert a smart card` message is displayed instead of a pin entry box in a VDI session.
THINOS-810	Resolved a display artifact issue that is observed when you start a Citrix session.
THINOS-775	Resolved an issue where black boxes are displayed on the local ThinOS desktop when you use the help menu of the published Word applications in Citrix Virtual Apps.
THINOS-760	Resolved an issue where the audio is distorted in a Blast session.
THINOS-1813	Resolved an issue where the warning message is not displayed when you change the BIOS settings.

INI parameters

The following table provides the list of newly added INI parameter in this release:

NOTE: Every INI option is associated with a corresponding INI parameter. Use these INI options along with the corresponding INI parameter.

Table 40. INI parameters

INI parameters	Description*
`Device=Screen` `[SupportBigMonitor={yes, no}]`	The **SupportBigMonitor** parameter enables you to connect displays with screen resolution up to 3440 x 1440. This parameter is applicable only to the Wyse 3040 Thin Client.
`SessionConfig=Blast` `[EnableRelativeMouse={yes, no}]`	The **EnableRelativeMouse** parameter enables or disables the relative mouse feature in a Blast session. The default value is **no**.

*For detailed descriptions, see the *Dell Wyse ThinOS Version 8.6 INI Reference Guide* at www.dell.com/manuals.

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ThinOS 8.6_024 and ThinOS Lite 2.6_024

Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. Patch or add-on 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 8.6_024

ThinOS Lite 2.6_024

Release date

June 2019

Priority and recommendations

Recommended: Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will help keep your system software current and compatible with other system modules (firmware, BIOS, drivers and software).

Compatibility

Supported platforms

Table 41. Supported platforms

Platform	Image file name	BIOS file name	BIOS version
Wyse 3010 thin client with ThinOS (T10)	DOVE_boot	N/A	N/A
Wyse 3010 zero client for Citrix	T00_xen.bin	N/A	N/A
Wyse 3020 thin client with ThinOS (T10D)	T10D_wnos	N/A	N/A
Wyse 3020 zero client for Citrix	T00D_xen	N/A	N/A
Wyse 3030 LT thin client with ThinOS	U10_wnos	U10_bios.bin	1.0G
Wyse 3030 LT thin client with PCoIP	PU10_wnos	PU10_bios.bin	1.0G
Wyse 3040 thin client with ThinOS	A10Q_wnos	A10Q_bios.bin	1.2.5
Wyse 3040 thin client with PCoIP	PA10Q_wnos	A10Q_bios.bin	1.2.5
Wyse 5010 thin client with ThinOS (D10D)	ZD10_wnos	D10G_bios.bin	3.0U

Platform	Image file name	BIOS file name	BIOS version
Wyse 5010 thin client with PCoIP (D10DP)	PD10_wnos	PD10G_bios.bin	3.0U
Wyse 5010 zero client for Citrix	ZD00_xen	D10G_bios.bin	3.0U
Wyse 5040 AIO thin client (5212)	ZD10_wnos	AIO10G_bios.bin	3.0U
Wyse 5040 AIO thin client with PCoIP (5213)	PD10_wnos	PAIO10G_bios.bin	3.0U
Wyse 5060 thin client with ThinOS	D10Q_wnos	D10Q_bios.bin	1.0J
Wyse 5060 thin client with PCoIP	PD10Q_wnos	PD10Q_bios.bin	1.0J
Wyse 5070 thin client with ThinOS	X10_wnos	X10_bios.bin	1.1.4
Wyse 5070 thin client with PCoIP	PX10_wnos	X10_bios.bin	1.1.4
Wyse 7010 thin client with ThinOS (Z10D)	ZD10_wnos	Z10G_bios.bin	3.0U

Previous versions

ThinOS 8.6_019

ThinOS Lite 2.6_019

Packages

Table 42. Packages supported

Packages	FR	Horizon	RTME	TCX	JVDI
Version	1.26.53224	5.0.53374	2.7.52738	7.1.41853	12.1.52977
Wyse 3010 Thin Client with ThinOS (T10)	Not supported				
Wyse 3010 Zero Client for Citrix	Not supported				
Wyse 3020 Thin Client with ThinOS (T10D)	Not supported				
Wyse 3020 Zero Client for Citrix	Not supported				
Wyse 3030 LT Thin Client with ThinOS	Supported	Supported	Supported	Supported	Not supported
Wyse 3030 LT Thin Client with PCoIP	Supported	Supported	Supported	Supported	Not supported
Wyse 3040 Thin Client with ThinOS	Supported	Supported	Supported	Supported	Supported
Wyse 3040 Thin Client with PCoIP	Supported	Supported	Supported	Supported	Supported
Wyse 5010 Thin Client with ThinOS (D10D)	Supported	Supported	Supported	Supported	Not supported
Wyse 5010 Thin Client with PCoIP (D10DP)	Supported	Supported	Supported	Supported	Not supported
Wyse 5010 Zero Client for Citrix	Supported	Supported	Supported	Supported	Not supported
Wyse 5040 AIO Thin Client (5212)	Supported	Supported	Supported	Supported	Not supported
Wyse 5040 AIO Thin Client with PCoIP (5213)	Supported	Supported	Supported	Supported	Not supported

Packages	FR	Horizon	RTME	TCX	JVDI
Wyse 5060 Thin Client with ThinOS	Supported	Supported	Supported	Supported	Supported
Wyse 5060 Thin Client with PCoIP	Supported	Supported	Supported	Supported	Supported
Wyse 5070 Thin Client with ThinOS	Supported	Supported	Supported	Supported	Supported
Wyse 5070 Thin Client with PCoIP	Supported	Supported	Supported	Supported	Supported
Wyse 7010 Thin Client with ThinOS (Z10D)	Supported	Supported	Supported	Supported	Not supported

New and enhanced features

Updates to ThinOS packages

- Updated the VMware Horizon package to version 5.0.53374.
- Updated the Flash Redirection package to version 1.26.53224.

VMware Client updates

- Updated the VMware Horizon package version from 4.8 to 5.0.

  If you are upgrading your thin client to ThinOS version 8.6_024, ensure that the Horizon server or agent version is updated to 7.5 or later to support the latest Horizon Client version 5.0.
- Supports the relative mouse feature in a PCoIP session.

  When you enable the relative mouse feature, Horizon Client uses absolute coordinates to transmit data about the mouse pointer movements and improves the mouse performance. To enable the relative mouse feature on a classic desktop, right-click the remote desktop icon on the ThinOS taskbar, and click **Enable Relative Mouse**. To enable the relative mouse feature on a zero desktop, go to the ThinOS connection menu, and click the **A** icon that is displayed after the PCoIP session name.

  The relative mouse feature is applicable only for the following PCoIP-enabled thin clients:

  - Wyse 3030 LT thin client
  - Wyse 3040 thin client
  - Wyse 5010 thin client
  - Wyse 5040 AIO thin client
  - Wyse 5060 thin client
  - Wyse 5070 thin client
- Supports the High Color Accuracy feature in a Blast session with H.264 enabled. H.264 is disabled by default from this release. You can enable H.264 using GUI or INI parameters.

  The High Color Accuracy option enables Horizon Client to use a superior color fidelity when H.264 decoding is enabled. To enable the High Color Accuracy feature, go to Global Connection Settings, click the **Horizon** tab, and select the **High Color Accuracy** check box.

  The High Color Accuracy option is available on the following platforms:

  - Wyse 3030 LT thin client
  - Wyse 3040 thin client
  - Wyse 5060 thin client
  - Wyse 5070 thin client

  You can also use the INI parameter `SessionConfig=BLAST RemoteDisplay.allowClientH264YUV444=TRUE/FALSE` to enable the High Color Accuracy feature.
- Supports the **Username Hint** option during smart card authentication for the Horizon View broker.

  You can enable users to specify the account to be used in the **Username Hint** field when you log in to a Horizon View session using a smart card. To enable the **Username Hint** option, go to the View Administrator Admin console, and select the **Allow smart card user hints** check box when editing the View Server Connection settings. Enabling this option allows you to use a single smart card certificate to authenticate to multiple user accounts.

- Enhanced the reconnect workflow for VMware Horizon View broker using the INI parameter `VMWaitTimer={0-3600}`.

  The option `VMWaitTimer` specifies the time remaining in seconds for reconnecting to a Horizon desktop before exiting the desktop. When the connection fails while connecting to a Horizon desktop, a message `Horizon Error- Waiting to recover` is displayed along with the countdown timer.

VMware Horizon Client feature matrix

Table 43. VMware Horizon Client feature matrix

	Client type	ThinOS
Client Appearance and Workflow	Customer branding	Not supported
	Kiosk mode	Supported
	In-product help	Not supported
	Online help	Not supported
	English localization	Supported
	French localization	Supported
	German localization	Supported
	Japanese localization	Supported
	Traditional Chinese localization	Supported
	Simplified Chinese localization	Supported
	Korean localization	Not supported
	Spanish localization	Not supported
Broker Connectivity	XML-API version	13
	SSL	Supported
	SSL certificate verification	Supported
	Disclaimer dialog	Supported
	Security Server compatibility	Supported
	UAG compatibility	Supported
	Multi-broker/Multi-site redirection - DaaS	Not supported
	Client info	Supported
	Phonehome	Not supported
Broker Authentication	Password authentication	Supported
	Password change	Supported
	RSA authentication	Supported
	Radius	Supported
	Integrated RSA SecurID token generator	Not supported
	Single Sign On	Supported
	Log in as current user	Not supported
	Nested log in as current user	Not supported
	Biometric authentication	Not supported
	Unauthentication access	Supported
Smart card	x.509 certificate authentication (Smart Card)	Supported

	Client type	ThinOS
	CAC support	Supported
	.Net support	Supported
	PIV support	Not supported
	Java support	Not supported
	Purebred derived credentials	Not supported
Desktop Operations	Reset	Supported
	Restart	Not supported
	Log off	Supported
Session Management (Blast Extreme and PCoIP)	Switch desktops	Supported
	Multiple Connections	Supported
	App Launch on Multiple end points	Supported
	Auto-Retry	Supported
	Auto-Retry 5+ minutes	Supported
	Fullscreen mode	Supported
	Fullscreen toolbar	Not supported
	Windowed mode	Supported
	Time Zone Synchronization	Supported
	Jumplist integration (Windows 7-Windows 10)	Not supported
Client Customization	Command Line Options	Not supported
	URI Schema	Not supported
	Preference File	Supports only Blast
	Non Interactive Mode	Not supported
	GPO-based customization	Not supported
Protocols supported	Blast Extreme	Supported
	H.264 - HW decode	Supported
	H.265 - HW decode	Not supported
	JPEG/PNG	Supported
	Blast Extreme Adaptive Transportation	Supported
	RDP 6.x	Supported
	RDP 7.x	Supported
	RDP 8.x, 10.x	Supported
	PCoIP	Supported
Protocol Enhancements Protocol Enhancements	RDP-VC Bridge	Supports only Blast
	Session Enhancement SDK	Not supported
Features / Extensions Monitors / Displays	Dynamic Display Resizing	Supported
	Multiple Monitor Support	Supported
	External Monitor Support	Supported

	Client type	ThinOS
	Display Pivot	Supported
	Multiple Aspect Ratio support	Supported
	Number of displays supported	4
	Maximum Resolution	3840x2160
	Video out	Supported
	High DPI scaling	Not supported
	DPI Sync	Supported
	Exclusive Mode	Not supported
	Multiple Monitor Selection	Supported
Input Device (Keyboard / Mouse)	Relative mouse	Supports only PCoIP
	External Mouse Support	Supported
	Local buffer text input box	Not supported
	Keyboard Mapping	Supported
	Unicode Keyboard Support	Not supported
	International Keyboard Support	Supported
	Input Method local/remote switching	Not supported
	IME Sync	Not supported
Clipboard Services	Clipboard Text	Not supported
	Clipboard Graphics	Not supported
	Clipboard memory size configuration	Not supported
	Drag and Drop	Not supported
Client Caching	View Agent to Client-side caching	Supports only Blast
Connection Management	Blast network recovery	Supported
	IPv6 support	Supported
	PCoIP IP roaming	Supported
High-Level Device Redirection	Serial (COM) Port Redirection	Not supported
	Client Drive Redirection/File Transfer	Not supported
	Scanner (TWAIN/WIA) Redirection	Not supported
	x.509 Certificate (Smart Card)	Supported
	Gyro Sensor Redirection	Not supported
Real-Time Audio-Video	Analog in (input)	Supported
	Real-Time Audio-Video	Supported
	Multiple webcams	Not supported
USB Redirection	Generic USB/HID	Supported
	Policy: ConnectUSBOnInsert	Supported
	Policy: ConnectUSBOnStartup	Supported
	Connect/Disconnect UI	Not supported
	USB device filtering (client side)	Supported

	Client type	ThinOS
	Isochronous Device Support	Supported
	Split device support	Supported
	Bloomberg Keyboard compatibility	Not supported
	Smartphone sync	Supported
	USB 3.0	Supported
	USB Redirection USB storage devices	Supported
Unified Communications	Cisco UC Jabber	Not supported
	Avaya UC One-X Desktop	Not supported
	Mitel UCA	Not supported
	Microsoft Lync 2013	Not supported
	Skype for business	Supports only Blast
Multimedia Support	Multimedia Redirection (MMR)	Not supported
	Flash URL Redirection (Unicast/Multicast)	Not supported
	Flash Redirection	Not supported
	HTML5 Redirection	Not supported
Graphics	vDGA	Supported
	vSGA	Supported
	NVIDIA GRID VGPU	Supported
	Intel vDGA	Supported
	AMD vGPU	Supported
Mobile Support	Client-side soft keyboard	Not supported
	Client-side soft touchpad	Not supported
	Full Screen Trackpad	Not supported
	Gesture Support	Not supported
	Multi-touch Redirection	Not supported
	Presentation Mode	Not supported
	Unity Touch	Not supported
Printing	Printer Redirection	Supports only Blast
	Location Based Printing	Supports only Blast
	Native Driver Support	Not supported
	PDF Download	Not supported
Security	FIPS-140-2 Mode Support	Not supported
	Imprivata Integration	Supported
	TLS 1.0	Supported
	TLS 1.1	Supported
	TLS 1.2	Supported
	Client Device Authentication	Not supported
Session Collaboration	Session Collaboration	Not supported

	Client type	ThinOS
	Read-only Collaboration	Not supported
Update	Automatic Updates	Not supported
	App Store update	Not supported
Other	Smart Policies	Not supported
	File Type Association	Not supported
	URL content redirection	Not supported
	Remember credentials	Supported
	Access to Linux Desktop - Blast Protocol	Supported
	Audio Playback	Supported
	Seamless Window	Not supported
	Launching multiple client instances using URI	Not supported
	One-click Install of Client	Not supported
	Parameter pass-through to RDSH apps	Not supported
	Performance Tracker	Supported
	Shortcuts from server	Not supported
	Workspace ONE mode	Not supported

Supported—Both PCoIP and Blast protocols are supported.

Not supported—Both PCoIP and Blast protocols are not supported.

Teradici updates

Supports the Teradici Cloud Access connection broker. Teradici technology enables you to securely access the remote applications using Teradici Cloud Access. You can manage and optimize your PCoIP-enabled clients. You can configure the Teradici Cloud Access broker setup from the **Remote Connections** dialog box.

Imprivata updates

Added support to treat smart card authentications as proximity card authentications.

You can use a smart card as proximity card and authenticate the user. When you insert the smart card into the smart card reader, the Imprivata agent uses the smart card unique serial number as the Unique ID (UID) of the proximity card. To use a smart card as proximity card, go to **Policies** > **Computer Policy** on the OneSign Administrator console and select the **Treat smart card authentications as proximity card authentications** check box.

UI enhancements

- UI enhancement to capture logs of the application console. To enable the client to log error messages of an application console, select the **Enable Application Console Log** check box in the Troubleshooting window. All logs are saved to the **trouble_shoot** folder with the name `TerminalName_proc_name_date_time.log`.
- UI enhancement to select DisplayPorts for DP audio. In the **Audio** tab, you can click either **Port 1** or **Port 2** to select your DisplayPort preference.
- UI enhancement to display Frames Per Second (FPS) in the **Performance Monitor** window. You can use the **Performance Monitor** option to display the CPU usage history with Frames Per Second (FPS), memory usage, and networking information.
- Supports customizing the text color in the lock window using the INI parameter `SignonStatusColor="rrr ggg bbb"`. The option specifies the sign-on status and the unlocking status text color respectively in the RGB string format. The decimal numbers rrr, ggg, and bbb are in the range of 0—255. By default, the status text color is light red ("255 60 60") for ThinOS lite and gray for ThinOS.

- Supports creating a VDI connection by a low-privileged user using the INI parameter `EnableNewConnection={yes,no}`. If the `PRIVILEGE` parameter is set to **Low** and the `EnableNewConnection` parameter is set to **yes**, an option to create a connection is enabled in the Connect Manager window on the classic desktop. On the zero desktop, the **Add Connection** button is added.
- Supports a new system variable—$UMAC—for MAC address in the uppercase format.

NOTE:

- **For more information about the ThinOS features, see the latest *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/manuals.**
- **For more information about the newly added parameters, see the latest *Dell Wyse ThinOS Version 8.6 INI Reference Guide* at www.dell.com/manuals.**

Important notes

Tested environment

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

Table 44. Tested environment - General components

Component	Version
Wyse Management Suite	1. 4 .0
Wyse Device Manager	5.7.3
Imprivata OneSign	5.5
Caradigm	6.3.1
NetScaler	11.1/12.0/12.1
StoreFront	3.15
Web Interface	5.4
SecureMatrix	4.1.0

Table 45. Test environment

	Windows 7	Windows 10	Ubuntu 16	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
VMware Horizon 7.5	Tested	Tested	Tested[1]	Tested	Tested	Tested	Tested	Tested
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 7.6 and Citrix Virtual Apps 7.6	Tested	Not tested	Not tested	Not tested	Tested	Not tested	Not tested	Not tested
Citrix Virtual Apps and Desktops 7.5 and Citrix Virtual Apps 7.15	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested

	Windows 7	Windows 10	Ubuntu 16	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Windows Server 2019	APPs
Citrix Virtual Apps and Desktops 7.18 and Citrix Virtual Apps7.18	Tested	Tested	Not tested	Not tested	Tested	Tested	Not tested	Tested
Tera PCM for Amazon Web Services (AWS) 1.03	Tested*	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Tera Cloud Access	Tested*	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested
Amazon Web Services (AWS)	Tested	Tested	Not tested	Tested	Tested	Tested	Not tested	Tested

*AWS Workspace VM Operating System **Windows 7 style** is based on 2008 R2 RDSH.

[1]Only supports desktop connectivity to the Ubuntu desktop; USB redirection or other Multimedia optimization techniques are currently not supported.

Table 46. Tested environment - Citrix Virtual Apps and Desktops

Citrix Virtual Apps and Desktops/ Citrix Virtual Apps	Operating System	RTME	Lync client	Skype for Business (SFB) server
7.15	Windows 7	2.7	Skype For Business 2016	Skype For Business 2015
	Windows 10	2.7	Skype For Business 2016	Skype For Business 2015
	Windows 2016	2.7	Skype For Business 2016	Skype For Business 2015
7.18	Windows 7	2.7	Skype For Business 2016	Skype For Business 2015
	Windows 10	2.7	Skype For Business 2016	Skype For Business 2015
	Windows 2016	2.7	Skype For Business 2016	Skype For Business 2015

Fixed issues

Table 47. Fixed issues

Issue number	Summary
THINOS-852	Resolved the issue where the mouse scrolling doubles when using Blast protocol.
THINOS-756	Resolved the issue with the display quality.
THINOS-779	Resolved the Intel wireless issue that results to the occasional session reconnect.
THINOS-781	Resolved the occasional issue that occurs with the audio output when switching between USB audio playback devices.
THINOS-792	Resolved the issue where the mouse cursor disappears when using a VMware PCoIP session.
THINOS-838	Resolved the issue where the Oberthur ID-One PIV v8 cards does not function with certain smart card readers.
THINOS-875, TIR 98995	Resolved the issue where the main display changes from first display to the second after an image update.
THINOS-932	Resolved the issue where the session focus is not correctly after Imprivata login.

Issue number	Summary
THINOS-999	Resolved the issue that occasionally causes `reconnect=yes` command to fail after a network outage.
THINOS-1031	Reduced DisplayPort audio delays.
THINOS-1032, TIR 99052	Resolved the issue where the mouse cursor is displayed in black and white after hardware cursor is enabled in Blast session.
THINOS-1171	Resolved the issue where the mouse pointer disappears when using PCoIP.
THINOS-1004, THINOS-1127	Resolved the USB device reporting issues when attaching or removing USB devices by improving the reliability.
THINOS-931	Resolved the issue where the system does not wake up from sleep mode after locking it.
THINOS-1390	Resolved the issue that prevents ThinOS to boot when a monitor is not connected.
THINOS-1053	Resolved the issue where pink blotches or blurred text is observed in VM Blast sessions.
THINOS-1240	Improved the quality of Citrix HDX microphone audio.
THINOS-1308	Improved the reliability when using a Belkin Omni F1DN104D KVM.
THINOS-1367	Resolved the issue where the audio could not be played on the internal speaker when multiple devices are attached to the client.
THINOS-1464	Resolved the issue where, enabling wireless twice occasionally causes the firmware to stop responding.
THINOS-1241	Resolved the issue that occurs when using the NEC 27WMi4 monitor.

INI parameters

The following table provides the list of newly added INI parameter in this release:

NOTE: Every INI option is associated with a corresponding INI parameter. Use these INI options along with the corresponding INI parameter.

Table 48. INI parameters

INI parameters	Description*
`[VMWaitTimer={0-3600}]`	The parameter specifies the time remaining in seconds for reconnecting to a Horizon desktop before exiting the desktop. When the connection fails while connecting to a Horizon desktop, a message `Horizon Error- Waiting to recover` is displayed along with the countdown timer. The range is 0–3600. After the count down reaches 0, the connection is canceled and you can exit to the ThinOS desktop.
`[RemoteDisplay.allowClientH264YUV444={True,false}]`	The parameter allows you to enable or disable the High Color Accuracy feature in a Blast session with H.264 enabled.
`[EnableNewConnection={yes, no}]`	The parameter enables you to create a connection for a low-privileged user. When you set the `PRIVILEGE` parameter to **Low** and the `EnableNewConnection` parameter to **yes**, an option to create a connection is enabled in the Connect Manager window. In zero mode, the **Add Connection** button is added along with connection properties.

INI parameters	Description*
`SignonStatusColor="rrr ggg bbb"`	The parameter specifies the sign-on status and the unlocking status text color respectively in the RGB string format. The decimal numbers rrr, ggg, and bbb are in the range of 0—255. By default, the status text color is light red ("255 60 60") for ThinOS lite and gray for ThinOS.

*For detailed descriptions, see the *Dell Wyse ThinOS Version 8.6 INI Reference Guide* at www.dell.com/manuals.

9

ThinOS 8.6_019 and ThinOS Lite 2.6_019

Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. Patch or add-on 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 8.6_019 and ThinOS Lite 2.6_019

Release date

April 2019

Priority and recommendations

Recommended: Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will help keep your system software current and compatible with other system modules (firmware, BIOS, drivers and software).

Compatibility

Supported platforms

Table 49. Supported platforms

Platform name	Image file name	BIOS file name
Wyse 3010 thin client with ThinOS (T10)	DOVE_boot	Not applicable
Wyse 3010 zero client for Citrix	T00_xen.bin	Not applicable
Wyse 3020 thin client with ThinOS (T10D)	T10D_wnos	T10D_bios.bin
Wyse 3020 zero client for Citrix	T00D_xen	T10D_bios.bin
Wyse 3030 LT thin client with ThinOS	U10_wnos	U10_bios.bin
Wyse 3030 LT thin client with PCoIP	PU10_wnos	PU10_bios.bin
Wyse 3040 thin client with ThinOS	A10Q_wnos	A10Q_bios.bin
Wyse 3040 thin client with PCoIP	PA10Q_wnos	A10Q_bios.bin
Wyse 5010 thin client with ThinOS (D10D)	ZD10_wnos	D10G_bios.bin
Wyse 5010 thin client with PCoIP (D10DP)	PD10_wnos	PD10G_bios.bin
Wyse 5010 zero client for Citrix	ZD00_xen	ZD00_bios.bin
Wyse 5040 AIO thin client (5212)	ZD10_wnos	AIO10G_bios.bin
Wyse 5040 AIO thin client with PCoIP (5213)	PD10_wnos	PAIO10G_bios.bin

Platform name	Image file name	BIOS file name
Wyse 5060 thin client with ThinOS	D10Q_wnos	D10Q_bios.bin
Wyse 5060 thin client with PCoIP	PD10Q_wnos	PD10Q_bios.bin
Wyse 5070 thin client with ThinOS	X10_wnos	X10_bios.bin
Wyse 5070 thin client with PCoIP	PX10_wnos	X10_bios.bin
Wyse 7010 thin client with ThinOS (Z10D)	ZD10_wnos	Z10G_bios.bin

Packages

Table 50. Packages

Package name	Version
FR	1.24.51190
Horizon	4.8.51817
RTME	2.7.52738
TCX	7.1.41853
JVDI	12.1.52977

Previous versions

- ThinOS 8.6_015 for Wyse 5040 AIO thin client and Wyse 5040 AIO thin client with PCoIP.
- ThinOS 8.6_013 for all ThinOS-based platforms except Wyse 5040 AIO thin client and Wyse 5040 AIO thin client with PCoIP.
- ThinOS 2.6_013 for all ThinOS Lite-based platforms.

New and enhanced features

Updates to ThinOS packages

- Cisco Jabber Softphone for VDI (JVDI) package is updated to version 12.1.52977.

  NOTE: The JVDI package is applicable to Wyse 3040 thin clients, Wyse 5060 thin clients, and Wyse 5070 thin clients.
- VMware Horizon package is updated to version 4.8.51817.
- Citrix RealTime Media Engine (RTME) package is updated to version 2.7.52738 to support the RTME agent 2.7.

Sleep mode in ThinOS

The sleep mode enables the power-saving state and the thin client quickly resumes full power operations without loss of data.

- The sleep mode feature is supported on the following platforms:
  - Wyse 5040 AIO thin client with ThinOS (5212)
  - Wyse 5040 AIO thin client with PCoIP (5213)
- The following are the UI enhancements in ThinOS to support the sleep mode feature:
  - The sleep mode option is added in the ThinOS lock window and the shutdown dialog box.
  - The sleep timer is added in the System Preferences dialog box.
- The following windows are not closed in sleep mode:
  - Performance Monitor
  - Troubleshooting
  - System Information
  - System Tools

- VPN Manager
- Central Configuration
- System Preferences
- Display
- Printer Set Up
- Remote Connections
- Network Set Up

NOTE: Peripherals windows are closed in sleep mode to reinitialize any peripheral devices after resuming from sleep mode.

- ThinOS VDI broker and sessions log off due to security concern. You must log in to the broker sessions after resuming from sleep mode.
- To enable the thin client to automatically enter sleep mode, set the Turn Off Screen as screen saver. The device automatically enters sleep mode when ThinOS is idle for 20 minutes. This is the default value. You can set the idle time in the **System Preferences** dialog box. Sleep mode timer starts after screen is turned off by screen saver.
- To manually enter sleep mode, open the ThinOS shut down menu, select the Sleep option and click OK.
- To resume from ThinOS sleep mode, do any of the following:
  - Press the power button.
  - Click the USB mouse.
  - Press any key on the USB keyboard.
  - Use the Wake on LAN feature to wake up from sleep mode.

Miscellaneous

- Added support for VMware Blast virtual channel on Imprivata Biometrics and Proximity devices.
- Added support for NetID.
- Added support for the OMNIKEY 5422 card reader.
- Added support for User Datagram Protocol (UDP) through TS Gateway connections.
- Added support to disable DES, 3DES or both the cipher suites for TLS clients.

Important notes

Tested environment

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

Table 51. Tested environment - General components

Component	Version
Wyse Management Suite	1.3.0
Wyse Device Manager	5.7.3
Imprivata OneSign	5.5
Caradigm	6.3.1
NetScaler	11.1/12.0
StoreFront	3.12
Web Interface	5.4
SecureMatrix	4.1.0

Table 52. Tested environment - VDI components

	Windows 7	Windows 10	Linux	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	APPs
VMware Horizon 7.5	Tested	Tested	Tested	Tested	Tested	Tested	Tested
Citrix Virtual Apps and Desktops 5.6	Tested	Not tested					
Citrix Virtual Apps 6.5	Not tested			Tested	Not tested		Tested
Citrix Virtual Apps and Desktops 7.15 Citrix Virtual Apps 7.15	Tested	Tested	Not tested	Tested	Tested	Tested	Tested
Tera PCM for Amazon Web Services (AWS) 1.03	Tested*	Not tested					
Microsoft RDS 2012 R2 and 2016	Tested	Tested	Not tested		Tested	Tested	Tested

*AWS Workspace VM Operating System **Windows 7 style** is based on 2008 R2 RDSH.

Table 53. Tested environment - Citrix Virtual Apps and Desktops

Citrix Virtual Apps and Desktops/ Citrix Virtual Apps	Operating System	RTME	Lync client	Skype for Business (SFB) server
7.15	Windows 7	2.7	Skype For Business 2016	Skype For Business 2015
	Windows 8.1	2.7	Skype For Business2016	Skype For Business 2015
	Windows 10	2.7	Skype For Business 2016	Skype For Business 2015
	Windows 2016	2.7	Skype For Business 2016	Skype For Business 2015

Fixed issues

Table 54. Fixed issues

Defect ID	Description
TIR95878/ THINOXSUS-36	Resolved an issue where the UDP transport does not function with Terminal Server Gateway.
TIR97782/ THINOXSUS-38	Resolved an issue where the last modified date file attribution is not displayed correctly when you use a USB Mass Storage device.
TIR98754/ THINOXSUS-17	Resolved an issue where the Shift + ALT + F2 key combinations do not work in a Citrix session.
TIR96801	Resolved a Wyse Device Manage check-in issue that resulted in prolonged delays during booting process.
TIR98503	Improved the RDP performance on Wyse 5070 thin clients.
TIR96984	Resolved an issue where the **turn off display** timer settings for power management in a Horizon PCoIP Virtual Machine do not take effect.
TIR97261	Improved the stability of PCoIP.
TIR97559/ THINOS-800	Upgraded SMB version 1 printer support to SMB version 2.
TIR97720/ THINOXSUS-12	Improved the stability of ELO IntelliTouch display **ET2201L**.
TIR97750	Improved audio delays observed in previous builds.

Defect ID	Description
TIR97890/ THINOXSUS-13	Resolved an issue where the **Incorrect Password** error that is displayed when you use the user.ini configuration files with a language parameter other than US defined.
TIR97803	Improved wireless roaming on Wyse 3040 thin client.
TIR98114	Resolved a smart card issue where Admin CAC cards do not prompt for pin when inserted.
TIR98275	Added a new $CMAC ThinOS system variable for use with Cisco ISE 802.1x Policy Engine.
TIR98273	Enhanced the `DelCertificate` parameter to support wildcard support.
TIR98445/ THINOXSUS-34	Resolved an issue where the smart card login fails when TLS is forced to use v1.1 or v1.2.
TIR98195	Resolved an ET2201L monitor issue where the Touchscreen tab in the user interface is not available to configure.
TIR98298	Improved the stability of Lock Terminal.
TIR98197	Resolved a server certificate check failure that is observed when multiple common names are defined in the certificate.
TIR98303	Resolved an RDP Gateway connection issue that is observed when defining a custom port.
TIR98961/ THINOXSUS-66	Resolved an issue where connection descriptions are incorrect when you use Japanese fonts.
TIR98742/ THINOXSUS-22	Resolved an RDP connection issue that is observed when you use a wireless connection and an FQDN hostname.
TIR98414	Improved the performance of the Imprivata application HA event.
TIR98464	Added the ability to prompt for credentials when you attempt to connect to VPN.
TIR98719/ THINOXSUS-30	Added the ability for ThinOS to connect to a Horizon View Direct Connection Plugin using a Windows XP Virtual Machine.
TIR98491	Resolved an issue where the **CMOS: Failed To Set Admin Password** message is displayed in the ThinOS event log for successful BIOS password changes.
TIR98539	Resolved an issue where the desktop autolaunch feature does not function when you use the `OnDesktop=desktops` parameter.
TIR98537	Including the `OnDesktop` parameter to work in Zero Desktop or VDI mode.
TIR98517	Resolved a NetScaler connection issue pertaining to Content-Length.
TIR98658/ THINOXSUS-11	Resolved an issue where a blank display is observed when you switch between the IOGEAR KVM display ports.
TIR98878/ THINOXSUS-42	Resolved an ALT-GR issue where the French keyboard language does not display the **@** character for CTRL +ALT+0.
TIR98686/ THINOXSUS-5	Resolved a Blast protocol stability issue when using the M*Modal Fluency device.
TIR98703	Improved PCoIP stability when using the redirected USB camera devices.
TIR98962	Improved the OpenConnect VPN workflow to search for INI file updates after a VPN connection is established. Ability to display VPN connection failure messages is also improved.
TIR98907	Improved the stability of ThinOS.
TIR98894/ THINOXSUS-45	Resolved an Imprivata agent issue where the grave key does not function.
TIR98949/ THINOXSUS-61	Improved the stability of RDP smart card.
TIR98953	Resolved a PowerMic USB redirection stability issue that resulted in device reset error messages in the event log (VUSB: device_reset error -19).

Defect ID	Description
TIR99018/ THINOXSUS-52	Resolved an issue where a failed sign-on attempt is passed twice to Active Directory during sign-on.
TIR98993/ THINOXSUS-50	Improved client stability when using displays with 2K resolution.
TIR99003	Added support for connecting to Citrix Workspaces using the Citrix receiver and not using Workspaces App (CWA).
TIR98995/ THINOXSUS-58	Resolved an issue where the main screen changes from display 1 to display 2 when using a dual display-setup on Wyse 5040 AIO thin client.
TIR99042/ THINOS-780	Resolved a ringer volume issue.
TIR99045/ THINOXSUS-59	Resolved a boot stability issue that is observed when you use an Olympus RecMic DR-1200 device that is connected to a USB port.
TIR98445	Resolved an issue where you cannot connect to Citrix StoreFront when using TLS 1.2 with a smart card.
TIR98907/ THINOS-818	Improved stability of the operating system.
THINOS-754	Resolved an issue when the operating system is idle for a long time.
TIR98907	Resolved an issue with peer to peer calls functionality when you use RTME 2.4.
TIR98624	Resolved display issues that are observed when you use a virtual machine PuTTY, and cmd application windows.
TIR98601	Improved client stability when using smart phone connections.
TIR98594	Resolved an issue where you cannot update screen during VNC.
TIR98598/ THINOXSUS-7	Resolved an issue where the `FullScreen=No option` parameter is ignored when using RDS connections.
TIR98653/ THINOXSUS-6	Resolved an issue where DP Audio is limited to DP2 when you use dual displays on Wyse 3040 thin client.
TIR98413	Improved the stability of operating system.
TIR97970	SecurityPolicy parameter to include options to enable or disable cipher suites.
TIR98750/ THINOXSUS-14	ThinOS Classic RemoteApp RDS Focus AXAPTA—Resolved an issue where the form disappears from the screen when you click the Print icon.
TIR98926/ THINOXSUS-47	Resolved an issue where Wyse Management Suite messages that are sent to ThinOS are not displayed correctly when you select the Chinese language.
TIR99060	Improved the cursor display and lost frame rate when you play a video or browse a web page in a Blast session.
TIR99053	Resolved an issue where the screen swap feature from left to right does not function on Wyse 3020 thin client.
TIR98971	Improved the stability of the operating system when disconnecting from a Citrix session.
TIR98621/ THINOSSUS-53	Resolved an issue where the USB redirection does not function when using App volumes.
TIR96832/ THINOS-772	Resolved the session display issues when using Citrix Virtual Apps 6.5 and 7.15 on Wyse 5070 thin client.
TIR98974/ THINOS-770	Resolved an issue where an incorrect character case is observed when you press and release both shift keys simultaneously.
TIR99038	Resolved an issue where CTRL+ Pause and CTRL+ Scroll Lock cannot be distinguished in a Citrix session.
TIR98969	Resolved an issue where the local clipboard is not cleared during logout.
THINOS-817	Resolved an issue that is related to a smart card read failure.
THINOS-874, THINOS - 751	Resolved an issue where the device restarts when you set the `AutoSignOff=Yes` and `Shutdown=yes` parameters.

INI parameters

The following table provides the list of newly added INI parameter in this release:

NOTE: Every INI parameter is associated with a parent INI parameter. Use these INI parameters along with the corresponding parent INI parameters.

Table 55. INI parameters

INI parameters	Description*
`EnableVsync=[yes, no]`	The `EnableVsync` parameter enables or disables the Vertical Synchronization feature. The value is not stored in NVRAM. If you deploy this parameter on unsupported devices such as Wyse 3010, 3020 and 3030 LT thin clients, the value is ignored.
`DelCertificate={filename}`	This parameter enables you to delete certificate file corresponding to `AddCertificate`. You can set the `DelCertificate` value to `all`, `builtin`, or provide a specific name. From this release, the specific file name supports wildcard variables such as `$TN.pfx`, `$TN`, and `WT*.pfx`.
`[DriverLogLevel={1-4}]` `[DriverDebugLevel={1-7}]`	The `DriverLogLevel` parameter enables you to change the debug level of Intel wireless driver or firmware printing. The following are the values and the corresponding debug levels: • 1—Error • 2—Warn • 3—Info • 4—Debug For example, if you set the debug level value to 1 (Error) you can get the useful error information. The `DriverDebugLevel` parameter specifies which information related to Intel wireless driver or firmware needs to be printed. This option is valid only with the `DriverLogLevel` parameter. Ensure that you specify a value for the `DriverLogLevel` parameter before you use this parameter. The following are the valid values: • #define DBGLVL1 (IWL_DL_INFO) • #define DBGLVL2 (DBGLVL1 | IWL_DL_FW_ERRORS) • #define DBGLVL3 (DBGLVL2 | IWL_DL_TEMP | IWL_DL_POWER) • #define DBGLVL4 (DBGLVL3 | IWL_DL_ASSOC | IWL_DL_TE) • #define DBGLVL5 (DBGLVL4 | IWL_DL_DROP | IWL_DL_RADIO) • #define DBGLVL6 (DBGLVL5 | IWL_DL_SCAN | IWL_DL_HT) • #define DBGLVL7 (DBGLVL6 | IWL_DL_MAC80211 | IWL_DL_FW)

`Sleep=[yes, no]`
`[program=[Sleep, Power off]]`
`[timer=[0, 1, 5, 10, 15, 30, 60, 120, 300, 600]]`
	The `Sleep` parameter enables or disables the sleep mode feature. The sleep mode enables the thin client to enter the power-saving state and quickly resumes full power operations without loss of data. The default value is yes.
	The `program` parameter specifies whether the thin client must enter the sleep mode or power off after the screen is turned off by screen saver. The default value is `Sleep`.
	The `timer` parameter specifies the time in minutes to either enter the sleep mode or shut down the client after the screen saver starts. The default value is 10 minutes.

`[TLSDisableCipher={cipher_name_list}]`	The `TLSDisableCipher` parameter confines the TLS client to stop using the listed cipher suites.

INI parameters	Description*
	In this release, DES, 3DES or both can be disabled. For example, to disable both, use `TLSDisableCipher=DES;3DES`.
`[PlayBackEnableList={device name string}]` `[RecordEnableList={device name string}]`	The `PlayBackEnableList` and `RecordEnableList` parameters enable you to specify the list of audio devices that are mapped to an ICA session. You can separate each audio device with a comma. The audio device name is displayed in **Event Log** after you connect and disconnect the device from the terminal. If the actual device name does not match with the device in the list, the device cannot be mapped to the ICA session. Setting the value to `""` results in mapping of all devices. This is similar to no INI setting. The terminal default device that is available in the list is set as the default device in the session. If there are no default devices in the list, the first valid device in the list is set as the default device in the session.
`[ShowAdmin=[yes, no]]`	The `ShowAdmin` parameter enables or disables the local admin button in the ThinOS Lite login window when StoreFront is disabled. In this release, if the `ShowAdmin` parameter is set to no, and the SSPR button is enabled, the SSPR button is positioned in the place of the admin button.
`[EnableReplay=[yes, no]]`	The `EnableReplay` parameter enables or disables the audio tab in the **Troubleshooting** window. You can replay pcap files of the UDP audio.

`SetNetiDLicense=(yes, no)`
`[Name=License name]`
`[Company=License company]`
`[Value=License value]`
`[trace=NetiD driver log path and name]`
	The `SetNetiDLicense` parameter enables or disables the usage of SecMaker NetiD smart card pkcs11 drivers.
	The parameters `Name`, `Company`, and `Value` specify the license name, license company, and the license value respectively.
	The `trace` parameter enables you to set the driver log path and file name. For example, `trace=/tmp/secmaker.log`.

`[SCHidePINLeft={yes, no}]`	The `SCHidePINLeft` parameter enables you to hide or display the number of attempts remaining to enter a correct PIN for the smart card. The default value is no.
`[PowerSaveControl={0, 1}]` `[RSSIAmend={}]`	The `PowerSaveControl` parameter enables or disables power saving for Intel wireless chips. The default value is 0. This parameter is applicable to Wyse 5060 thin client. When you enable the wireless powersave feature on the Wyse 5060 thin client, the wireless stops functioning occasionally. To resolve this issue, disable the powersave feature using the PowerSaveControl parameter. The `RSSIAmend` parameter enables you to manually modify the value of wireless RSSI. This parameter is applicable to Wyse 5070 thin client. `RSSIAmend=5` means that the signal level is increased, and `RSSIAmend=-5` means that the signal level is decreased.
`SmbVersionRange={version_range}`	The `SmbVersionRange` parameter controls the SMB protocol version that is used in SMB printer communication. The client only uses the SMB version that is specified in `version_range`. The format of `version_range` is `lowest_version, highest_version`. LM2 stands for LAN manager 2, SMB1 for SMB version 1, and SMB2 for SMB version 2. For example, `SmbVersionRange=SMB2,SMB2` means only SMB version 2 is allowed; `SmbVersionRange=,SMB2` means SMB version 2 and all the supported lower versions can be used. Default version range is set by `SmbVersionRange=,SMB1`. By default, SMB2 is not supported.

*For detailed descriptions, see the *Dell Wyse ThinOS Version 8.6 INI Reference Guide* at www.dell.com/support.

10

ThinOS 8.6_015

Release summary

Dell Wyse ThinOS software is designed to run on a broad array of Dell Wyse hardware platforms. Patch or add-on 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 8.6_015

Release date

March 2019

Priority and recommendations

Recommended: Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will help keep your system software current and compatible with other system modules (firmware, BIOS, drivers and software).

Compatibility

Supported platforms

The following table lists the supported hardware platforms:

Table 56. Supported platforms

Platform	Image file name	BIOS file name
Wyse 5040 AIO Thin Client (5212)	ZD10_wnos	AIO10G_bios_bin
Wyse 5040 AIO Thin Client with PCoIP (5213)	PD10_wnos	PAIO10G_bios_bin

Previous versions

ThinOS 8.6_013

Packages

The following table lists the packages:

Table 57. Packages

Package name	Version
FR	1.24.51190
Horizon	4.8.51816

Package name	Version
RTME	2.5.49272
TCX	7.1.41853

New and enhanced features

Sleep mode in ThinOS

The sleep mode enables the power-saving state and the thin client quickly resumes full power operations without loss of data.

- The following UI enhancements are made in ThinOS to support the sleep mode feature:
  - The sleep mode option is added in the ThinOS lock window and the shut down dialog box.
  - The sleep timer is added in the System Preferences dialog box.
- The following ThinOS native windows are not closed in sleep mode:
  - Performance Monitor
  - Troubleshooting
  - System Information
  - System Tools
  - VPN Manager
  - Central Configuration
  - System Preferences
  - Display
  - Printer Set Up
  - Remote Connections
  - Network Set Up

  NOTE: Peripherals windows are closed in sleep mode to re-initialize any peripheral devices after resuming from sleep mode.
- ThinOS VDI broker and sessions log off due to security concern. You must log in to the broker sessions after resuming from sleep mode.
- To enable the thin client to automatically enter sleep mode, set the Turn Off Screen as screen saver. The device automatically enters sleep mode when ThinOS is idle for 20 minutes. This is the default value. You can set the idle time in the **System Preferences** dialog box. Sleep mode timer starts after screen is turned off by screen saver.
- To manually enter sleep mode, open the ThinOS shut down menu, select the Sleep option and click OK.
- To resume from ThinOS sleep mode:
  1. Press the power button.
  2. Click the USB mouse.
  3. Press any key on the USB keyboard.
  4. Use the Wake on LAN feature to wake up from sleep mode.

Important notes

- The USB interface is closed in sleep mode. All USB devices such as USB drives, Bluetooth, audio devices, video devices, and camera are reinitialized after resuming from sleep mode.
- The wired network, wireless network, and VPN are disconnected in sleep mode. However, the network configurations are saved.
- Display functionality is not affected in sleep mode.
- CPU/GPU enters into suspend mode and consumes less power.
- All the ThinOS configurations—file server, INI, VDI configuration, network configuration, and so on—are saved automatically in sleep mode. The INI parameters are not reloaded from the file server after resuming from sleep mode.

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ThinOS 8.6_013

Release scope

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. Beyond the one year time period, new software releases are no longer certified for use with the older hardware, even though it is possible that they may still work. This allows us to advance our product with features and functions that might not have been supported by the previous hardware, with previous generation CPUs and supporting components.

Release type and definition

This release note contains information about the new features, supported platforms, and tested environment for ThinOS version 8.6.

Supported platform

The following table provides the list of supported platforms in this release:

Table 58. Platform and build information

Platform	ThinOS	ThinOS with PCoIP
Wyse 3040 thin client	A10Q_wnos	PA10Q_wnos
Wyse 5060 thin client	D10Q_wnos	PD10Q_wnos
Wyse 5010 thin client	ZD10_wnos	PD10_wnos
Wyse 7010 thin client	ZD10_wnos	Not available
Wyse 5040 AIO thin client	ZD10_wnos	PD10_wnos
Wyse 3030 LT thin client	U10_wnos	PU10_wnos
Wyse 3020 thin client	T10D_wnos	Not available
Wyse 3010 thin client	DOVE_boot	Not available
Wyse 5070 thin client	X10_wnos	PX10_wnos

BIOS information

The following table provides the list of latest BIOS available with this release:

Table 59. BIOS information

Platform	BIOS version
Wyse 3010 thin client	EC 3.02
Wyse 3020 thin client	wloader 7.1_216
Wyse 5010 thin client	3.0U
Wyse 5040 thin client	3.0U
Wyse 5060 thin client	1.0H
Wyse 3030 LT thin client	1.0G

Platform	BIOS version
Wyse 3040 thin client	1.2.5
Wyse 7010 thin client	3.0U
Wyse 5070 thin client	1.1.3

Packages

The following table provides the list of the packages that are included in ThinOS version 8.6 release:

NOTE: Dell recommends that you use these packages along with the released ThinOS firmware.

Table 60. Packages

Package name	Version
FR.i386.pkg	1.24.51190
JVDI.i386.pkg	12.1.51895
horizon.i386.pkg	4.8.51816
RTME.i386.pkg	2.5.49272
TCX.i386.pkg	7.1.41853

NOTE: JVDI package is introduced from ThinOS version 8.6 to support Cisco Jabber. When you download the JVDI.zip package, the README WITH EULA.txt and JVDI.i386.pkg files are unzipped. Ensure that you open the readme file and read the EULA agreement. For more information about installing the JVDI package on ThinOS, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

Feature support matrix

The following table provides the list of new features that are supported on each platform:

Table 61. Feature support matrix

Feature	Wyse 3010 thin client	Wyse 3020 thin client	Wyse 5010 thin client	Wyse 5040 thin client	Wyse 7010 thin client	Wyse 3030 LT thin client	Wyse 3040 thin client	Wyse 5060 thin client	Wyse 5070 thin client
Cisco Jabber Softphone for VDI	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Limited support*	Limited support*	Limited support*
Update RTME Package to version 2.5	Not supported	Not supported	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*
VMware Horizon Virtualization Pack for Skype for Business	Not supported	Not supported	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*
Upgrade Horizon package to version 4.8	Not supported	Not supported	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*
Multiple logins with Citrix and VMware Horizon	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported

Feature	Wyse 3010 thin client	Wyse 3020 thin client	Wyse 5010 thin client	Wyse 5040 thin client	Wyse 7010 thin client	Wyse 3030 LT thin client	Wyse 3040 thin client	Wyse 5060 thin client	Wyse 5070 thin client
BIOS update	Not supported	Not supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Export and restore BIOS settings	Not supported	Not supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Package check	Not supported	Not supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Telnet	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Report locally attached devices to Wyse Device Manager	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Vertical Synchronization	Not supported	Not supported	Supported	Supported	Supported	Not supported	Supported	Supported	Supported
PCoIP connections using Teradici Remote Workstation card	Not supported	Not supported	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*	Limited support*
Okta integration through Citrix NetScaler	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Display selection when launching RDP connection in full screen	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Desktop scaling factor for RDP connection	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Icon folders for StoreFront interface	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Caradigm Way2Care enhancement	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Wireless IP configuration	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
By default, DP audio is disabled (Factory default settings)	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Supported	Not supported	Not supported
Changes to monitor priority on Wyse 5070 Extended thin client	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Supported

Feature	Wyse 3010 thin client	Wyse 3020 thin client	Wyse 5010 thin client	Wyse 5040 thin client	Wyse 7010 thin client	Wyse 3030 LT thin client	Wyse 3040 thin client	Wyse 5060 thin client	Wyse 5070 thin client
Display GUI update	Supported	Supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Supported

* Only certain features are supported.

Citrix Receiver feature matrix

Table 62. Citrix Receiver feature matrix

Features		Operating System—ThinOS
Content	XenApp Applications	Supported
	XenDesktop Desktops	Supported
	Follow Me Apps/Subscriptions	Supported
	Offline Apps (App V)	Not applicable
	File Open In Receiver	Not applicable
	Desktop Viewer/Toolbar	Not supported
	Multitasking	Supported
	Follow Me Sessions (Workspace Control)	Supported
	URL Redirection	Not supported
HDX	Audio Playback	Supported
	UDP Audio	Supported
	Bidirectional Audio (VoIP)	Supported
	Web Cam (Video Chat)	Supported
	Video Playback	Supported
	Flash Redirection	Supported (x86 only)
	Skype for business Optimization pack	Supported (x86 only)
	Cisco Jabber Unified Communications Optimization	Supported (x86 only)
	Windows Multimedia Redirection	Supported
	Local Printing	Supported
	H.264-enhanced SuperCodec	Supported
	Adaptive Transport	Limited support[1]
	Framehawk	Not supported
	Client hardware acceleration	Limited support
	Desktop Composition redirection	Not supported
	3DPro Graphics	Supported
	Remote FX	Not supported
	Location-Based Services	Not supported
	Client drive mapping/File Transfer*	Supported
	Generic USB redirection	Supported

Features		Operating System—ThinOS
	SDWAN Support	Verification needed
	Local App Access	Not applicable
	Multi-touch	Not supported
	Mobility Pack	Not applicable
	HDX Insight	Supported
	Experience Metrics	Supported
	External Monitor	Supported
	True Multi Monitor	Supported
	Session Sharing	Supported
	Session Reliability	Supported
	Auto Client reconnect	Supported
	Multi-port ICA	Supported
Security and communication	Receiver for Web Access	Not applicable
	Remote Access via NetScaler Gateway	Supported
	NetScaler Full VPN	Supported
	RSA Soft Token	Supported
	Challenge Response SMS	Supported
	User Cert Auth via NetScaler Gateway	Supported
	Smart Card (CAC, PIV and so on)	Supported
	Proximity/Contact less Card (Fast Connect)	Supported
	Pass Through Authentication	Supported
	SAN Cert	Verification needed
	SHA2 Certs	Supported
	TLS 1.1/1.2	Supported
	AES and 3DES Encryption	Supported
	Smart Access	Supported
	IPv6	Supported
Updates	Auto Discovery/Configuration	Not supported
	App Store Updates/Citrix updates	Not supported

*File transfer feature applies to HTML5/Chrome Receiver only.

[1]Adaptive transport is a data transport mechanism for Citrix Virtual Apps and Desktops. This mechanism enables the underlying protocol to switch between the Citrix protocol called Enlightened Data Transport (EDT) and Transmission Control Protocol (TCP) for better performance. EDT is added on top of UDP and enhances the data throughput for all ICA virtual channels. ThinOS supports adaptive transport using Transmission Control Protocol (TCP), and does not support adaptive transport through User Datagram Protocol (UDP) except the audio channel. For more information about Adaptive transport, see docs.citrix.com/en-us/citrix-virtual-apps-desktops/technical-overview/hdx/adaptive-transport.html.

For more information about Citrix Receiver features, see the Citrix documentation at www.citrix.com.

VMware Horizon feature matrix

Table 63. VMware Horizon feature matrix

	Client type	Operating System—ThinOS
Client appearance and workflow	Customer branding	Not supported
	Kiosk mode	Supported*
	Localization (EN, FR, DE, JP, CH, KR, SP)	Supported*
Broker connectivity	XML - API Version	14
	SSL, SSL Certificate Verification	Supported*
	Disclaimer Dialog	Supported*
	Security Server compatibility	Supported*
	Multi Broker/Multi Site Redirection -DaaS	Not supported
	Client Information	Supported*
	Phonehome	Not applicable
	USB Phonehome	Not applicable
Broker authentication	Password authentication and password change	Supported*
	RSA authentication	Supported*
	Radius	Supported*
	Integrated RSA SecurID token generator	Supported*
	Log in as current user, Nested log in as current user	Not supported
	Biometric authentication	Not supported
	Unauthentication access	Supported*
Smart card	x.509 certificate authentication	Supported*
	CAC support and .Net support	Supported*
	PIV support	Supported*
	Derived credentials	Not supported
Desktop operations	Reset and Restart	Supported*
	Log out	Supported*
Session authentication	Smart card	Supported*
	Single Sign-On	Supported*
Session management (Blast Extreme and PCoIP)	Switch desktops	Supported*
	Auto-retry	Supported*
	Full screen mode, Full screen toolbar	Supported*
	Window mode	Supported*
	Time zone synchronization	Supported*
	Jumplist integration (Windows 7-Windows 10)	Not supported
Client customization	Command-Line options	Not supported
	URI schema	Not supported
	Preference file	Not supported

	Client type	Operating System—ThinOS
	Non Interactive Mode	Not supported
	GPO-based customization	Not supported
Protocols	Blast Extreme	Supported*
	Blast H.264 -HW decode	Supported*
	Blast JPEG / PNG	Supported*
	Blast Extreme adaptive transportation	Supported*
	RDP 6.x and RDP 7.x	Supported*
	RDP 8.x and 10.x	Supported*
	PCoIP	Teadici is supported
Protocol enhancements	RDP—VC Bridge	Supported*
	Session Enhancement SDK	Not supported
Monitors/displays	Dynamic display resizing	Supported*
	Multiple monitor support and multiple monitor selection	Supported*
	External monitor support	Not applicable
	Display pivot	Supported*
	Multiple aspect ratio support	Supported*
	Number of displays supported	4
	Maximum resolution	3840x2160
	Video out	Supported*
	High DPI scaling and DPI Sync	Supported*
	Exclusive mode	Not supported
Input device—keyboard/ mouse	Relative mouse	Not supported
	Local buffer text input box	Not supported
	Keyboard mapping	Supported*
	Unicode keyboard support	Not supported
	International keyboard support	Supported*
	Input method local/remote switching	Not supported
	IME Sync	Not supported
Clipboard services	Clipboard text	Supported*
	Clipboard graphics	Not supported
	Clipboard memory size configuration	Not supported
Client caching	View Agent to Client—side caching	Not supported
Connection management	Blast network recovery	Supported*
	IPv6 support	Supported in Blast session
	PCoIP IP roaming	Supported*
High-level device redirection	Serial (COM) port redirection	Not supported
	Client Drive redirection/File transfer	Supported*
	Scanner (TWAIN/WIA) Redirection	Not supported

	Client type	Operating System—ThinOS
	x.509 Certificate (Smart card)	Supported*
Real-time Audio-Video	Real-time Audio-Video	Supported*
USB Redirection	Generic USB/HID	Supported*
Unified communications	Cisco UC Jabber	Not supported
	Avaya UC One-X Desktop	Not supported
	Microsoft Lync 2013	Not supported
	Skype for business	Supported in Blast session
Multimedia	Multimedia Redirection (MMR)	Not supported
	Flash URL Redirection (Unicast/Multicast)	Not supported
	Flash Redirection	Not supported
Graphics	vDGA, vSGA, Intel vDGA, AMD vGPU	Supported in VDI session
	NVIDIA GRID VGPU	Supported*
Printing	Printer Redirection, Location Based Printing	Supported in Blast session
Security	FIPS-140-2 mode support	Not applicable
	Imprivata Integration	Supported*
	TLS 1.0, TLS 1.1, TLS 1.2	Supported*
	Client Device Authentication	Not supported

*Supported with VDI, RDS Hosted Desktops and applications.

For more information about VMware Horizon features, see the VMware Horizon documentation at www.vmware.com.

Important notes

This section contains information about firmware upgrade and system configuration that you need to know before using ThinOS version 8.6.

Firmware upgrade and downgrade

- On Wyse 5070 Extended thin client, the AMD firmware is upgraded to a newer version. If you want to downgrade ThinOS from 8.6 to 8.5.1, you must shut down and boot the thin client again. If you do not shut down and reboot, a black screen is displayed on the monitor that is connected to the AMD GPU port. Also, the AMD DP port sequence is updated.
- On Wyse 5070 thin clients, the Bluetooth firmware is upgraded to a newer version from ThinOS 8.5_108. If you want to update the thin client with the Bluetooth module from ThinOS version 8.5_107 to 8.5_108 or later, Dell recommends that you disconnect the power cable and connect the power cable again before you reboot.
- ThinOS 8.6 stores the installed packages (except base and pcoip) in the hidden partition. When you downgrade ThinOS firmware to previous versions, and upgrade the firmware to 8.6 again, the ThinOS device reinstalls the stored packages from the hidden partition. You can delete the package to clean the backup data from the device.
- When you use a file server to update BIOS for Wyse 5060 and 3030 LT thin clients, the BIOS update progress bar disappears after the BIOS update process is complete, and the system reboots after one minute. You must not manually reboot the thin client. During reboot, a black screen is displayed for one minute, and then the device resumes the BIOS update.
- From ThinOS version 8.6, the 16-bit desktop color option is removed from Wyse 3010 and 3020 thin clients.
- From ThinOS version 8.6, the Merlin images include both RTME and Horizon packages.
- From ThinOS version 8.6, the DP audio is disabled by default on Wyse 3040 thin client.
- You must install the JVDI package to use Cisco Jabber.
- If you push Merlin images on Wyse 5010, 5040, and 7010 thin clients with 4 GB or higher flash size, the RTME and Horizon packages are formatted.

System configuration and deployment

- USB redirection must be disabled for audio and video devices to use RTME/RTAV/SFB/JVDI. By default, the USB redirection is disabled on ThinOS. Dell recommends that you do not modify the default settings unless you need the USB redirection for audio and video devices.
- ThinOS BIOS policy can be configured using Wyse Management Suite Console, Wyse Management Suite group INI, Wyse Management Suite advanced settings and FTP INI. Dell recommends that you use any one of the methods to configure the BIOS policy. Setting the BIOS policy simultaneously using different methods may cause a policy mismatch, and the device reboots repeatedly. This reboot loop issue is observed when you select the **reboot immediately** option in the **BIOS policy** settings section on the Wyse Management Suite console.
- All the installed packages are deleted when you update the ThinOS image version between major releases—8.5 or 8.5.1 to 8.6—using FTP, WDM, or Wyse Management Suite.

  Solution for updating firmware using FTP and WDM—Ensure that you have set the PKG install parameters in the WNOS.ini, and the pkg files are uploaded in the directory. After the device reboot, the packages are re-installed automatically.

  Solution for updating firmware using Wyse Management Suite—Wyse Management Suite App policy works only once after the policy is created. The deleted package cannot be reinstalled using the same policy. Dell recommends that you create a new App policy to install the package after the firmware update is complete.
- WDM vulnerability is fixed in this release. You must configure either the DHCP or the DNS option/record of the WDM server fingerprint to automatically fetch and validate the fingerprint before checking in to the WDM server. However, there is no impact to the ThinOS device functionality if you do not to configure the fingerprint validation environment. For more information about how to set up fingerprint using WDM, see the Frequently asked questions section in the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

New and enhanced features

Cisco Jabber Softphone for VDI

Cisco Jabber Softphone for VDI (JVDI) is the Unified Communications solution that is offered by Cisco for virtual deployments. It supports audio-video conferencing, and instant messaging on the hosted virtual desktops (HVD). The Cisco Jabber Softphone for VDI software offloads the audio or video processing from the virtual desktop servers to the thin client. All audio and video signals are routed directly between the endpoints without entering the HVD.

Cisco Jabber Softphone for VDI enables you to make and receive calls using the Cisco Unified Communications application. Cisco Jabber Softphone for VDI consists of the following two components:

- Cisco JVDI Agent
- Cisco JVDI Client

Cisco JVDI Agent is the JVDI connector that runs on the Citrix desktop or server. Cisco JVDI client is the JVDI package that runs on the thin client. The Jabber client that runs on the Citrix server handles the authentication and the media processing is achieved on the thin client.

Table 64. Supported matrix

Component	Supported platforms/supported versions
Thin client	• Wyse 5070 thin client • Wyse 5060 thin client • Wyse 3040 thin client
Connection broker for the hosted virtual desktops	• Citrix Virtual Apps and Desktops (formerly XenDesktop) 7.x and later • Citrix Virtual Apps (formerly XenApp) 7.x and later
Cisco Jabber application on the hosted virtual desktop	Cisco Jabber 12.1.0.16460
Cisco JVDI agent on the hosted virtual desktop	Cisco JVDI Agent 12.1.0.266460
Cisco JVDI client on the thin client	JVDI.i386.pkg

The following table provides the data statistics for the platforms that are running JVDI with 720p resolution:

Table 65. Performance data statistics

Platform	XenDesktop	VDI	Video call resolution	FPS	Client CPU average usage—default window mode video call	Client CPU average usage—fullscreen video call
Wyse 5070 thin client	7.15 LTSR	Windows 10 (64-bit)	1280 x 720p	30	34-46%	75-80%
Wyse 5060 thin client	7.15 LTSR	Windows 10 (64-bit)	1280 x 720p	30	65-70%	83-88%
Wyse 3040 thin client	7.15 LTSR	Windows 10 (64-bit)	1280 x 720p	30	84-90%	98-100%

The following table provides the data statistics for the platforms that are running JVDI with 360p resolution:

NOTE: Dell recommends that you reduce the video resolution to 640 x 360p with 30fps on the Wyse 3040 thin client.

Table 66. Performance data statistics

Platform	XenDesktop	VDI	Video call resolution	FPS	Client CPU average usage—default window mode video call	Client CPU average usage—fullscreen video call
Wyse 5070 thin client	7.15 LTSR	Windows 10 (64-bit)	640 x 360p	30	21-28%	64-76%
Wyse 5060 thin client	7.15 LTSR	Windows 10 (64-bit)	640 x 360p	30	38-50%	72-79%
Wyse 3040 thin client	7.15 LTSR	Windows 10 (64-bit)	640 x 360p	30	56-61%	89-95%

Limitations

- JVDI package cannot be installed on Dell Wyse 3030 LT, 5040, 5010, and 7010 thin clients.
- Dell Wyse 3040 thin client supports video call up to 360p. The video call with 720p is not supported due to high CPU cost with multimedia playback simultaneously. Dell recommends that you restrict the video up to 360p in the server settings.
- You cannot use the headset key to pick/end calls. This issue will be resolved in next release.
- Dell does not recommend video call in 4K display resolution on all platforms due to low performance.
- JVDI version in ThinOS 8.6 must be compatible with JVDI agent and Jabber version. For example, JVDI version 12.1 in ThinOS 8.6 supports JVDI agent and Jabber version 12.1.
- Audio output is poor when you enable the JVDI audio during the full screen video call on Wyse 5060 and 3040 thin clients. This is due to hardware performance limitation. Wyse 5070 thin client supports full screen video call with good audio output.

NOTE: JVDI package is introduced from ThinOS version 8.6 to support Cisco Jabber. You must download the JVDI package from the Driver and Downloads tab on your respective thin clients page at www.dell.com/support. When you download the JVDI.zip package, the README WITH EULA.txt and JVDI.i386.pkg files are unzipped. Ensure that you open the readme file and read the EULA agreement before you deploy the package to the ThinOS client.

For more information about Cisco Jabber Softphone for VDI installation procedure, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

NOTE:

- **For more details about accessories for camera, headsets, speakers, see www.cisco.com/c/en/us/products/unified-communications/uc_endpoints_accessories.html.**
- **For more information about the Cisco Jabber issues, see the *Release notes for Cisco Jabber Softphone for VDI* at www.cisco.com.**
- **For information about troubleshooting your Cisco Jabber, see the *Deployment and Installation Guide for Cisco Jabber Softphone for VDI* at www.cisco.com.**

Table 67. Known issues

Issue number	Description	Workaround
TIR97286	JVDI audio volume slider does not change the audio volume in Wyse 3040 thin client. This issue is due to Cisco Jabber limitation. For more information about the Cisco Jabber issues, see the *Release Notes for Cisco Jabber Softphone for VDI—Release 12.1* document at www.cisco.com.	Adjust audio volume by using either the ThinOS volume bar, session sound volume, or headset button.
TIR97605/TIR98498	Self-camera or remote video does not work, or a black screen is displayed when you play a video. For more information about the Cisco Jabber issues, see the *Release Notes for Cisco Jabber Softphone for VDI—Release 12.1* document at www.cisco.com.	Sign out of the session or reboot the ThinOS client and register the JVDI again.
TIR97653	ICA session cannot be launched and WdReceiv: trap 14 error occurs when you enable the ICA session reliability with multiport in JVDI environment.	Enable ICA session reliability without enabling multiport in JVDI environment.
TIR97523	Answer/End/Hold options in headset do not work during the JVDI call.	You can Answer/End/Hold the call by using the Jabber application in the VDI session.
TIR98792	DP audio does not work in JVDI. When you switch the DP audio in the JVDI device selector, the JVDI may re-register again and a redundant DP audio is listed in device selector. JVDI VXC process should not restart when you hotplug or turn off/on the monitor when using the DP audio in JVDI.	Sign out of the ICA session or reboot the ThinOS client. If you require DP audio, Dell recommends that you first set the DP audio in the ThinOS client and then launch the ICA session.

Update RTME package to 2.5

RTME package—RTME.i386.pkg—is updated to version 2.5.49272. For information about installation and compatibility, see the Citrix RTOP version 2.5 documentation at www.citrix.com/support.

Limitation—ThinOS RTME package update does not support hardware acceleration. For more information, see docs.citrix.com/en-us/hdx-optimization/current-release.

Upgrade Horizon package to version 4.8

In ThinOS version 8.6, you can upgrade the thin client from Horizon version 4.6 to 4.8. VMware Horizon Virtualization Pack for Skype for Business is supported from this release onwards.

Horizon Client version 4.8 and Agent version 7.5 Virtualization Pack for Skype for Business are not compatible with older Horizon Client and Agent releases. If you use Horizon Client 4.8 or later and Horizon Agent 7.5 and later with older Client and Agent releases, then the fallback mode will be enabled on Skype for Business calls. For more information about the Compatibility of Horizon Virtualization Pack for SFB Components, see kb.vmware.com/s/article/54773.

NOTE:

- **If you are upgrading your previous ThinOS client version to 8.6, you must ensure that the Horizon server or agent version is updated to support the Horizon client version 4.8. For information about interoperability matrices for client and server/agent version compatibility, see https://www.vmware.com/resources/compatibility/sim/interop_matrix.**
- **ThinOS supports the hardware cursor in the VMware Blast session. By default, the hardware cursor is disabled. You must use the INI parameter to enable the hardware cursor. For more information about enabling the hardware cursor using the INI parameter, see the *Dell Wyse ThinOS Version 8.6 INI Reference Guide* at www.dell.com/support.**

Limitations

- ThinOS supports up to four 4K displays with limited performance in the Horizon Blast session. Due to low performance, Dell does not recommend using four displays with 4K resolution when H264 is enabled.

- Vertical Synchronization does not work in Blast session with four 4K resolution.
- Video performance is low whe you play a video in Blast session with 4K resolution.
- ThinOS supports audio device USB redirection. However, Dell does not recommend using audio device USB direction due to low audio quality.

VMware Horizon Virtualization Pack for Skype for Business

The VMware Horizon Virtualization Pack for Skype for Business enables you to use Skype for Business in a VMware Horizon desktop. Microsoft Skype for Business is a unified communications platform that delivers an optimized user experience for online messaging, audio, and video calling and so on.

ThinOS supports VMware Horizon Virtualization Pack for Skype for Business in a Blast session. PCoIP and RDP protocols do not support this feature.

NOTE:

- **For information about configuring Skype for Business, and Optimized and fallback modes in Skype for Business, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.**
- **For information about the Horizon Agent installation, see the *Setting Up Virtual Desktops in Horizon 7* document at docs.vmware.com.**

NOTE: Horizon Client 4.8 or later and Horizon Agent 7.5 and later are not compatible with older Client and Agent releases. Due to this limitation, when you use the Horizon Client 4.8 and Horizon Agent 7.5 with older client and agent releases, Skype for Business calls run in fallback mode and calls are not optimized. Ensure that you review the compatibility matrix of Horizon Virtualization Pack for SFB components at kb.vmware.com/s/article/54773.

Table 68. Functionality matrix

Features	Support
P2P audio and video calls	Yes
Conference call	Yes
VDI desktop	Yes
Presence/IM	Yes
RDSH desktop/application	Yes
Call park and pickup	Yes
Call delegation	Yes
Voicemail on Outlook	Yes
PSTN	No
Mute/unmute	Yes
SFB call fallback mode	Yes
Call-transfer and call forward	Yes
Integration with Outlook, PowerPoint, Word, Yammer, and SharePoint	Yes—only PowerPoint is validated.
Multiple monitors	Yes
Do not disturb	Yes

The following table provides the data statistics for Skype for Business performance that is based on 1920 x 1080 display resolution with Logitech 930 Webcam:

NOTE: Performance results may vary with different monitor resolutions and webcams.

Table 69. Performance data statistics

Platform	VDI	Video call resolution	FPS	Client CPU average usage—default window mode video call	Client CPU average usage—full screen video call
Wyse 5070 thin client	Windows 10 (64-bit)	1280 x 720p	30	10-14%	24-30%
Wyse 5060 thin client	Windows 10 (64-bit)	1280 x 720p	30	28-37%	63-68%
Wyse 3040 thin client	Windows 10 (64-bit)	1280 x 720p	30	30-40%	38-55%
Wyse 3030 LT thin client	Windows 10 (64-bit)	1280 x 720p	30	31-40%	64-75%
Wyse 5010 thin client	Windows 10 (64-bit)	1280 x 720p	30	55-65%	94-98%
Wyse 5040 thin client	Windows 10 (64-bit)	480 x 268p	15	45-63%	96-100%
Wyse 7010 thin client	Windows 10 (64-bit)	1280 x 720p	20-23	40-50%	68-80%

ThinOS uses VMware binary. For information about the Skype for Business limitations, see docs.vmware.com/en/VMware-Horizon-7/7.5/horizon-remote-desktop-features.

Table 70. Known issues

Issue number	Description	Workaround
TIR97683	If the Blast session resolution is higher than 1920 x 1080 during SFB calls with full screen, the mouse stops responding.	Do not use full screen during SFB calls in the blast session with resolution greater than or equal to 2560 x 1440.
TIR97223	On Wyse 5010, 5040, and 7010 thin clients, the performance is low during the Horizon SFB video call.	Do not use Horizon SFB video call on Wyse 5010, 5040, and 7010 thin clients.
TIR98356	You cannot use the headset key to pick/end calls in Blast SFB and JVDI.	There is no workaround in this release. This issue will be fixed in next release.
TIR98796	After you install the JVDI package, the Trap 14 error occurs if you switch the playback device from HD audio to DP audio during the Horizon SFB call.	There is no workaround in this release.

Multiple logins with Citrix and VMware Horizon

ThinOS supports PNA multiple login feature. You can log in to multiple Citrix StoreFront or PNAgent using different credentials. From this release onwards, you can simultaneously log in to Citrix StoreFront/PNAgent and the VDM server.

To configure the multiple login feature, do the following:

1. Configure the Pnlite server and VDI broker in the INI file as follows:

```
SelectServerList=vdm; \
description="description" host=<fqdn of Horizon Server>
SelectServerList=pna; \
description="description" host=<fqdn of StoreFront Server>
```

Or

```
multilogon=yes
pnliteserver=<fqdn of StoreFront Server>
VDIBroker=<fqdn of Horizon Server>
```

Or

```
multilogon=yes
SelectServerList=vdm; \
description="description" host=<fqdn of Horizon Server>
```

```
SelectServerList=pna; \
description="description" host=<fqdn of StoreFront Server>
```

2. In the login window, select either the Citrix or VMware broker to log in, or log in to both Citrix and VMware brokers with different credentials.

Limitation

ThinOS supports a single VDM login even if the `MultiLogon` parameter is set to yes. When you log in to the first VDI broker successfully, the succeeding VDI brokers are ignored.

For example:

```
multilogon=yes
VDIBroker=<fqdn of Horizon Server 1>;
VDIBroker=<fqdn of Horizon Server 2>
```

If the first VDI broker login is successful, the second VDI broker is ignored. If the first VDI broker login fails, the second VDI broker is considered.

BIOS update

In this release, ThinOS enables you to update BIOS firmware for Wyse 5060 and 3030 LT thin client by using Wyse Management Suite version 1.3.

For information about the upgrading procedure using Wyse Management Suite, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

Table 71. Support matrix

Platform	BIOS type	Update using Wyse Management Suite	Update using File server
Wyse 5070 thin client	Dell	Supported	Supported
Wyse 3040 thin client	Dell	Supported	Supported
Wyse 5010 or 5040 thin client	Legacy Wyse	Not supported	Supported
Wyse 5060 thin client	Legacy Wyse	Supported	Supported
Wyse 3030 LT thin client	Legacy Wyse	Supported	Supported
Wyse 3020 thin client	Not applicable	Not applicable	Not applicable
Wyse 3010 thin client	Not applicable	Not applicable	Not applicable

Export and restore BIOS settings

This feature enables you to manually save certain CMOS settings to a specified storage and restore it when required. You can save certain BIOS settings from a USB storage or file server and also restore to a USB storage or file server.

The **Extract CMOS** button is used to save BIOS setting and the **Restore CMOS** button is used to restore the BIOS setting.

Table 72. Support matrix

Platform	BIOS type	Export and restore BIOS setting
Wyse 5070 thin client	Dell	Supported
Wyse 3040 thin client	Dell	Supported
Wyse 5010 or 5040 thin client	Legacy Wyse	Supported
Wyse 5060 thin client	Legacy Wyse	Supported
Wyse 3030 LT thin client	Legacy Wyse	Supported
Wyse 3020 thin client	Not applicable	Not supported
Wyse 3010 thin client	Not applicable	Not supported

For instructions on extracting CMOS and restoring CMOS, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

Limitation—You can only extract the BIOS settings that are supported by the INI parameter `Device=CMOS` and `Device=DellCMOS`.

Package version check

After you install packages, the ThinOS client restarts and verifies the version of the installed packages. If you have not installed the latest package version, an event log is generated. You can view the logs on the **Event Log** tab in the System Information window.

Telnet

Telnet is a terminal emulation client that allows you to connect to a remote host or device.

In ThinOS version 8.6, the **Telnet** tab is added in the Troubleshooting window. When you enter the hostname and click **Connect**, the Telnet window is displayed and the Troubleshooting window is closed automatically.

Disable DisplayPort audio

By default, the DisplayPort audio is disabled on Wyse 3040 thin client from this release onwards. This is the factory default setting. You can enable the audio by using the GUI option or the INI parameter.

If you upgrade ThinOS version from 8.5 to 8.6, the DP audio is not disabled by default. This is because the DP audio is enabled by default on thin client running ThinOS version 8.5. You must reset the thin client running ThinOS version 8.6 to factory default settings to load the default setting.

However, thin clients shipped with the latest version of ThinOS are already configured with the default settings.

Table 73. Known issue

Issue number	Description	Workaround
TIR94278	On Wyse 3040 thin client, if you set the display resolution higher than 1920 X 1080, and enable the DisplayPort audio, a black screen is displayed for 10 seconds after the system reboot.	Do not enable the DisplayPort audio.

Report locally attached devices to Wyse Device Manager

This feature reports locally attached devices such as monitor and USB device to the Wyse Device Manager (WDM) server. This information is displayed in the device detail section on the WDM console.

Limitation—ThinOS supports more than 20 USB devices through the USB hub. However, WDM server shows only 10 devices.

Vertical Synchronization

Vertical Synchronization or V-Sync enables the ThinOS client to synchronize the frame rate of a video with the monitor refresh rate to avoid screen tearing. Screen tearing occurs when the graphic processor delivers display frames more than your monitor can process. As a result, the image appears to be cut in half. Enabling VSync synchronizes the output video of the graphics card to the refresh rate of the monitor. In ThinOS version 8.6, V-Sync is enabled by default.

Table 74. Support matrix

Platform	V-Sync in ThinOS	V-Sync in ThinOS with PCoIP
Wyse 5070 thin client	Supported	Supported
Wyse 3040 thin client	Supported	Supported
Wyse 5060 thin client	Supported	Supported
Wyse 5010 thin client	Supported	Supported
Wyse 5040 AIO thin client	Supported	Supported
Wyse 7010 thin client	Supported	Not applicable
Wyse 3020 thin client	Not supported	Not applicable

Platform	V-Sync in ThinOS	V-Sync in ThinOS with PCoIP
Wyse 3010 thin client	Not supported	Not applicable
Wyse 3030 LT thin client	Not supported	Not supported

Limitation—The ThinOS local client desktop background flashes for a second when RDP session desktop is connected with H.264-AVC444 enabled.

PCoIP connections using Teradici Remote Workstation card

In ThinOS version 8.6, you can directly configure the PCoIP connection after you connect either the TERA2240 Remote Workstation card or TERA2220 Remote Workstation card. This feature only works with the direct PCoIP connection, and does not work when you connect using the Horizon View broker.

NOTE: The host card version must match the Teradici PCoIP SDK version 2.9. The SDK in ThinOS does not function similar to Teradici zero client firmware. For example, the SDK in ThinOS does not support USB redirection with the host card connection. This feature is mainly for workstation users working on the server remotely.

The following table lists the supported platforms and the corresponding maximum displays that are tested for TERA2220 and TERA2240 host cards:

Table 75. Support matrix—For reference only

Platform	ThinOS	ThinOS with PCoIP	Maximum displays for TERA2220 host card	Maximum displays for TERA2240 host card
Wyse 5070 thin client—Celeron	Not supported	Supported	2—with 2560 x 1440 resolution	2—with 2560 x 1440 resolution
Wyse 5070 thin client—Pentium	Not supported	Supported	2—with 2560 x 1440 resolution	2—with 2560 x 1440 resolution
Wyse 5070 Extended thin client	Not supported	Supported	2—with 2560 x 1440 resolution	4—with 1920 x 1200 resolution
Wyse 3040 thin client	Not supported	Supported	2—with 2560 x 1440 resolution	2—the resolution depends on your display setup
Wyse 5060 thin client	Not supported	Supported	2—with 2560 x 1440 resolution	2—with 2560 x 1440 resolution
Wyse 5010 thin client	Not supported	Supported	2—with 1920 x 1200 resolution	2—with 1920 x 1200 resolution
Wyse 5040 AIO thin client	Not supported	Supported	2—with 1920 x 1200 resolution	2—with 1920 x 1200 resolution
Wyse 3030 LT thin client	Not supported	Supported	2—with 2560 x 1440 resolution	2—the resolution depends on your display setup
Wyse 7010 thin client	Not supported	Not supported	Not supported	Not supported
Wyse 3020 thin client	Not supported	Not supported	Not supported	Not supported
Wyse 3010 thin client	Not supported	Not supported	Not supported	Not supported

Table 76. Teradici support matrix

Display type	Maximum number of displays	Teradici PCoIP processor	Maximum resolution
Dual display	2	TERA2220	Single display with 2560 x 1600 resolution or two displays with 1920 x 1200 resolution
Quad display	4	TERA2240	2 displays with 2560 x 1600 resolution or four displays with 1920 x 1200 resolution

The following table provides performance data statistics for host card TERA2240 on Wyse 5070 thin client with Celeron processor:

Table 77. Performance data statistics

Number of display	Maximum rate defined by user (Mbps)	Input change rate (Mbps)	Output process rate	Maximum Tx bandwidth (Mbps)
1	30	30	22	50
	30	30	21	50
	60	59	22	101
	60	59	30	105
2	30	30	11	83
	30	30	10	50
	60	57	11	135
	60	57	9	185

For information about configuring PCoIP Direct Connect, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

NOTE: The TERA2220 host card is tested on the workstation Dell Precision 5820 Tower with graphics card NVIDIA Quadro P2000.

Host card reference documents on Teradici official website:

- Quick Start Guide— www.teradici.com/web-help/pcoip_remote_workstation_card.
- Administrators' guide— www.teradici.com/web-help/pcoip_remote_workstation_card/5.0.1.
- Release Notes— www.teradici.com/web-help/pcoip_remote_workstation_card/5.0.1/release_notes.

Okta integration through Citrix NetScaler

ThinOS supports Okta through the Citrix NetScaler Gateway 11.0 or later. The Okta RADIUS Agent is used for user authentication.

For more information about configuring Citrix NetScaler Gateway to use the Okta RADIUS Agent, see the Citrix NetScaler Gateway Radius Configuration Guide at help.okta.com.

Support matrix

- Citrix environment—All XenDesktop and XenApp
- NetScaler—version 11.0 or later
- Dell Wyse 3040, 5060, 5010, 7010, 5040 AIO, 3030 LT, 3020, 3010, and 5070 thin clients

NOTE: Phone authentication by using Okta is supported only in US and Canada.

Limitation: ThinOS version 8.6 supports only Okta and NetScaler Radius mode.

Display selection when launching RDP connection in full screen

In the previous ThinOS version, if you connect an RDP session in window mode with the default resolution, the first session is displayed on the main screen. If a secondary RDP connection is launched, the second session is displayed on the second screen.

When you connect an RDP session in full screen mode, the connection is displayed on all the screens and there is no option to display full screen on a specific display.

In ThinOS version 8.6, you can select your preferred display on which you want to launch the RDP session in full screen mode. In a multi-display setup, the **Default on Screen X** option is added in the **Display Resolution** drop-down list in the Connection Properties window of the RDP connection. For information about selecting the display to launch the RDP connection, and to know how the feature works in different scenarios, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

You can also enable this option using the INI parameter onscreen=x, where the onscreen value is the number of displays. For more information about configuring the INI parameter, see the *Dell Wyse ThinOS Version 8.6 INI Reference Guide* at www.dell.com/support.

NOTE: If you switch the display mode between span and mirror modes, you must restart your thin client to apply the settings specified in the `onscreen` INI parameter.

Table 78. Support matrix

Platform	Display selection	Maximum display support
Wyse 3010 thin client	Supported	DVI-I
Wyse 3020 thin client	Supported	DVI-D and DVI-I
Wyse 3030 LT thin client	Supported	Two DisplayPorts
Wyse 3040 thin client	Supported	Two DisplayPorts
Wyse 5010 thin client	Supported	DVI-I and DisplayPort
Wyse 5040 thin client	Supported	Built-in port and DisplayPort
Wyse 5060 thin client	Supported	Two DisplayPorts
Wyse 5070 thin client—Celeron	Supported	Two DisplayPorts
Wyse 5070 thin client—Pentium	Supported	Three DisplayPorts
Wyse 5070 extended thin client	Supported	Four DisplayPorts and two mini DisplayPorts
Wyse 7010 thin client	Supported	DVI-I and DisplayPort

Desktop scaling factor for RDP connection

The **Desktop Scale Factor** option enables you to define the desktop scale in the client locally. This option is supported in RDP version 8/RDP version 10 or later on the Dell Wyse 3010, 3020, 3030 LT, 3040, 5010, 5040, 5060, 5070, and 7010 thin clients. This feature is not supported in RDP 7.

NOTE: The Desktop Scale Factor is only applicable for RDP connection. Setting this option does not impact the local display scale on the thin client.

You can configure the desktop scaling factor by using `SessionConfig=RDP DesktopScaleFactor=xx` parameters. The value for DesktopScaleFactor is 100~500.

For more information about setting the desktop scaling factor, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

Icon folders for StoreFront interface

ThinOS version 8.6 supports icon folders for StoreFront interface mode. The icon is added on the desktop, where you can manage the folders. For example, you can add applications into the folder and delete folders including internal applications.

You can configure this option using the INI parameter SignOn=yes IconGroupStyle=Folder. For more information, see the Dell Wyse ThinOS Version 8.6 INI Reference Guide at Dell.com/support.

Caradigm Way2Care enhancement

Way2Care is part of Caradigm Identity and Access Management (IAM) portfolio, and is designed to securely access patient information from multiple clinical applications.

A new INI parameter CaradigmServer=xxx UseWay2Care=yes is added in this release. you can also set DisableManualLogon=yes EGPGroup=xxx along with the CaradigmServer parameter.

This feature uses Way2Care API that is different from the TapServer API. Way2Care uses decimal UID format.

For more information about the CaradigmServer parameter, see Dell Wyse ThinOS Version 8.6 INI Reference Guide at Dell.com/support.

Wireless IP configuration

When wired and wireless network share the same IP configuration, the wireless network is disabled and the wired network is enabled. From ThinOS version 8.6, there is a separate wireless IP configuration.

For information about configuring Wireless IP, see the Dell Wyse ThinOS Version 8.6 Administrator's Guide at Dell.com/support.

Display priority on Wyse 5070 Extended thin client

The display priority on Wyse 5070 Extended thin client is updated to support the latest AMD vBIOS firmware. This is applicable from ThinOS 8.5.1 release.

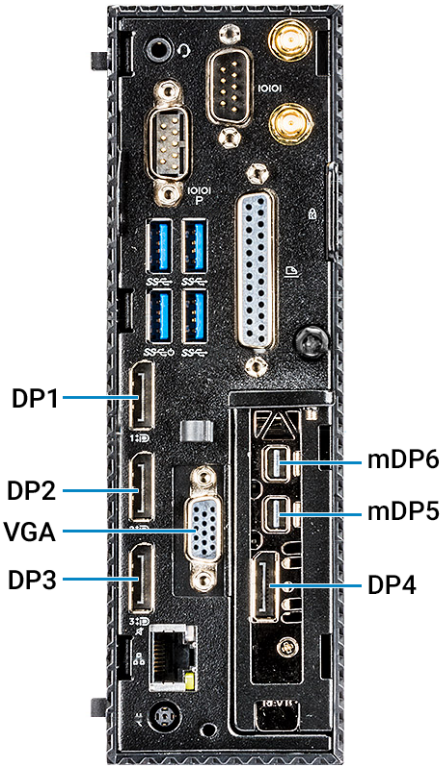

Figure 1. Display priority

The display priority is as follows:

- DP1 > DP2 > DP3 > DP4 > mDP5 > mDP6
- DP1 > USB Type-C > DP3 > DP4 > mDP5 > mDP6
- DP1 > DP2 > VGA > DP4 > mDP5 > mDP6
- DP1 > USB Type-C > VGA > DP4 > mDP5 > mDP6

Display GUI update

Only 32-bit desktop color is supported on Wyse 3010 (T10) and 3020 (T10D) thin clients. The display GUI is changed for Wyse 5070 thin client. However, the display GUI remains same for other ThinOS-based platforms.

For more information about configuring your display settings, see the *Dell Wyse ThinOS Version 8.6 Administrator's Guide* at www.dell.com/support.

Bluetooth pairing update

The Bluetooth Pairing Vulnerability—CVE-2018-5383—is resolved in ThinOS version 8.6 release. For more information about the issue. see www.intel.com/content/www/us/en/security-center/advisory/intel-sa-00128.html.

Affected platforms:

- Wyse 3030 LT thin client with ThinOS
- Wyse 3040 thin client with ThinOS

- Wyse 5010 thin client with ThinOS
- Wyse 5010 thin client with PCoIP
- Wyse 5040 AIO thin client with ThinOS
- Wyse 5040 AIO thin client with PCoIP
- Wyse 5070 thin client
- Wyse 7010 thin client

INI parameters

The following table provides the list of newly added INI parameter in this release:

NOTE: Every INI parameter is associated with a parent INI parameter. Use these INI parameters along with the corresponding parent INI parameters.

Table 79. INI parameters

INI parameters	Description*
[Week={Current, Other, 0, 1, 2, 3, 4}]	Enables you to specify the minimum weeks required to reboot the client after configuring an INI parameter.
[disabledKeys={PrtScn;SysRq}]	Enables you to disable keys on the keyboard.
[UpgradeOrder={bios, wtos}]	Enables you to specify the upgrade order between BIOS and firmware.
[Default={camera device name}]	Enables you to set the default camera device settings.
[CAGUserAsUPN={yes, no}]	Enables you to send user details to server in the format similar to an email address (username@fqdn).
[CAGExternal={yes, no}]	Enables you to log in to csg with an external network directly without verifying beacons.
[enableReminder={yes, no}]	Enables you to postpone the reboot triggered by the Wyse Management Suite agent.
SysinfoOntop=[yes, no]	Enables the System Information window to be displayed at the top in the Z-Order and overlaps on the nonmode switched full screen session window.
[DisableSFInit={yes, no}]	Enables you to disable the StoreFront initialize process after the device reboot.
[Host={broker_url}] [AutoConnectList={*|host1;host2;host3...}]	The **Host** option enables you to specify the broker server IP address or FQDN. The **AutoConnectList** option specifies the VDI desktops or applications launched automatically when you use VDI to sign in to the session.
MultiHead=[yes, no] [ManualOverride={yes, no}] [Mainscreen={1,2,3,4,5,6}] [Resolution={ddc, width X height}] [Rotate={left, right}]	The **MultiHead** option enables you to set the span mode or mirror mode for multiple monitors on Wyse 5070 thin client. The **ManualOverride** option enables you to manually set the monitor layout. The **Mainscreen** option enables you to set the required display as a main screen. The **Resolution** and **Rotate** options works when the display is set to mirror mode and MultiHead=no.
Screen=[1,2,3,4,5,6] [align={screen id, top|center|bottom|left|right, top|center|bottom|left|right}]	The **Screen** option enables you to select the screen which you want to set as default. The **align** option enables you to set the screen alignment on Wyse 5070 thin client.
Connect=[ICA, RDP, PCoIP] [OnScreen={1-6}]	The PCoIP value is added to the **Connect** parameter. The **OnScreen** option enables you to specify which display must be in full screen in an RDP session.
[EnableHardwareCursor={yes, no}]	Enables you to control the hardware cursor in the Blast session.
ManualOverride=[no, yes]	The **ManualOverride** option enables you to retain your personalized settings.

INI parameters	Description*
[Components={None, display, keyboard, mouse, timezone, network, audio, printer, All}]	The **Components** option enables you to specify the component for which personalized settings are required.
[DesktopScaleFactor={100–500}]	Enables you to set the percentage of desktop scaling factor for RDP connection.
[MaxConnect=max]	Enables you to set the maximum number of session connections that you can specify in both wnos.ini and username.ini.

*For detailed description and default values, see the *Dell Wyse ThinOS Version 8.6 INI Reference Guide* at www.dell.com/support.

Tested environment

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

Table 80. Tested environment - General components

Component	Version
Wyse Management Suite	1.3
Wyse Device Manager	5.7.2
Imprivata OneSign	5.5.001.22
NetScaler	10.1/11.0/11.1/12.0/12.1
StoreFront	3.6/3.15
Web Interface	5.4
SecureMatrix	4.1.0

Table 81. Tested environment - VDI components

	Windows 7	Windows 8.1	Windows 10	Linux	Windows Server 2012 R2	Windows Server 2016	Apps
VMware Horizon 7.5	√	√	√	√	√	√	√
XenDesktop 5.6	√	Not applicable					
XenApp 6.5	Not applicable						√
XenDesktop/ XenApp 7.18	Not applicable		√	Not applicable	√	√	√
XenDesktop/ XenApp 7.15 LTSR	√	√	Not applicable		√	Not applicable	√
XenDesktop/ XenApp 7.15 LTSR	√	√	√	Not applicable	√	√	√
Tera PCM for AWS 1.03	√ *	Not applicable					
RDS 2012 R2/ 2016	√	√	√	Not applicable	√	√	√

*AWS Workspace VM OS Windows 7 style is actually based on 2008 R2 RDSH.

Table 82. Tested environment - Citrix Virtual Apps and Desktops

XenDesktop/ XenApp	Operating System	RTME	Lync client	Skype for Business (SFB) server
7.15	Windows 7	2.5	Skype For Business 2016	Skype For Business 2015
	Windows 8.1	2.5	Skype For Business2016	Skype For Business 2015
	Windows 10	2.5	Skype For Business 2016	Skype For Business 2015
	Windows 2016	2.5	Skype For Business 2016	Skype For Business 2015

Tested peripherals

This section lists the tested peripheral devices.

- **Keyboard/ Mouse**
  - Dell USB wired keyboard - KB216
  - Dell USB wired laser mouse - Naruto
  - Dell USB wired optical mouse - MS116
  - Dell KM636 wireless keyboard and mouse
  - Dell wireless keyboard/mouse KM632
  - Dell wireless keyboard/mouse WK636
  - Dell Keyboard KB113p
  - Dell Keyboard KB216
  - Dell Keyboard KB212-B
  - Dell Keyboard KB216p/ mouse MS-116p
  - Dell keyboard KB813—Smart card reader
  - Dell Mouse MS111-P
  - Dell Mouse MS116-P
  - Dell Keyboard SK-3205—Smart card reader
  - Dell Optical Wireless Mouse - WM123
  - Dell Optical Wireless Mouse - WM122
  - Dell wireless mouse - WM324
  - Dell wireless bluetooth travel mouse - WM524
  - Dell premier wireless keyboard and mouse
  - Dell wireless tablet keyboard/bluetooth
  - Logitech Ultrathin touch mouse T630/bluetooth
  - Logitech M310 wireless mouse
  - Logitech K380 keyboard/bluetooth
  - Logitech K480 Keyboard/bluetooth
  - Logitech K400 Plus
  - Logitech T400 zone touch mouse
  - Logitech M557 mouse/bluetooth
  - Microsoft wireless mouse 1453
  - Microsoft Arc Touch Mouse 1428
  - Microsoft ARC mouse 1350
  - Microsoft ARC touch mouse 1592/bluetooth
  - Microsoft designer bluetooth keyboard/mouse
  - Thinkpad compact bluetooth keyboard—bluetooth
  - Rapoo E6100, bluetooth
  - SpaceNavigator 3D space mouse
- **USB Webcam**
  - Logitech C525 HD Webcam
  - Logitech C920 HD Pro Webcam
  - Logitech C930e HD Webcam
  - Logitech BCC950 ConferenceCam
  - Logitech USB Webcam 9000

- Logitech C922 Pro Stream Webcam
- Logitech C925e Webcam
- Microsoft LifeCam HD-3000
- Microsoft LifeCam Studio

- **Printer**
  - Dell B1163 Mono Multifunction printer—no support for Generic/Text only
  - Dell B1165nfw Mono Multifunction printer—no support for Generic/Text only
  - Dell B1260dn laser printer
  - Dell B1265dnf Multifunction laser printer
  - Dell B2360d laser printer
  - Dell B2360dn laser printer
  - HP LaserJet P2055d
  - HP LaserJet P2035
  - HP LaserJet 1022n
  - HP Color LaserJet CM1312MFP
  - EPSON PLQ-20K
- **Mobile device**
  - Samsung Galaxy S7
  - iPhone XR
  - iPhone 7
  - iPhone 8 plus
  - HTC one-XL—Android 4.2.2
- **USB headset**
  - Dell Pro Stereo Headset - Skype for Business - UC350
  - Dell 2.0 speaker system - AE215
  - Dell Pro Stereo Headset - Skype for Business - UC150
  - Microsoft Corporation LifeChat LX-6000 headset
  - Dell Pro Stereo Headset UC350
  - Jabra PRO 935 MS
  - Jabra PRO 9450
  - Jabra Speak 510 MS, Bluetooth—Bluetooth
  - Jabra Evolve 75
  - Jabra Evolve 40 MS Mono
  - Jabra UC SUPREME MS /LINK 360, Bluetooth
  - Jabra GN2000
  - Jabra UC VOICE 750 MS
  - Jabra Evolve ENC010 MS Link USB headset
  - Jabra EVOLVE HSC040W
  - Plantronics SAVI W740/Savi W745—this bluetooth is not supported on ThinOS
  - Plantronics Calisto P240 D1K3 USB handset
  - Plantronics Blackwire C5210
  - Plantronics BLACKWIRE C710, Bluetooth
  - Plantronics SAVI W740/Savi W745

    NOTE: Bluetooth is not supported on ThinOS.
  - Plantronics Calisto P240 D1K3 USB handset
  - Plantronics Calisto 620 M, Bluetooth
  - Plantronics USB DSP DA40(B)
  - SENNHEISER USB SC230

    NOTE: Volume button does not work correctly with RTME.
  - SENNHEISER SC 260 USB MS II

    NOTE: Volume button does not work correctly with RTME.
  - SENNHEISER SP 10 ML Speakerphone for Lync
  - SENNHEISER SP 20 ML Speakerphone for Lync and mobile devices
  - SENNHEISER SC 75 USB MS

NOTE: Volume button does not work correctly with RTME.

- SENNHEISER SC 40 USB MS

  NOTE: Volume button does not work correctly with RTME.

- SENNHESIER SDW 5016-EU

  NOTE: Volume button does not work correctly with RTME.

- Plantronics Blackwire 3220 USB-A

- **Analog headset**
  - Logitech h150
  - Philips
  - Dell USB SoundBar AC511
- **Monitor**
  - Dell 24 Monitor - E2417H
  - Dell 24 Monitor - P2417H
  - Dell 20 Monitor - E2216H
  - Dell 22 Monitor - E2218HN
  - Dell 22 Monitor - P2219H
  - Dell 22 Monitor - P2219HC
  - Dell 23 Monitor - P2319H
  - Dell 24 Monitor - P2415Q 4K2K (UHD) monitor
  - Dell P2418D—2560x1440
  - Dell UltraSharp 34 Monitor - P3418HW
  - Dell UltraSharp 27 Monitor - U2518D
  - Dell UltraSharp 27 Monitor - U2718Q—4K
  - Dell UltraSharp 24 Monitor - U2419H/HC
  - Dell UltraSharp 24 Monitor - U2719D/DC
  - Dell UltraSharp 24 Monitor - U2719D/DC—310-7225-AO
  - Dell E2416Hb—1920x1080
  - Dell E2715Hf—1920 x 1080
  - Dell E2318H—1920 x 1080
  - Dell UP2715K—3840 x 2160/2560 x 1440
  - Dell UP3216Qt—3480 x 2160
  - Dell P2415Q 4K2K (UHD) monitor
  - Dell P2418HZ—1920 x 1080
  - Dell P2714Hc—1920 x 1080
  - Dell P2715Q—3840 x 2160
  - Dell P2815Qf—3840 x 2160
  - Dell 43 Monitor - P4317Q
  - Dell P4317Qc—3480 x 2160
  - Dell U2414HB—1920 x 1080
  - Dell U2415—1920 x 1200
  - Dell U2713HM—2560 x 1440
  - Dell U2518D—2560 x 1440
  - Dell U2713HMt—2560 x 1440
  - Dell U3415W—3440 x 1440
  - Dell U3419W—3440 x1440
  - Dell U2718Qb—3840 x 2160
  - Dell U2718Q—3480 x 2160
  - Dell U2913 WM—2560 x 1080
  - Dell S2718D—2560 x 1440
  - Dell 23 Monitor - P2419H
  - Dell 24 Monitor - P2419HC
  - Dell P2418HZ—1920 x 1080
  - Dell P2719H—1920 x 1080
  - Dell P2719HC—1920 x 1080
  - Dell S2817Q—3840 x 2160

- Add On 1000 Base-T SFP transceiver (RJ-45)—310-7225-AO

- **DVD ROM**
  - BENQ DVD Drive
  - Samsung portable DVD Writer SE-208
  - Dell external DVDRW Drive
  - Dell DW316
- **Cable/Converter**
  - Dell miniDP-VGA convertor
  - Dell TYPE-C-VGA convertor
  - Dell DP-VGA convertor
  - Dell DP-DVI convertor
  - Dell TYPE-C-DP convertor
  - Dell TYPE-C-HDMI convertor
  - USB to Serial converter
  - DisplayPort to HDMI adapter
  - DisplayPort to VGA adapter
  - USB Type-C to DisplayPort adapter
  - USB Type-C to HDMI
  - USB Type-C to VGA adapter
  - USB to Serial adapter—Trendnet
  - USB to Serial adapter—Cables-2-Go
- **Smart card reader**
  - OMNIKEY 3021—Vendor ID 076b, Product ID 3021
  - OMNIKEY 3121—Vendor ID 076b, Product ID 3121
  - OMNIKEY 5022 CL—Vendor ID 076b, Product ID 5022
  - OMNIKEY 5025 CL—Vendor ID 076b, Product ID 502a
  - OMNIKEY 5125—Vendor ID 076b, Product ID 5125
  - OMNIKEY 5321 V2 CL SAM—Vendor ID 076b, Product ID 5341
  - OMNIKEY 5321 V2 Cli—Vendor ID 076b, Product ID 532a
  - OMNIKEY 5321 CR—Vendor ID 076b, Product ID 5320
  - OMNIKEY 5325 CL—Vendor ID 076b, Product ID 5125
  - OMNIKEY 5326 DFR—Vendor ID 076b, Product ID 5326
  - OMNIKEY 5421—Vendor ID 076b, Product ID 5421
  - OMNIKEY 5422—Vendor ID 076b, Product ID 5422
  - OMNIKEY 5427 CK—Vendor ID 076b, Product ID 5427
  - SmartOS powered SCR335
  - Cherry keyboard RS 6600 with smart card
  - Cherry keyboard KC 1000 SC with smart card
  - Dell keyboard KB813—smart card reader
  - Dell Keyboard SK-3205—smart card reader
  - Gemalto IDBridge CT710
  - Gemalto PC Twin
  - RDR-80581AKU—Proximity/Smart card reader
  - RDR-6082AKU—Proximity/Smart card reader
- **Finger Print Reader**
  - HDW-IMP-1C
  - Keyboard KSI 1700
- **Touch screen**
  - Elo Touch Screen USB
  - Elo Touch Screen Serial
  - Dell P2418HT—1920x1080
- **USB drive**
  - SanDisk USB 3.0 16 GB
  - Sandisk cruzer 8 GB
  - SanDisk USB3.1 and Type-C 16 GB

- Kingston USB3.1 and Type-C 32 GB

  NOTE: Do not restart your thin client when Kingston USB3.1 and Type-C 32 GB is connected.
- Kingston DataTraveler G3 8 GB
- Kingston DataTraveler Elite 3.0 16 GB
- ADATA S107/16 GB
- PNY USB3.0 16 GB
- Sony N50 16 GB
- Tripp Lite USB2.0 Hub

- **Networking**
  - Cisco GLC-T=30-1301-03
- **SpeechMike Premium**
  - LFH3610/00 SpeechMike Premium—only redirect
  - LFH3200/00 SpeechMike Premium—only redirect

Table 83. Smart card information from ThinOS event log

Smart Card information from ThinOS event log	Driver	Provider (CSP)	Card type
ActivIdentity V1 (IDClassic 230)	ActivClient 6.2	ActivClient Cryptographic Service Provider	Gemalto Cyberflex Access 64 K V2c
ActivIdentity V2	ActivClient 6.2	ActivClient Cryptographic Service Provider	Oberthur CosmopolC 64k V5.2
Gemalto/IDPrime.NET (Gemalto .net 510)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	Axalto Cryptoflex.NET (V7.2.1.0)
ID Prime MD v 4.0.2 (Gemalto 840)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T = 0 (V 7.3.2.11)
ID Prime MD v 4.1.0 (Gemalto 3810)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T = 0 (V 7.4.0.7)
ID Prime MD v 4.1.1 (Gemalto 830)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T = 0 (V 7.4.1.7)
Etoken CardOS	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	Siemens CardOS V4.2B
Etoken CardOS (white USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	Siemens CardOS V4.2
Etoken Java(aladdin) (blue USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	eToken PRO Java 72 K OS755
Etoken Java(aladdin) (black USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 510x
Etoken Java(aladdin) (black USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 5110
A.E.T. Europe B.V.	SafeSign-Identity-Client-3.0.76	SafeSign Standard Cryptographic Service Provider	G&D STAb dRCOS 3.0 T =0/1 0V300
A.E.T. Europe B.V.	SafeSign-Identity-Client-3.0.76	SafeSign Standard Cryptographic Service Provider	Giesecke and Devrient StarCos 3.2
PIV (Yubico) (black USB key)	YubiKey PIV Manager	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

Known issues

This section describes the known issues in this release.

Table 84. Known issues

Issue number	Description	Workaround
TIR98812	You cannot click OK to change the resolution when you set the **Left turn 90 degrees** screen as a main display.	There is no workaround in this release.
TIR98790	Background is filled with color when you start an application and move the application while previewing the image with two cameras.	There is no workaround in this release.
TIR98788	The USB drive cannot be redirected into the Blast session when you disconnect the USB drive from the device and then connect with the same USB port again.	Use the USB port that is not used. If all ports were used before, reboot the device to remove the USB device information from the device.
TIR98781	Audio output is poor when you enable the JVDI audio during the full screen video call on Wyse 5060 and 3040 thin clients. This is due to hardware performance limitation. Wyse 5070 thin client supports full screen video call with good audio output.	Do not use the JVDI video call with window mode on Wyse 5060 and 3040 thin clients.
TIR98780	Blast Windows 7 session stops working for about 4-5 seconds.	There is no workaround in this release.
TIR98768	Image upgrade using Wyse Management Suite deletes the existing packages while the existing Wyse Management Suite App policy does not install the packages again.	Create a Wyse Management Suite App policy to install the package after upgrading.
TIR98755	Wyse Management Suite BIOS policy settings, and ini BIOS settings may be incompatible that results in a device reboot loop.	Disable either the DellCmos INI or the BIOS setting from Wyse Management Suite.
TIR98727	JVDI troubleshooting logs show incorrect information.	There is no workaround in this release.
TIR98714	Pulse audio is missing and you cannot open any device file.	Reboot the thin client.
TIR98605	If the text copy and paste functionality between the local and Blast sessions requires a session switch, then the last copied content is placed in the session application successfully.	Switch the session between local and Blast session.
TIR98580	You must create a new INI parameter to disable the Vertical Synchronization.	There is no workaround in this release.
TIR98561	Trap (winmgr) error occurs when you wake up the monitor from screen saver.	Reboot the thin client.
TIR98550	You cannot log in to the VDI desktop with Geamalto MD830B L3 smart card through Microsoft Windows Server 2012 Remote Desktop Service.	There is no workaround in this release.
TIR98514	On Wyse 3040 thin client, the cursor performance is low when you use the ELO USB touch screen.	There is no workaround in this release.
TIR98486	On Wyse 5070 thin client, cursor is displayed as double image when you switch between mirror mode and span mode, or when you wake up the monitor from screen saver (turn off screen).	Reboot the thin client.
TIR98143	CAC is not found on the login page of XenApp 7.18 Desktop Server 2016 R2.	There is no workaround in this release.
TIR97287	When you start an ICA session with 4K resolution on Wyse 5010 thin client, a green background is observed.	There is no workaround in this release.

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ThinOS Lite 2.6_013

Release scope

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. Beyond the one year time period, new software releases are no longer certified for use with the older hardware, even though it is possible that they may still work. This allows us to advance our product with features and functions that might not have been supported by the previous hardware, with previous generation CPUs and supporting components.

Release type and definition

This release note contains information about the new features, supported platforms, and tested environment for ThinOS Lite version 2.6.

Supported platform

The following table provides the list of supported platforms and build information:

Table 85. Supported platform

Platform	ThinOS Lite/zero client for Citrix
Wyse 3010 zero client—T00X	T00_xen.bin
Wyse 3020 zero client—T00DX	T00D_xen
Wyse 5010 zero client—D00DX	ZD00_xen

BIOS information

The following table provides the list of latest BIOS available in this release:

Table 86. BIOS information

Platform	BIOS version
Wyse 3010 zero client—T00X	EC 3.02
Wyse 3020 zero client—T00DX	wloader 7.1_216
Wyse 5010 zero client—D00DX	3.0U

Packages

The following table provides the list of the packages that are included in ThinOS Lite version 2.6 release.

NOTE: Dell recommends that you use these packages along with the released ThinOS Lite firmware.

Table 87. Packages

Package name	Version
FR.i386.pkg	1.24.51190
RTME.i386.pkg	2.5.49272—based on the Citrix RTOP version 2.5

Package name	Version
TCX.i386.pkg	7.1.41853

Feature support matrix

The following table provides the list of new features that are supported on each platform:

Table 88. Feature support matrix

Feature	Wyse 3010 zero client—T00X	Wyse 3020 zero client—T00DX	Wyse 5010 zero client—D00DX
Update RTME Package to version 2.5	Not supported	Not supported	Limited support
Package check	Not supported	Not supported	Supported
Telnet	Supported	Supported	Supported
Report locally attached devices to Wyse Device Manager	Supported	Supported	Supported
Vertical Synchronization	Not supported	Not supported	Supported
Okta Integration through Citrix NetScaler	Supported	Supported	Supported
Icon folders support for StoreFront interface mode	Supported	Supported	Supported
Caradigm Way2Care enhancement	Supported	Supported	Supported
Wireless IP configuration	Supported	Supported	Supported
Display GUI update	Supported	Supported	Not supported

* Only certain features are supported.

Citrix Receiver feature matrix

Table 89. Citrix Receiver feature matrix

Features		Operating System—ThinOS
Content	XenApp Applications	Supported
	XenDesktop Desktops	Supported
	Follow Me Apps/Subscriptions	Supported
	Offline Apps (App V)	Not applicable
	File Open In Receiver	Not applicable
	Desktop Viewer/Toolbar	Not supported
	Multitasking	Supported
	Follow Me Sessions (Workspace Control)	Supported
	URL Redirection	Limited support[1]
HDX	Audio Playback	Supported
	UDP Audio	Supported
	Bidirectional Audio (VoIP)	Supported
	Web Cam (Video Chat)	Supported

Features		Operating System—ThinOS
	Video Playback	Supported
	Flash Redirection	Supported (x86 only)
	Skype for business Optimization pack	Supported (x86 only)
	Windows Multimedia Redirection	Supported
	Local Printing	Supported
	H.264-enhanced SuperCodec	Supported
	Adaptive Transport	Limited support[2]
	Framehawk	Not supported
	Client hardware acceleration	Limited support
	Desktop Composition redirection	Not supported
	3DPro Graphics	Supported
	Remote FX	Not supported
	Location-Based Services	Not supported
	Client drive mapping/File Transfer*	Supported
	Generic USB redirection	Supported
	SDWAN Support	Verification needed
	Local App Access	Not applicable
	Multi-touch	Not supported
	Mobility Pack	Not applicable
	HDX Insight	Supported
	Experience Metrics	Supported
	External Monitor	Supported
	True Multi Monitor	Supported
	Session Sharing	Supported
	Session Reliability	Supported
	Auto Client reconnect	Supported
	Multi-port ICA	Supported
Security and communication	Receiver for Web Access	Not applicable
	Remote Access via NetScaler Gateway	Supported
	NetScaler Full VPN	Supported
	RSA Soft Token	Supported
	Challenge Response SMS	Supported
	User Cert Auth via NetScaler Gateway	Supported
	Smart Card (CAC, PIV and so on)	Supported
	Proximity/Contact less Card (Fast Connect)	Supported
	Pass Through Authentication	Supported
	SAN Cert	Verification needed
	SHA2 Certs	Supported

Features		Operating System—ThinOS
	TLS 1.1/1.2	Supported
	AES and 3DES Encryption	Supported
	Smart Access	Supported
	IPv6	Supported
Updates	Auto Discovery/Configuration	Not supported
	App Store Updates/Citrix updates	Not supported

*File transfer feature applies to HTML5/Chrome Receiver only.

[1]HTML5 limitation

[2]DTLS audio limitation

For more information about Citrix Receiver features, see the Citrix documentation at www.citrix.com.

Important notes

This section contains information about firmware upgrade and system configuration that you need to know before using ThinOS Lite version 2.6.

Firmware upgrade and downgrade notification

The Local display 16-bit color option is removed from Wyse 3010 and 3020 zero clients.

System configuration and deployment

- ThinOS BIOS policy can be configured using Wyse Management Suite Console, Wyse Management Suite group INI, Wyse Management Suite advanced settings and FTP INI. Dell recommends that you use any one of the methods to configure the BIOS policy. Setting the BIOS policy simultaneously using different methods may cause a policy mismatch, and the device reboots repeatedly. This reboot loop issue is observed when you select the **reboot immediately** option in the **BIOS policy** settings section on the Wyse Management Suite console.
- All the installed packages are deleted when you update the ThinOS Lite version between major releases—2.5 to 2.6—using FTP, WDM, or Wyse Management Suite.

  Solution for updating firmware using FTP and WDM—Ensure that you have set the PKG install parameters in the WNOS.ini, and the pkg files are uploaded in the directory. After the device reboot, the packages are re-installed automatically.

  Solution for updating firmware using Wyse Management Suite—Wyse Management Suite App policy works only once after the policy is created. The deleted package cannot be reinstalled using the same policy. Dell recommends that you create a new App policy to install the package after the firmware update is complete.
- WDM vulnerability is fixed in this release. You must configure either the DHCP or the DNS option/record of the WDM server fingerprint to automatically fetch and validate the fingerprint before checking in to the WDM server. However, there is no impact to the ThinOS Lite device functionality if you do not to configure the fingerprint validation environment. For more information about how to set up fingerprint using WDM, see the *Dell Wyse ThinOS Lite Version 2.6 Administrator's Guide* at www.dell.com/support.

New and enhanced features

Update RTME package to 2.5

RTME package—RTME.i386.pkg—is updated to version 2.5.49272. For information about installation and compatibility, see the Citrix RTOP version 2.5 documentation at www.citrix.com/support.

Limitations:

- ThinOS RTME package update does not support hardware acceleration. For more information, see the Citrix documentation at docs.citrix.com.
- Answer/Hold /End call options are not supported by using Bluetooth headset button.

Package version check

After you install packages, the ThinOS Lite client restarts and verifies the version of the installed packages. If you have not installed the latest package version, an event log is generated. You can view the logs on the **Event Log** tab in the System Information window.

Telnet

Telnet is a terminal emulation client that allows you to connect to a remote host or device.

In ThinOS Lite version 2.6, the **Telnet** tab is added in the Troubleshooting window. When you enter the hostname and click **Connect**, the Telnet window is displayed and the Troubleshooting window is closed automatically.

Report locally attached devices to Wyse Device Manager

This feature reports locally attached devices such as monitor and USB device details to the Wyse Device Manager (WDM) server. This information is displayed in the device detail section on the WDM console.

Limitation—ThinOS supports more than 20 USB devices through the USB hub. However, WDM server shows only 10 devices.

Vertical Synchronization

Vertical Synchronization or V-Sync enables the ThinOS Lite client to synchronize the frame rate of a video with the monitor refresh rate to avoid screen tearing. Screen tearing occurs when the graphic processor delivers display frames more than your monitor can process. As a result, the image appears to be cut in half. Enabling VSync synchronizes the output video of the graphics card to the refresh rate of the monitor. In ThinOS Lite version 2.6, V-Sync is enabled by default.

Table 90. Support matrix

Platform	ThinOS Lite
Wyse 3010 zero client—T00X	Not supported
Wyse 3020 zero client—T00DX	Not supported
Wyse 5010 zero client—D00DX	Supported

Limitation—The ThinOS local client desktop background flashes for a second when RDP session desktop is connected with H.264-AVC444 enabled.

Okta integration through Citrix NetScaler

ThinOS Lite supports Okta through the Citrix NetScaler Gateway 11.0 or later. The Okta RADIUS Agent is used for user authentication.

For more information about configuring Citrix NetScaler Gateway to use the Okta RADIUS Agent, see the Citrix NetScaler Gateway Radius Configuration Guide at help.okta.com.

Support matrix

- Citrix environment—All XenDesktop and XenApp
- NetScaler—version 11.0 or later
- Dell Wyse 3010, 3020, and 5010 zero clients

NOTE: Phone authentication by using Okta is supported only in US and Canada.

Limitation—ThinOS Lite version 2.6 supports only Okta and NetScaler Radius mode.

Icon folders for StoreFront interface

ThinOS Lite version 2.6 supports icon folders for StoreFront interface mode. The icon is added on the desktop, where you can manage the folders. For example, you can add applications into the folder and delete folders including internal applications.

You can configure this option using the INI parameter SignOn=yes IconGroupStyle=Folder. For more information, see the Dell Wyse ThinOS Lite Version 2.6 INI Reference Guide at Dell.com/support.

Caradigm Way2Care enhancement

Way2Care is part of Caradigm Identity and Access Management (IAM) portfolio, and is designed to securely access patient information from multiple clinical applications.

A new INI parameter CaradigmServer=xxx UseWay2Care=yes is added in this release. you can also set DisableManualLogon=yes EGPGroup=xxx along with the CaradigmServer parameter.

This feature uses Way2Care API that is different from the TapServer API. Way2Care uses decimal UID format.

For more information about the CaradigmServer parameter, see Dell Wyse ThinOS Lite Version 2.6 INI Reference Guide at Dell.com/support.

Wireless IP configuration

When wired and wireless network share the same IP configuration, the wireless network is disabled and the wired network is enabled. From ThinOS Lite version 2.6, there is a separate wireless IP configuration.

For information about configuring Wireless IP, see the Dell Wyse ThinOS Lite Version 2.6 Administrator's Guide at Dell.com/support.

Display GUI update

Only 32-bit desktop color is supported on Wyse 3010 (T00X) and 3020 (T00DX) zero clients.

For more information about configuring your display settings, see the *Dell Wyse ThinOS Lite Version 2.6 Administrator's Guide* at www.dell.com/support.

INI parameters

The following table provides the list of newly added INI parameter in this release:

NOTE: Every INI parameter is associated with a parent INI parameter. Use these INI parameters along with the corresponding parent INI parameters.

Table 91. INI parameters

INI parameters	Description*
[Week={Current, Other, 0, 1, 2, 3, 4}]	Enables you to specify the minimum weeks required to reboot the client after configuring an INI parameter.
[disabledKeys={PrtScn;SysRq}]	Enables you to disable keys on the keyboard.
[UpgradeOrder={bios, wtos}]	Enables you to specify the upgrade order between BIOS and firmware.
[Default={camera device name}]	Enables you to set the default camera device settings.
[CAGUserAsUPN={yes, no}]	Enables you to send user details to server in the format similar to an email address (username@fqdn).
[CAGExternal={yes, no}]	Enables you to log in to csg with an external network directly without verifying beacons.
[enableReminder={yes, no}]	Enables you to postpone the reboot triggered by the Wyse Management Suite agent.
SysinfoOntop=[yes, no]	Enables the System Information window to be displayed at the top in the Z-Order and overlaps on the nonmode switched full screen session window.
[DisableSFInit={yes, no}]	Enables you to disable the StoreFront initialize process after the device reboot.
[Host={broker_url}] [AutoConnectList={*|host1;host2;host3...}]	The **Host** option enables you to specify the broker server IP address or FQDN. The **AutoConnectList** option specifies the VDI desktops or applications launched automatically when you use VDI to sign in to the session.
[OnScreen={1-6}]	Enables you to specify which display must be in full screen in an RDP session.
ManualOverride=[no, yes] [Components={None, display, keyboard, mouse, timezone, network, audio, printer, All}]	The **ManualOverride** option enables you to retain your personalized settings. The **Components** option enables you to specify the component for which personalized settings are required.

*For detailed description and default values, see the *Dell Wyse ThinOS Lite Version 2.6 Administrator's Guide* at www.dell.com/support.

Tested environment

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

Table 92. Tested environment - General components

Component	Version
Wyse Management Suite	1.3
Wyse Device Manager	5.7.2
Imprivata OneSign	5.5.001.22
NetScaler	10.1/11.0/11.1/12.0/12.1
StoreFront	3.6/3.15
Web Interface	5.4
SecureMatrix	4.1.0

Table 93. Tested environment - VDI components

	Windows 7	Windows 8.1	Windows 10	Linux	Windows Server 2008 R2	Windows Server 2012 R2	Windows Server 2016	Apps
XenDesktop 5.6	√							
XenApp 6.5					√			√
Citrix XenDesktop/ XenApp 7.18			√			√	√	√
Citrix XenDesktop/ XenApp 7.15 LTSR	√	√			√	√		√
Citrix XenDesktop/ XenApp 7.15 LTSR	√	√	√		√	√	√	√

*AWS Workspace VM operating system Windows 7 style is based on 2008 R2 RDSH.

Table 94. Tested environment - Citrix Virtual Apps and Desktops

XenDesktop/ XenApp	Operating System	RTME	Lync client	Skype for Business (SFB) server
7.15	Windows 7	2.5	Skype For Business 2016	Skype For Business 2015
	Windows 8.1	2.5	Skype For Business2016	Skype For Business 2015
	Windows 10	2.5	Skype For Business 2016	Skype For Business 2015
	Windows 2016	2.5	Skype For Business 2016	Skype For Business 2015

Tested peripherals

This section lists the supported peripheral devices.

- **Keyboard/ Mouse**
  - Dell USB wired keyboard - KB216
  - Dell USB wired laser mouse - Naruto
  - Dell USB wired optical mouse - MS116

- Dell KM636 wireless keyboard and mouse
- Dell wireless keyboard/mouse KM632
- Dell wireless keyboard/mouse WK636
- Dell Keyboard KB113p
- Dell Keyboard KB216
- Dell Keyboard KB212-B
- Dell Keyboard KB216p/ mouse MS-116p
- Dell keyboard KB813—Smart card reader
- Dell Mouse MS111-P
- Dell Mouse MS116-P
- Dell Keyboard SK-3205—Smart card reader
- Dell Optical Wireless Mouse - WM123
- Dell Optical Wireless Mouse - WM122
- Dell wireless mouse - WM324
- Dell wireless bluetooth travel mouse - WM524
- Dell premier wireless keyboard and mouse
- Dell wireless tablet keyboard/bluetooth
- Logitech Ultrathin touch mouse T630/bluetooth
- Logitech M310 wireless mouse
- Logitech K380 keyboard/bluetooth
- Logitech K480 Keyboard/bluetooth
- Logitech K400 Plus
- Logitech T400 zone touch mouse
- Logitech M557 mouse/bluetooth
- Microsoft wireless mouse 1453
- Microsoft Arc Touch Mouse 1428
- Microsoft ARC mouse 1350
- Microsoft ARC touch mouse 1592/bluetooth
- Microsoft designer bluetooth keyboard/mouse
- Thinkpad compact bluetooth keyboard—bluetooth
- Rapoo E6100, bluetooth
- SpaceNavigator 3D space mouse

- **USB Webcam**
  - Logitech C525 HD Webcam
  - Logitech C920 HD Pro Webcam
  - Logitech C930e HD Webcam
  - Logitech BCC950 ConferenceCam
  - Logitech USB Webcam 9000
  - Logitech C922 Pro Stream Webcam
  - Logitech C925e Webcam
  - Microsoft LifeCam HD-3000
  - Microsoft LifeCam Studio
- **Printer**
  - Dell B1163 Mono Multifunction printer—no support for Generic/Text only
  - Dell B1165nfw Mono Multifunction printer—no support for Generic/Text only
  - Dell B1260dn laser printer
  - Dell B1265dnf Multifunction laser printer
  - Dell B2360d laser printer
  - Dell B2360dn laser printer
  - HP LaserJet P2055d
  - HP LaserJet P2035
  - HP LaserJet 1022n
  - HP Color LaserJet CM1312MFP
  - EPSON PLQ-20K
- **Mobile device**
  - Samsung Galaxy S7

- iPhone XR
- iPhone 7
- iPhone 8 plus
- HTC one-XL—Android 4.2.2

- **USB headset**
  - Dell Pro Stereo Headset - Skype for Business - UC350
  - Dell 2.0 speaker system - AE215
  - Dell Pro Stereo Headset - Skype for Business - UC150
  - Microsoft Corporation LifeChat LX-6000 headset
  - Dell Pro Stereo Headset UC350
  - Jabra PRO 935 MS
  - Jabra PRO 9450
  - Jabra Speak 510 MS, Bluetooth—Bluetooth
  - Jabra Evolve 75
  - Jabra Evolve 40 MS Mono
  - Jabra UC SUPREME MS /LINK 360, Bluetooth
  - Jabra GN2000
  - Jabra UC VOICE 750 MS
  - Jabra Evolve ENC010 MS Link USB headset
  - Jabra EVOLVE HSC040W
  - Plantronics SAVI W740/Savi W745—this bluetooth is not supported on ThinOS
  - Plantronics Calisto P240 D1K3 USB handset
  - Plantronics Blackwire C5210
  - Plantronics BLACKWIRE C710, Bluetooth
  - Plantronics SAVI W740/Savi W745

    NOTE: Bluetooth is not supported on ThinOS.
  - Plantronics Calisto P240 D1K3 USB handset
  - Plantronics Calisto 620 M, Bluetooth
  - Plantronics USB DSP DA40(B)
  - SENNHEISER USB SC230

    NOTE: Volume button does not work correctly with RTME.
  - SENNHEISER SC 260 USB MS II

    NOTE: Volume button does not work correctly with RTME.
  - SENNHEISER SP 10 ML Speakerphone for Lync
  - SENNHEISER SP 20 ML Speakerphone for Lync and mobile devices
  - SENNHEISER SC 75 USB MS

    NOTE: Volume button does not work correctly with RTME.
  - SENNHEISER SC 40 USB MS

    NOTE: Volume button does not work correctly with RTME.
  - SENNHESIER SDW 5016-EU

    NOTE: Volume button does not work correctly with RTME.
  - Plantronics Blackwire 3220 USB-A
- **Analog headset**
  - Logitech h150
  - Philips
  - Dell USB SoundBar AC511
- **Monitor**
  - Dell 24 Monitor - E2417H
  - Dell 24 Monitor - P2417H
  - Dell 20 Monitor - E2216H
  - Dell 22 Monitor - E2218HN
  - Dell 22 Monitor - P2219H
  - Dell 22 Monitor - P2219HC

- Dell 23 Monitor - P2319H
- Dell 24 Monitor - P2415Q 4K2K (UHD) monitor
- Dell P2418D—2560x1440
- Dell UltraSharp 34 Monitor - P3418HW
- Dell UltraSharp 27 Monitor - U2518D
- Dell UltraSharp 27 Monitor - U2718Q—4K
- Dell UltraSharp 24 Monitor - U2419H/HC
- Dell UltraSharp 24 Monitor - U2719D/DC
- Dell UltraSharp 24 Monitor - U2719D/DC—310-7225-AO
- Dell E2416Hb—1920x1080
- Dell E2715Hf—1920 x 1080
- Dell E2318H—1920 x 1080
- Dell UP2715K—3840 x 2160/2560 x 1440
- Dell UP3216Qt—3480 x 2160
- Dell P2415Q 4K2K (UHD) monitor
- Dell P2418HZ—1920 x 1080
- Dell P2714Hc—1920 x 1080
- Dell P2715Q—3840 x 2160
- Dell P2815Qf—3840 x 2160
- Dell 43 Monitor - P4317Q
- Dell P4317Qc—3480 x 2160
- Dell U2414HB—1920 x 1080
- Dell U2415—1920 x 1200
- Dell U2713HM—2560 x 1440
- Dell U2518D—2560 x 1440
- Dell U2713HMt—2560 x 1440
- Dell U3415W—3440 x 1440
- Dell U3419W—3440 x1440
- Dell U2718Qb—3840 x 2160
- Dell U2718Q—3480 x 2160
- Dell U2913 WM—2560 x 1080
- Dell S2718D—2560 x 1440
- Dell 23 Monitor - P2419H
- Dell 24 Monitor - P2419HC
- Dell P2418HZ—1920 x 1080
- Dell P2719H—1920 x 1080
- Dell P2719HC—1920 x 1080
- Dell S2817Q—3840 x 2160
- Add On 1000 Base-T SFP transceiver (RJ-45)—310-7225-AO

- **DVD ROM**
  - BENQ DVD Drive
  - Samsung portable DVD Writer SE-208
  - Dell external DVDRW Drive
  - Dell DW316
- **Cable/Converter**
  - Dell miniDP-VGA convertor
  - Dell TYPE-C-VGA convertor
  - Dell DP-VGA convertor
  - Dell DP-DVI convertor
  - Dell TYPE-C-DP convertor
  - Dell TYPE-C-HDMI convertor
  - USB to Serial converter
  - DisplayPort to HDMI adapter
  - DisplayPort to VGA adapter
  - USB Type-C to DisplayPort adapter
  - USB Type-C to HDMI

- USB Type-C to VGA adapter
- USB to Serial adapter—Trendnet
- USB to Serial adapter—Cables-2-Go

- **Smart card reader**
  - OMNIKEY HID 3021
  - OMNIKEY OK CardMan3121
  - HID OMNIKEY 5125—Proximity/Smart card reader
  - HID OMNIKEY 5421—Proximity/Smart card reader
  - HID OMNIKEY 5325 CL—Proximity/Smart card reader
  - SmartOS powered SCR335
  - Cherry keyboard RS 6600 with smart card
  - Cherry keyboard KC 1000 SC with smart card
  - Dell keyboard KB813—smart card reader
  - Dell Keyboard SK-3205—smart card reader
  - Gemalto IDBridge CT710
  - Gemalto PC Twin
  - OMNIKEY 5326 DFR—Proximity/Smart card reader
  - RDR-80581AKU—Proximity/Smart card reader
  - RDR-6082AKU—Proximity/Smart card reader
  - OMNIKEY 5025 CL—Proximity/Smart card reader
  - OMNIKEY 5321 v2—Proximity/Smart card reader
- **Finger Print Reader**
  - HDW-IMP-1C
  - Keyboard KSI 1700
- **Touch screen**
  - Elo Touch Screen USB
  - Elo Touch Screen Serial
  - Dell P2418HT—1920x1080
- **USB drive**
  - SanDisk USB 3.0 16 GB
  - Sandisk cruzer 8 GB
  - SanDisk USB3.1 and Type-C 16 GB
  - Kingston USB3.1 and Type-C 32 GB

    NOTE: Do not restart your thin client when Kingston USB3.1 and Type-C 32 GB is connected.
  - Kingston DataTraveler G3 8 GB
  - Kingston DataTraveler Elite 3.0 16 GB
  - ADATA S107/16 GB
  - PNY USB3.0 16 GB
  - Sony N50 16 GB
  - Tripp Lite USB2.0 Hub
- **Networking**
  - Cisco GLC-T=30-1301-03
- **SpeechMike Premium**
  - LFH3610/00 SpeechMike Premium—only redirect
  - LFH3200/00 SpeechMike Premium—only redirect

Table 95. Smart card information from ThinOS event log

Smart Card information from ThinOS event log	Driver	Provider (CSP)	Card type
ActivIdentity V1 (IDClassic 230)	ActivClient 6.2	ActivClient Cryptographic Service Provider	Gemalto Cyberflex Access 64 K V2c
ActivIdentity V2	ActivClient 6.2	ActivClient Cryptographic Service Provider	Oberthur CosmopolC 64k V5.2

Smart Card information from ThinOS event log	Driver	Provider (CSP)	Card type
Gemalto/IDPrime.NET (Gemalto .net 510)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	Axalto Cryptoflex.NET (V7.2.1.0)
ID Prime MD v 4.0.2 (Gemalto 840)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T = 0 (V 7.3.2.11)
ID Prime MD v 4.1.0 (Gemalto 3810)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T = 0 (V 7.4.0.7)
ID Prime MD v 4.1.1 (Gemalto 830)	Gemalto Mini driver 1.21	Microsoft Base Smart Card Crypto Provider	IDPrime MD T = 0 (V 7.4.1.7)
Etoken CardOS	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	Siemens CardOS V4.2B
Etoken CardOS (white USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	Siemens CardOS V4.2
Etoken Java(aladdin) (blue USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	eToken PRO Java 72 K OS755
Etoken Java(aladdin) (black USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 510x
Etoken Java(aladdin) (black USB key)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 5110
A.E.T. Europe B.V.	SafeSign-Identity-Client-3.0.76	SafeSign Standard Cryptographic Service Provider	G&D STAb dRCOS 3.0 T =0/1 0V300
A.E.T. Europe B.V.	SafeSign-Identity-Client-3.0.76	SafeSign Standard Cryptographic Service Provider	Giesecke and Devrient StarCos 3.2
PIV (Yubico) (black USB key)	YubiKey PIV Manager	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

Known issues

This section describes the known issues in this release.

Table 96. Known issues

Issue number	Description	Workaround
TIR98812	You cannot click OK to change the resolution when you set the **Left turn 90 degrees** screen as a main display.	There is no workaround in this release.
TIR98790	Background is filled with color when you start an application and move the application while previewing the image with two cameras.	There is no workaround in this release.
TIR98768	Image upgrade using Wyse Management Suite deletes the existing packages while the existing Wyse Management Suite App policy does not install the packages again.	Create a Wyse Management Suite App policy to install the package after upgrading.
TIR98755	Wyse Management Suite BIOS policy settings, and ini BIOS settings may be incompatible that results in a device reboot loop.	Disable either the DellCmos INI or the BIOS setting from Wyse Management Suite.
TIR98714	Pulse audio is missing and you cannot open any device file.	Reboot the thin client.
TIR98580	You must create a new INI parameter to disable the Vertical Synchronization.	There is no workaround in this release.
TIR98561	Trap (winmgr) error occurs when you wake up the monitor from screen saver.	Reboot the thin client.

Issue number	Description	Workaround
TIR98550	You cannot log in to the VDI desktop with Geamalto MD830B L3 smart card through Microsoft Windows Server 2012 Remote Desktop Service.	There is no workaround in this release.
TIR98143	CAC is not found on the login page of XenApp 7.18 Desktop Server 2016 R2.	There is no workaround in this release.

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Upgrading firmware

Downloading the installation file

1. Go to www.dell.com/support.
2. In the **Enter a Service Tag, Serial Number, Service Request...** field, type the Service Tag or the model number of your device, and press Enter or click the search icon.
3. On the product support page, click **Drivers & downloads**.
4. Select the appropriate operating system.
5. From the list, locate the file entry and click the download icon.

Firmware upgrade

Firmware upgrade is the process of updating your existing ThinOS firmware version to the latest version. To upgrade the ThinOS firmware, use any of the following:

- File Transfer Protocol (FTP) Windows server
- HTTP/HTTPS Windows server
- Dell Wyse Management Suite

NOTE: Ensure that you are enrolled in our Software Maintenance Program and are eligible to receive new versions of ThinOS software and subsequent releases of corresponding documentation uploaded on Dell Digital Locker.

NOTE: To avoid uncertain issues, ensure that when you upgrade your firmware, you do not skip versions.

Table 97. Firmware images

Platform	ThinOS	ThinOS with PCoIP
Wyse 3010 thin client	DOVE_boot	Not available
Wyse 3020 thin client	T10D_wnos	Not available
Wyse 3030 LT thin client	U10_wnos	PU10_wnos
Wyse 3040 thin client	A10Q_wnos	PA10Q_wnos
Wyse 5010 thin client	ZD10_wnos	PD10_wnos
Wyse 5040 AIO thin client	ZD10_wnos	PD10_wnos
Wyse 5060 thin client	D10Q_wnos	PD10Q_wnos
Wyse 7010 thin client	ZD10_wnos	Not available
Wyse 5070 thin client-Celeron processor	X10_wnos	PX10_wnos
Wyse 5070 thin client-Pentium processor	X10_wnos	PX10_wnos
Wyse 5070 Extended thin client-Pentium processor	X10_wnos	PX10_wnos

Table 98. BIOS binary files

Platform	BIOS binary filename
Wyse 3010 thin client	Not available
Wyse 3020 thin client	Not available
Wyse 3030 LT thin client	U10_bios.bin

Platform	BIOS binary filename
Wyse 3030 LT thin client with PCoIP	PU10_bios.bin
Wyse 3040 thin client	A10Q_bios.bin
Wyse 3040 thin client with PCoIP	A10Q_bios.bin
Wyse 5010 thin client	D10G_bios.bin
Wyse 5010 thin client with PCoIP	PD10G_bios.bin
Wyse 5040 AIO thin client	AIO10G_bios.bin
Wyse 5040 AIO thin client with PCoIP	PAIO10G_bios.bin
Wyse 5060 thin client	D10Q_bios.bin
Wyse 5060 thin client with PCoIP	PD10Q_bios.bin
Wyse 7010 thin client	Z10G_bios.bin

Table 99. Package information

Package name	Details
Base.i386.pkg	Automatically updated upon firmware upgrade.
Pcoip.i386.pkg	Automatically updated upon firmware upgrade of a PCoIP client.
RTME.i386.pkg	Upload the new package to central configuration, and system can update without INI configuration.
Horizon.i386.pkg	Upload the new package to central configuration, and configure the INI parameter to update this package.
FR.i386.pkg	Upload the new package to central configuration, and configure the INI parameter for update this package.
TCX.i386.pkg	Upload the new package to central configuration, and configure the INI parameter to update this package.

NOTE:

- **For information about the ThinOS build number, package versions, and BIOS versions, see the latest *Dell Wyse ThinOS Release Notes*.**
- **To downgrade the ThinOS firmware, ensure that you set the INI parameter Autoload=2, and follow the procedure using the FTP server.**

Firmware upgrade using FTP server

Ensure that you have set up a Windows PC or Server with Microsoft Internet Information Services (IIS) and FTP services installed. If you do not have the FTP server installed, then refer to the article about how to setup an FTP server at support.microsoft.com.

Installing the Windows IIS creates the directory `C:\inetpub\ftproot`, which is known as the FTP root. In the `ftproot` directory, create a folder `wyse` and a sub folder `wnos`. The directory structure must read as `C:\inetpub\ftproot\WYSE\wnos`.

To upgrade the ThinOS firmware using FTP server:

1. Ensure that you have downloaded the latest ThinOS firmware and latest ThinOS packages that corresponds to your thin client model. If the firmware and packages are in the form of a compressed self-extracting (.EXE) or zipped file (.ZIP), then extract the files.
2. Place the extracted firmware files in the `C:\inetpub\ftproot\WYSE\wnos` folder, and the packages to `C:\inetpub\ftproot\WYSE\wnos\pkg` on your FTP server.
3. Create a wnos.ini text file (using a text editor) in the `C:\inetpub\ftproot\WYSE\wnos` folder with the following INI parameters:

   ```
   Autoload=2 loadpkg=1 Addpkg=TCX,FR,horizon
   ```

   The option `Autoload=2`, ensures that the thin client uses the firmware installed on the server to upgrade, only if the firmware on the thin client is older than the version on the server. The option `LoadPkg` specifies how to update the external packages. If `LoadPkg` is not in the statement, it will inherit the value of `AutoLoad`.

Base package and the PCoIP package are integrated into the ThinOS firmware image. Installing the latest ThinOS firmware image automatically installs the latest version of these packages on the ThinOS client. If you set `AutoLoad=1 LoadPkg=0`, the firmware is checked, but the packages are not checked. The packages check is performed after firmware check. From ThinOS 8.3, the external packages update mechanism is changed. Some packages are default, and loaded according to value of `LoadPkg`. For example RTME. Some packages need additional parameter `AddPkg` to add. For example, FR, Horizon, and TCX. The option `AddPkg` is for adding packages. It depends on the value of `LoadPkg`. For more information about the INI parameter usage, see Dell Wyse ThinOS INI Reference Guide.

4. Save the wnos.ini file.
5. On the ThinOS client desktop, navigate to **System Setup** > **Central Configuration** > **General**.
6. In the **General** tab, enter the IP address of the FTP server or directory. For example: `150.00.0.260/wyse`. The **Username** field must have the value `Anonymous` and the **Password** field is already pre-configured.

   NOTE:

   - **If there is no default password or if the password is changed, then you must set your password. For example, abe@abc.com.**

     You can also reset the thin client to factory default settings. When you reset the thin client to factory default settings, the anonymous user is configured with the default password. However, you need to reconfigure the thin client.
   - **You can also use DHCP option tags 161 and 162 to configure the ThinOS client, file server and path information. You must create these options on your DHCP server, configure them with the correct server information, and enable the DHCP server scope in your environment.**
7. Click **OK**.
8. Restart the thin client and wait until the auto-installation of packages is complete.

To verify that the thin client is upgraded, on the ThinOS desktop, navigate to **System Information** > **General**, and check the System Version.

Firmware upgrade using HTTPS

Ensure that you have set up a Windows PC or Server with Microsoft Internet Information Services (IIS) and HTTPS services installed. If you do not have the HTTPS server installed, then refer to the article about how to setup an HTTPS server at support.microsoft.com.

Ensure that the web server can identify the file types used by ThinOS. Create two MIME types under IIS. The MIME's option needs to be configured on a per site basis. On a default IIS, install:

1. Launch the IIS admin console.
2. Browse to the default website, right-click and select **Properties**.
3. Click the **HTTP Headers** tab, and in the MIME Map section, select **File types** > **New Type**.
4. Add the two MIME types. Use `.INI` and `.` for the associated extension fields.
5. Apply the settings and close the IIS admin console.

Installing IIS creates the default directory `C:\inetpub\WWWroot`, which is known as the WWW root. In the `WWWroot` directory, create a folder `WYSE` and a sub folder `wnos`. The directory structure must read as `C:\inetpub\wwwroot\WYSE\wnos`.

To upgrade the ThinOS firmware using HTTPS server:

1. Ensure that you have downloaded the latest ThinOS firmware and latest ThinOS packages that corresponds to your thin client model. If the firmware and packages are in the form of a compressed self-extracting (.EXE) or zipped file (.ZIP), then extract the files.
2. Place the extracted firmware files in the `C:\inetpub\wwwroot\WYSE\wnos` folder, and the packages to `C:\inetpub\wwwroot\WYSE\wnos\pkg` on your HTTPS server.
3. Create a wnos.ini text file (using a text editor) in the `C:\inetpub\wwwroot\WYSE\wnos` folder with the following INI parameters:

   ```
   Autoload=2 loadpkg=1 Addpkg=TCX,FR,horizon
   ```

   The option `Autoload=2`, ensures that the thin client uses the firmware installed on the server to upgrade, only if the firmware on the thin client is older than the version on the server. The option `LoadPkg` specifies how to update the external packages. If `LoadPkg` is not in the statement, it will inherit the value of `AutoLoad`.

   Base package and the PCoIP package are integrated into the ThinOS firmware image. Installing the latest ThinOS firmware image automatically installs the latest version of these packages on the ThinOS client. If you set `AutoLoad=1 LoadPkg=0`, the firmware is checked, but the packages are not checked. The packages check is performed after firmware check. From ThinOS 8.3, the external packages update mechanism is changed. Some packages are default, and loaded according to value of `LoadPkg`. For example RTME.

Some packages need additional parameter `AddPkg` to add. For example, FR, Horizon, and TCX. The option `AddPkg` is for adding packages. It depends on the value of `LoadPkg`. For more information about the INI parameter usage, see Dell Wyse ThinOS INI Reference Guide.

4. Save the wnos.ini file.
5. On the ThinOS client desktop, navigate to **System Setup** > **Central Configuration** > **General**.
6. In the **General** tab, enter the IP address of the file server or directory. For example: `https://IPaddress/wyse`.

   NOTE: You can also use DHCP option tags 161 and 162 to configure the ThinOS client, file server and path information. You must create these options on your DHCP server, configure them with the correct server information, and enable the DHCP server scope in your environment.
7. Click **OK**.
8. Restart the thin client and wait until the auto-installation of packages is complete.

Firmware upgrade using Wyse Management Suite

Ensure that you have created a custom group and assigned the ThinOS devices to that group in Wyse Management Suite. For more information, see the latest *Dell Wyse Management Suite Administrator's Guide*.

Ensure that your ThinOS clients are registered to Wyse Management Suite. For more information, see the latest *Dell Wyse ThinOS 8.5 Administrator's Guide*.

To upgrade the ThinOS firmware using Wyse Management Suite:

1. Ensure that you have downloaded the latest ThinOS firmware and ThinOS packages that corresponds to your thin client model.
2. Log in to Wyse Management Suite using valid credentials.
3. On the Apps & Data page, in the OS Image Repository section, click **ThinOS**.
4. Click **Add Firmware File**.
   The Add File dialog box is displayed.
5. Browse and select the downloaded firmware file. Enter an appropriate description.
6. Click **Upload**.
   The ThinOS firmware file is uploaded, and the firmware file is listed on the Apps & Data - ThinOS OS Image Repository page.
7. Select the check box that corresponds to your ThinOS firmware file.
8. On the Groups & Configs page, select a custom group, and click **Edit Policies** > **ThinOS**.
   The Select ThinOS Configuration Mode screen is displayed.
9. Click **Advanced Configuration**.
10. In the Device Configuration pane, click **Firmware Upgrade**, and then click **Configure this item**.
11. From the **Platform type** drop-down list, select your thin client model.
12. From the **Firmware to auto deploy** drop-down list, select the firmware file that corresponds to your thin client model.
13. Click **Save & Publish**.
    The thin client restarts, and the firmware version is upgraded.

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Resources and support

Accessing documents using the product search

1. Go to 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 and click the search icon or press Enter.
4. Click **Manuals & documents**.

Accessing documents using product selector

You can also access documents by selecting your product.

1. Go to 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 **Manuals & documents**.

Topics:

- Additional resources

Additional resources

Table 100. Additional resources

Resource	Content
Dell support website—www.dell.com/manuals.	Administrator's Guide, INI Reference Guide, and Release Notes.
Citrix support website—docs.citrix.com.	Documentation for Citrix software.
VMware support website—docs.vmware.com.	Documentation for VMware software.
Microsoft support website—support.microsoft.com.	Documentation for Microsoft software.

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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.

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.