

# Dell Wyse ThinOS

Version 9.1.4097, 9.1.4234, 9.1.5067, and 9.1.6108  
Operating System Release Notes



## Notes, cautions, and warnings

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

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

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

|                                                                               |           |
|-------------------------------------------------------------------------------|-----------|
| <b>Chapter 1: Overview.....</b>                                               | <b>7</b>  |
| <b>Chapter 2: Version matrix.....</b>                                         | <b>8</b>  |
| <b>Chapter 3: ThinOS 9.1.6108.....</b>                                        | <b>10</b> |
| Release date.....                                                             | 10        |
| Release summary.....                                                          | 10        |
| Previous versions.....                                                        | 10        |
| Firmware upgrade.....                                                         | 10        |
| Important notes.....                                                          | 10        |
| Prerequisites for firmware upgrade.....                                       | 11        |
| Upgrade from ThinOS 8.6 to ThinOS 9.1.6108 using Wyse Management Suite.....   | 11        |
| Upgrade from ThinOS 9.1.x to ThinOS 9.1.6108 using Wyse Management Suite..... | 12        |
| Compatibility.....                                                            | 12        |
| ThinOS application package details.....                                       | 12        |
| Wyse Management Suite and Configuration UI package.....                       | 12        |
| ThinOS build details.....                                                     | 12        |
| Tested BIOS version for ThinOS 9.1.6108.....                                  | 13        |
| Citrix Workspace app feature matrix.....                                      | 13        |
| VMware Horizon feature matrix.....                                            | 21        |
| New and enhanced features.....                                                | 27        |
| Citrix Workspace app updates.....                                             | 27        |
| Unified communication updates.....                                            | 28        |
| ThinOS enhancements.....                                                      | 28        |
| Updates to Admin Policy Tool and Wyse Management Suite policy settings.....   | 29        |
| VMware Horizon update.....                                                    | 30        |
| VMware Horizon Blast limitations.....                                         | 30        |
| Supported peripherals.....                                                    | 30        |
| Supported peripherals for OptiPlex 3000 Thin Client.....                      | 37        |
| Tested environments matrix.....                                               | 38        |
| Supported smart cards.....                                                    | 41        |
| Fixed issues.....                                                             | 42        |
| Known issues.....                                                             | 44        |
| <b>Chapter 4: ThinOS 9.1.5067.....</b>                                        | <b>47</b> |
| Release summary.....                                                          | 47        |
| Release date.....                                                             | 47        |
| Previous version.....                                                         | 47        |
| Firmware upgrade.....                                                         | 47        |
| Important notes.....                                                          | 47        |
| Prerequisites for firmware upgrade.....                                       | 48        |
| Upgrade from ThinOS 9.1.x to ThinOS 9.1.5067 using Wyse Management Suite..... | 48        |
| Upgrade from ThinOS 8.6 to ThinOS 9.1.5067 using Wyse Management Suite.....   | 48        |
| Compatibility.....                                                            | 49        |

|                                                                                  |            |
|----------------------------------------------------------------------------------|------------|
| ThinOS application package details.....                                          | 49         |
| Wyse Management Suite and Configuration UI package.....                          | 49         |
| ThinOS build details.....                                                        | 49         |
| Tested BIOS version for ThinOS 9.1.5067.....                                     | 50         |
| New and enhanced features.....                                                   | 50         |
| Citrix Workspace app updates.....                                                | 50         |
| Azure Virtual Desktop updates.....                                               | 51         |
| VMware Horizon Blast limitations.....                                            | 51         |
| VDI Configuration Editor.....                                                    | 52         |
| Wyse Management Suite policy settings and Admin Policy Tool updates.....         | 56         |
| ThinOS enhancements.....                                                         | 58         |
| Supported peripherals.....                                                       | 58         |
| Tested environments matrix.....                                                  | 64         |
| Supported smart cards.....                                                       | 67         |
| Fixed issues.....                                                                | 68         |
| Known issues.....                                                                | 70         |
| <b>Chapter 5: ThinOS 9.1.4234.....</b>                                           | <b>73</b>  |
| Release date.....                                                                | 73         |
| Downgrading the ThinOS firmware.....                                             | 73         |
| Firmware upgrade.....                                                            | 73         |
| Important notes.....                                                             | 73         |
| Prerequisites for firmware upgrade.....                                          | 74         |
| Upgrade from ThinOS 8.6 to ThinOS 9.1.4234 using Wyse Management Suite.....      | 74         |
| Upgrade from ThinOS 9.1.3129 to ThinOS 9.1.4234 using Wyse Management Suite..... | 74         |
| Compatibility.....                                                               | 75         |
| ThinOS build details.....                                                        | 75         |
| ThinOS application package details.....                                          | 75         |
| Previous version.....                                                            | 75         |
| Tested BIOS version for ThinOS 9.1.4234.....                                     | 76         |
| Citrix Workspace app feature matrix.....                                         | 76         |
| VMware Horizon feature matrix.....                                               | 83         |
| Windows Virtual Desktop and RDP feature comparison matrix.....                   | 89         |
| New and enhanced features.....                                                   | 90         |
| Citrix Workspace app updates.....                                                | 90         |
| VMware Horizon Blast updates.....                                                | 90         |
| Teradici PCoIP update.....                                                       | 93         |
| Windows Virtual Desktop update.....                                              | 93         |
| Unified Communications optimization packages update.....                         | 93         |
| Authentication updates.....                                                      | 93         |
| ThinOS updates.....                                                              | 94         |
| Updates to Admin Policy Tool and Wyse Management Suite policy settings.....      | 95         |
| Tested environments matrix.....                                                  | 95         |
| Supported peripherals.....                                                       | 98         |
| Supported smart cards.....                                                       | 104        |
| Fixed issues.....                                                                | 105        |
| Known issues.....                                                                | 107        |
| <b>Chapter 6: ThinOS 9.1.4097.....</b>                                           | <b>109</b> |

|                                                                                                                                                                              |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Release date.....                                                                                                                                                            | 109        |
| Compatibility.....                                                                                                                                                           | 109        |
| ThinOS build details.....                                                                                                                                                    | 109        |
| ThinOS application package details.....                                                                                                                                      | 109        |
| Tested BIOS version for ThinOS 9.1.4097.....                                                                                                                                 | 109        |
| Citrix Workspace app feature matrix.....                                                                                                                                     | 109        |
| VMware Horizon feature matrix.....                                                                                                                                           | 117        |
| Windows Virtual Desktop and RDP feature comparison matrix.....                                                                                                               | 122        |
| New and enhanced features.....                                                                                                                                               | 123        |
| Wireless chipset support and limitation for OptiPlex 3000 Thin Client.....                                                                                                   | 123        |
| VMware Horizon Blast updates.....                                                                                                                                            | 123        |
| Teradici PCoIP update.....                                                                                                                                                   | 125        |
| Microsoft Windows Virtual Desktop update.....                                                                                                                                | 125        |
| Unified Communications optimization packages update.....                                                                                                                     | 125        |
| Identity automation updates.....                                                                                                                                             | 125        |
| Imprivata PIE limitation.....                                                                                                                                                | 126        |
| ThinOS updates.....                                                                                                                                                          | 126        |
| Updates to Admin Policy Tool and Wyse Management Suite policy settings.....                                                                                                  | 126        |
| Tested environments matrix.....                                                                                                                                              | 127        |
| Supported peripherals.....                                                                                                                                                   | 129        |
| Supported smart cards.....                                                                                                                                                   | 133        |
| Known issues.....                                                                                                                                                            | 135        |
| <b>Chapter 7: Security package 20220330_1.0.1.2 for ThinOS 9.1.6108.....</b>                                                                                                 | <b>136</b> |
| Release summary.....                                                                                                                                                         | 136        |
| Supported platforms.....                                                                                                                                                     | 136        |
| Important notes.....                                                                                                                                                         | 136        |
| Tested BIOS details.....                                                                                                                                                     | 136        |
| Download the application package.....                                                                                                                                        | 137        |
| Install the application package using Wyse Management Suite.....                                                                                                             | 137        |
| Security package 20220330_1.0.1.2.....                                                                                                                                       | 138        |
| Tested environments matrix.....                                                                                                                                              | 138        |
| <b>Chapter 8: Citrix Workspace app 2112, VMware Horizon 2111, Cisco WebEx Meetings VDI 41.12, Cisco WebEx VDI 41.12, and Zoom 5.8.4 application packages for ThinOS.....</b> | <b>141</b> |
| Release summary.....                                                                                                                                                         | 141        |
| Supported platforms.....                                                                                                                                                     | 141        |
| Important notes.....                                                                                                                                                         | 141        |
| Installing the application package.....                                                                                                                                      | 142        |
| Download the application packages.....                                                                                                                                       | 142        |
| Install the application package using Wyse Management Suite.....                                                                                                             | 142        |
| Compatibility.....                                                                                                                                                           | 142        |
| Application package information.....                                                                                                                                         | 142        |
| Previous versions.....                                                                                                                                                       | 143        |
| Citrix Workspace app feature matrix.....                                                                                                                                     | 143        |
| New and enhanced features.....                                                                                                                                               | 151        |
| Citrix Workspace app updates.....                                                                                                                                            | 151        |
| Microsoft Teams update.....                                                                                                                                                  | 153        |
| Citrix Workspace app limitations.....                                                                                                                                        | 154        |
| VMware Horizon updates.....                                                                                                                                                  | 154        |

|                                                                                                                                                                   |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Cisco WebEx Meetings VDI updates.....                                                                                                                             | 154        |
| Cisco WebEx VDI updates.....                                                                                                                                      | 156        |
| Zoom application package updates.....                                                                                                                             | 157        |
| Tested environments matrix.....                                                                                                                                   | 159        |
| Known issues.....                                                                                                                                                 | 161        |
| <b>Chapter 9: Cisco WebEx Meetings VDI 41.10, Cisco WebEx VDI 41.10, Citrix Workspace app 2109, and HID fingerprint reader 210217_11 packages for ThinOS.....</b> | <b>163</b> |
| Release summary.....                                                                                                                                              | 163        |
| Supported platforms.....                                                                                                                                          | 163        |
| Important notes.....                                                                                                                                              | 163        |
| Installing the application package.....                                                                                                                           | 164        |
| Download the application packages.....                                                                                                                            | 164        |
| Install the application package using Wyse Management Suite.....                                                                                                  | 164        |
| Compatibility.....                                                                                                                                                | 164        |
| Application package information.....                                                                                                                              | 164        |
| Previous versions.....                                                                                                                                            | 165        |
| Citrix Workspace app feature matrix.....                                                                                                                          | 165        |
| New and enhanced features.....                                                                                                                                    | 172        |
| Citrix Workspace app updates.....                                                                                                                                 | 172        |
| Cisco WebEx Meetings VDI updates.....                                                                                                                             | 173        |
| HID fingerprint reader updates.....                                                                                                                               | 174        |
| Cisco WebEx VDI update.....                                                                                                                                       | 174        |
| Tested environments matrix.....                                                                                                                                   | 175        |
| Known issues.....                                                                                                                                                 | 176        |
| <b>Chapter 10: Resources and support.....</b>                                                                                                                     | <b>178</b> |
| <b>Chapter 11: Contacting Dell.....</b>                                                                                                                           | <b>179</b> |

# Overview

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

## Version matrix

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

**Table 1. ThinOS firmware version matrix**

| Release version | Release date  | Supported platforms                                                                                                                                                                                                | Release Notes                                   |
|-----------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| ThinOS 9.1.6108 | February 2022 | <ul style="list-style-type: none"> <li>Wyse 3040 Thin Client</li> <li>Wyse 5070 Thin Client</li> <li>Wyse 5470 Thin Client</li> <li>Wyse 5470 All-in-One Thin Client</li> <li>OptiPlex 3000 Thin Client</li> </ul> | <a href="#">Release version ThinOS 9.1.6108</a> |
| ThinOS 9.1.5067 | December 2021 | <ul style="list-style-type: none"> <li>Wyse 3040 Thin Client</li> <li>Wyse 5070 Thin Client</li> <li>Wyse 5470 Thin Client</li> <li>Wyse 5470 All-in-One Thin Client</li> </ul>                                    | <a href="#">Release version ThinOS 9.1.5067</a> |
| ThinOS 9.1.4234 | October 2021  | <ul style="list-style-type: none"> <li>Wyse 3040 Thin Client</li> <li>Wyse 5070 Thin Client</li> <li>Wyse 5470 Thin Client</li> <li>Wyse 5470 All-in-One Thin Client</li> </ul>                                    | <a href="#">Release version ThinOS 9.1.4234</a> |

**Table 2. ThinOS application package version matrix**

| Application package versions                                                                                                                                                                                                                                                                                                                                   | Release date  | Supported platforms                                                                                                                                                                                                | Release Notes                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Security package 20220330_1.0.1.2 for ThinOS 9.1.6108                                                                                                                                                                                                                                                                                                          | April 2022    | <ul style="list-style-type: none"> <li>Wyse 3040 Thin Client</li> <li>Wyse 5070 Thin Client</li> <li>Wyse 5470 Thin Client</li> <li>Wyse 5470 All-in-One Thin Client</li> <li>OptiPlex 3000 Thin Client</li> </ul> | <a href="#">Security package 20220330_1.0.1.2 for ThinOS 9.1.6108</a>                                                                                     |
| <ul style="list-style-type: none"> <li>Citrix_Workspace_App_2 1.12.0.18_2 .pkg</li> <li>VMware_Horizon_2111.8.4.0.18957622_3.pkg</li> <li>Cisco_WebEx_Meetings_VDI_41.12.6.12_1.pkg</li> <li>Cisco_WebEx_VDI_41.12.0.20899_1.pkg (formerly called Cisco WebEx Teams)</li> <li>Zoom_Citrix_5.8.4.21112_1.pkg</li> <li>Zoom_Horizon_5.8.4.21112_1.pkg</li> </ul> | January 2022  | <ul style="list-style-type: none"> <li>Wyse 3040 Thin Client</li> <li>Wyse 5070 Thin Client</li> <li>Wyse 5470 Thin Client</li> <li>Wyse 5470 All-in-One Thin Client</li> </ul>                                    | <a href="#">Citrix Workspace app 2112, VMware Horizon 2111, Cisco WebEx Meetings VDI 41.12, Cisco WebEx VDI 41.12, and Zoom 5.8.4 packages for ThinOS</a> |
| <ul style="list-style-type: none"> <li>Citrix_Workspace_App_2 1.9.0.25_1 .pkg</li> <li>Cisco_WebEx_Meetings_VDI_41.10.3.19_1.pkg</li> </ul>                                                                                                                                                                                                                    | November 2021 | <ul style="list-style-type: none"> <li>Wyse 3040 Thin Client</li> <li>Wyse 5070 Thin Client</li> <li>Wyse 5470 Thin Client</li> <li>Wyse 5470 All-in-One Thin Client</li> </ul>                                    | <a href="#">Cisco WebEx Meetings 41.10, Cisco WebEx VDI 41.10, Citrix Workspace app 2109, and HID fingerprint reader 210217_11 packages for ThinOS</a>    |



**Table 2. ThinOS application package version matrix (continued)**

| Application package versions                                                                                                                                         | Release date | Supported platforms | Release Notes |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------|---------------|
| <ul style="list-style-type: none"> <li>• Cisco_WebEx_VDI_41.10.0.20213_1.pkg (formerly Cisco WebEx Teams)</li> <li>• HID_Fingerprint_Reader_210217_11.pkg</li> </ul> |              |                     |               |

# ThinOS 9.1.6108

## Release date

February 2022

## Release summary

Patches or Add-on releases are created to support existing platforms or software releases, correct defects, make enhancements, or add minor features.

## Previous versions

Dell Wyse 3040, 5070, 5470, and 5470 All-in-One thin clients—ThinOS 9.1.5067

OptiPlex 3000 Thin Client—ThinOS 9.1.4097

## Firmware upgrade

The following firmware upgrade scenarios are supported:

- ThinOS 8.6\_807 > ThinOS 9.1.6108
- ThinOS 9.1.3129 or later versions > ThinOS 9.1.6108

**i NOTE:** If you are using earlier versions of ThinOS 8.6, you must first upgrade to ThinOS 8.6\_807 and apply the latest BIOS updates before upgrading to ThinOS 9.1.6108. If you are using earlier versions of ThinOS 9.x, you must first upgrade to ThinOS 9.1.3129 or later versions before upgrading to ThinOS 9.1.6108.

**i NOTE:** On thin clients that run ThinOS versions earlier than ThinOS 9.1.6108, you must upgrade the OS image first, and then upgrade the BIOS after the OS image is successfully upgraded. Do not upgrade the BIOS and the OS image together. If you upgrade the BIOS and the OS image together, the BIOS upgrade is ignored, and you cannot upgrade the BIOS to the ignored version anymore. You must upgrade the BIOS to another version.

For more information, see the *Dell Wyse ThinOS Version 9.1.4234, 9.1.5067, and 9.1.6108 Migration Guide* at [www.dell.com/support](http://www.dell.com/support). For the steps to access documents, see [Resources and support](#).

## Important notes

- There are chances that after the upgrade the device displays a black screen. You may reboot the device to boot it up correctly.
- If the thin client is registered in Wyse Management Suite group 1 and you set Wyse Management Suite group 2 token in group 1 policy, then the group 2 token is applied on GUI but the thin client will still be in group 1. You must reboot the thin client to change the thin client to Wyse Management Suite group 2.
  - i NOTE:** Dell Technologies recommends that you set a new ThinOS application package or a ThinOS firmware package in Group 1, so that thin client installs the package, and automatically reboots, and changes to Group 2.
- If the **Live Update** option is disabled, the thin client cannot download and install any firmware or package until the next reboot. However, the firmware or packages are downloaded in the following scenarios even when the **Live Update** option is disabled:
  - When you register the thin client to Wyse Management Suite manually.
  - When you power on the thin client from a power off state.

- When you change the Wyse Management Suite group.
- When you set a new firmware or an application package in Wyse Management Suite group 2 and then change the device from group 1 to group 2 before upgrading, the following two notifications are displayed:
  - **Wyse Management Suite server or group is changed. System is going to reboot to load full configuration. Press cancel in 60 seconds to prevent reboot.**
  - **A new firmware or application is available, do you want to upgrade now or defer to the next reboot? The changes will automatically be applied in 120 seconds.**

On ThinOS 9.1.5067 and earlier versions, if you do not select an option, the thin client reboots after 60 seconds. After the reboot, the new application or firmware is installed and the thin client reboots again. The thin client will be in group 2 after the reboot.

From ThinOS 9.1.6108, a notification for new firmware or application is displayed first. If you do not select an option, the thin client downloads and installs the new application or firmware, and reboots. If you select **Next Reboot**, then the thin client prompts the WMS server or group change notification.

- When a new firmware or an application notification is displayed on your thin client, clicking **Next Reboot** will:
  - Displays a notification if you have changed the Wyse Management Suite group and if the files are downloaded from the new group.
  - Not display any notification if the new firmware or application is downloaded in the same group, from ThinOS 9.1.6108.
  - Installs the firmware or package after a reboot.

## Prerequisites for firmware upgrade

- Update the BIOS version of Wyse 5070 Thin Client to 1.3.1 or later before upgrading to ThinOS 9.1.6108. If you upgrade to ThinOS 9.1.6108 with earlier BIOS version and then upgrade the BIOS version to 1.3.1 or later, the device may fail to boot. If there is a boot failure, check if the PTT option is available under security in BIOS Setup. For Wyse 5070 Thin Clients with firmware TPM configuration, the PTT option is available after updating BIOS to 1.3.1 or later versions. You must disable the option and boot into ThinOS if you fail to boot after upgrade BIOS. For latest BIOS versions, see [Tested BIOS version for ThinOS 9.1.6108](#).
- Before you migrate from ThinOS 8.6\_807 to ThinOS 9.1.6108 or upgrade from ThinOS 9.x to 9.1.6108, power on the system and disable the sleep mode. If the system has entered the sleep mode, you must send the Wakeup On LAN command through Wyse Management Suite before using any real-time commands. To use the Wakeup On LAN command, ensure that the Wakeup On LAN option is enabled in BIOS.

## Upgrade from ThinOS 8.6 to ThinOS 9.1.6108 using Wyse Management Suite

If you are running any ThinOS 8.6 version, you must first install the ThinOS 8.6\_807 image with the latest BIOS version, and then upgrade to ThinOS 9.1.6108. For the latest BIOS versions, see the *Dell Wyse ThinOS Version 8.6\_807 Release Notes* at [www.dell.com/support](http://www.dell.com/support).

The device reboots after the ThinOS image is downloaded. Once the upgrade completes, the device is automatically registered to Wyse Management Suite. Dell Technologies recommends you to back up your device settings before you initiate the upgrade process. All device settings are erased after you upgrade from ThinOS 8.6 except the following settings:

- **Wyse Management Suite group token and server settings**
- **Static DNS**
- **Certificates**
- **IEEE802.1x wired authentication settings**
- **Wireless connections**—The WEP/Sharekey security type is changed to **Open** as they are not supported in ThinOS 9.1
- **Proxy settings**

 **NOTE:** For more information about how to install the ThinOS 9.1.6108 image, see the *Dell Wyse ThinOS Version 9.1.4234, 9.1.5067, and 9.1.6108 Migration Guide* at [www.dell.com/support](http://www.dell.com/support).

# Upgrade from ThinOS 9.1.x to ThinOS 9.1.6108 using Wyse Management Suite

## Prerequisites

- Ensure that you are running ThinOS 9.1.3129 or later version on your thin client.
- The thin client must be registered to Wyse Management Suite.
- Create a group in Wyse Management Suite with a group token.
- Download the ThinOS 9.1.6108 (DTOS\_9.1.6108.pkg) firmware to upgrade.

## Steps

1. Go to the **Groups & Configs** page and select a group.
2. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**. The Configuration Control | ThinOS window is displayed.
3. In the left pane, click **Standard**.
4. From the **Standard** menu, expand **Firmware**, and click **OS Firmware Updates**.

 **NOTE:** If you cannot locate the **OS Firmware Updates** option under the **Standard** tab, use the **Advanced** tab.

5. Click **Browse** and select the **ThinOS 9.1.6108** firmware to upload.
6. From the **Select the ThinOS Firmware to deploy** drop-down menu, select the uploaded firmware.
7. Click **Save & Publish**.

The thin client downloads the firmware to install and restarts. The firmware version is upgraded.

 **NOTE:** There are chances that the upgrade might fail with event log stating **Failed to install**. In such an event, you may reboot the device and upgrade again.

## Compatibility

### ThinOS application package details

- Cisco\_Jabber\_14.0.3.306553.1.pkg
- Cisco\_WebEx\_Meetings\_VDI\_41.12.6.12.1.pkg
- Cisco\_WebEx\_VDI\_41.12.0.20899.1.pkg (formerly called Cisco WebEx Teams)
- Citrix\_Workspace\_App\_21.12.0.18.3.pkg
- EPOS\_Connect\_7.0.0.19336.1.pkg
- HID\_Fingerprint\_Reader\_210217.13.pkg
- Jabra\_8.5.1.12.pkg
- Microsoft\_AVD\_1.6.1402.pkg
- Teradici\_PCoIP\_21.03.1.26.pkg
- VMware\_Horizon\_2111.8.4.0.18957622.6.pkg
- Zoom\_Citrix\_5.8.4.21112.1.pkg
- Zoom\_Horizon\_5.8.4.21112.1.pkg
- Imprivata\_PIE\_7.7.000.0007.1134.pkg
- Identity\_Automation\_QuickAccess\_2.0.0.3.3.pkg

### Wyse Management Suite and Configuration UI package

- Wyse Management Suite version 3.6.241
- Configuration UI package 1.5 324

### ThinOS build details

- ThinOS 9.1.3129 or later versions to ThinOS 9.1.6108—**DTOS\_9.1.6108.pkg**.

- ThinOS 8.6\_807 to ThinOS 9.1.6108 conversion builds:
  - **A10Q\_wnos**—Wyse 3040 Thin Client
  - **PA10Q\_wnos**—Wyse 3040 Thin Client with PColP
  - **X10\_wnos**—Wyse 5070 Thin Client, Wyse 5470 Thin Client, and Wyse 5470 All-in-One Thin Client
  - **PX10\_wnos**—Wyse 5070 Thin Client with PColP, Wyse 5470 Thin Client with PColP, and Wyse 5470 All-in-One Thin Client with PColP

## BIOS packages

**Table 3. BIOS package**

| Platform model                   | Package filename        |
|----------------------------------|-------------------------|
| Wyse 5070 Thin Client            | bios-5070_1.15.1.pkg    |
| Wyse 5470 Thin Client            | bios-5470_1.12.0.pkg    |
| Wyse 5470 All-in-One Thin Client | bios-5470AIO_1.13.0.pkg |

**Table 4. BIOS package—OptiPlex 3000 Thin Client**

| Platform model            | Package filename        |
|---------------------------|-------------------------|
| OptiPlex 3000 Thin Client | Bios-OP3000TC_1.0.2.pkg |

## Tested BIOS version for ThinOS 9.1.6108

**Table 5. Tested BIOS details**

| Platform name                    | BIOS version |
|----------------------------------|--------------|
| Wyse 3040 Thin Client            | 1.2.5        |
| Wyse 5070 Thin Client            | 1.15.1       |
| Wyse 5470 All-in-One Thin Client | 1.13.0       |
| Wyse 5470 Thin Client            | 1.12.0       |

**Table 6. Tested BIOS details—OptiPlex 3000 Thin Client**

| Platform name             | BIOS version |
|---------------------------|--------------|
| OptiPlex 3000 Thin Client | 1.0.2        |

If you are upgrading BIOS on the Wyse 5470 Thin Client, ensure that you have connected the device to the external power source using the power adapter. If you do not connect the power adapter, BIOS update fails. In this event, connect an external power source and reboot twice to install BIOS.

## Citrix Workspace app feature matrix

**Table 7. Citrix Workspace app feature matrix**

| Feature          |                                             | ThinOS 9.1.6108 | Limitations                                                                                          |
|------------------|---------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------|
| Citrix Workspace | Citrix Virtual Apps                         | Supported       | Citrix session prelaunch and session linger features are not supported. This is Linux binary design. |
|                  | Citrix Virtual Desktops                     | Supported       | There are no limitations in this release.                                                            |
|                  | Citrix Content Collaboration (Citrix Files) | N/A             | N/A                                                                                                  |

**Table 7. Citrix Workspace app feature matrix (continued)**

| Feature             |                                              | ThinOS 9.1.6108 | Limitations                                                                                                                                                                                                                                                                                                                                     |
|---------------------|----------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Citrix Access Control Service                | N/A             | N/A                                                                                                                                                                                                                                                                                                                                             |
|                     | Citrix Workspace Browser                     | N/A             | N/A                                                                                                                                                                                                                                                                                                                                             |
|                     | SaaS/Webapps with SSO                        | Not supported   | Not supported                                                                                                                                                                                                                                                                                                                                   |
|                     | Citrix Mobile Apps                           | N/A             | N/A                                                                                                                                                                                                                                                                                                                                             |
|                     | Intelligent Workspace features               | N/A             | N/A                                                                                                                                                                                                                                                                                                                                             |
| Endpoint Management | Auto configure using DNS for Email Discovery | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                     | Centralized Management Settings              | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                     | App Store Updates/Citrix Auto updates        | N/A             | N/A                                                                                                                                                                                                                                                                                                                                             |
| UI                  | Desktop Viewer/Toolbar                       | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                     | Multi-tasking                                | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                     | Follow Me Sessions (Workspace Control)       | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
| HDX Host Core       | Adaptive transport                           | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                     | Session reliability                          | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                     | Auto-client Reconnect                        | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                     | Bi-directional Content redirection           | N/A             | N/A                                                                                                                                                                                                                                                                                                                                             |
|                     | URL redirection                              | N/A             | URL redirection has limitations in Citrix Workspace app for Linux client. It requires launch client browser through Local app access policy (which is not supported in Linux client) to access the URL redirection blacklist URL. Citrix support recommends using Browser Content Redirection (BCR) in Linux client to replace URL redirection. |
|                     | File open in Citrix Workspace app            | N/A             | Not supported. No local file explorer on ThinOS.                                                                                                                                                                                                                                                                                                |
|                     | Browser content redirection                  | Supported       | Browser Content Redirection (BCR) with CEF is enabled by default. ThinOS does not provide the configuration to change BCR with WebKitGKT+.                                                                                                                                                                                                      |

**Table 7. Citrix Workspace app feature matrix (continued)**

| Feature                 |                                    | ThinOS 9.1.6108 | Limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Multiport ICA                      | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Multistream ICA                    | Not supported   | Not supported                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                         | SDWAN support                      | Not supported   | Not supported                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HDX IO/Devices/Printing | Local Printing                     | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Generic USB Redirection            | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Client drive mapping/File Transfer | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| HDX Integration         | Local App Access                   | N/A             | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                         | Multi-touch                        | N/A             | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                         | Mobility pack                      | N/A             | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                         | HDX Insight                        | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | HDX Insight with NSAP VC           | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | EUEM Experience Matrix             | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Session Sharing                    | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| HDX Multi-media         | Audio Playback                     | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Bi-directional Audio (VoIP)        | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Webcam redirection                 | Supported       | This feature is only supported with Citrix Workspace app 2109 in this release. Webcam redirection works for 32-bit applications. For example, Skype and GoToMeeting. You can use a 32-bit browser to verify webcam redirection online. For example, <a href="http://www.webcamtests.com">www.webcamtests.com</a> . This is Citrix binary design. Citrix Workspace app 2112 only supports built-in camera. External cameras does not work. The issue is also observed in Linux binary. |
|                         | Video playback                     | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Flash redirection                  | N/A             | Citrix Linux binary supports only x86 client.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                         |                                    |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Table 7. Citrix Workspace app feature matrix (continued)**

| Feature |                                                                                        | ThinOS 9.1.6108 | Limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------|----------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | Microsoft Teams Optimization                                                           | Supported       | Supports Microsoft Teams optimization through HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. This is a Citrix binary design. For more information, see the Dell Wyse ThinOS Version 9.1.6108 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                           |
|         | Skype for business Optimization pack                                                   | Supported       | Not supported through proxy server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|         | Cisco Jabber Unified Communications Optimization                                       | Supported       | For information about limitations, see the Dell Wyse ThinOS Version 9.1.6108 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                                                                                                                                           |
|         | Unified Communication Zoom Cloud Meeting Optimization                                  | Supported       | Support Zoom optimization via HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS Version 9.1.6108 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                           |
|         | Unified Communication Cisco Webex VDI Optimization (tVDI) (formerly Cisco WebEx Teams) | Supported       | Supports Cisco Webex VDI (formerly Cisco WebExTeams) optimization mode through HTTP proxy server which is configured in ThinOS Network Proxy by Admin Policy Tool or Wyse Management Suite. Supports Webex Meetings optimization mode through HTTP proxy server with anonymous, and username or password authentications. It does not support the proxy configured by DHCP Option 252. For more information, see the Dell Wyse ThinOS Version 9.1.6108 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |



**Table 7. Citrix Workspace app feature matrix (continued)**

| Feature        |                                                                      | ThinOS 9.1.6108                          | Limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|----------------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Unified Communication<br>Cisco Webex Meetings<br>Optimization (wVDI) | Supported                                | Dell Technologies recommends to wait for 10s to join a second meeting after you end the first meeting. Otherwise, VDI mode may not work. Supports Webex Meetings optimization mode through HTTP proxy server with anonymous, and username or password authentications. It does not support the proxy configured by DHCP Option 252. For more information, see the Dell Wyse ThinOS Version 9.1.6108 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |
|                | Windows Multimedia redirection                                       | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | UDP Audio                                                            | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| HDX Graphics   | H.264-enhanced SuperCodec                                            | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | Client hardware acceleration                                         | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | 3DPro Graphics                                                       | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | External Monitor Support                                             | Supported                                | For limitations, see the Dell Wyse ThinOS Version 9.1.6108 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                                                                                                          |
|                | True Multi Monitor                                                   | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | Desktop Composition redirection                                      | N/A                                      | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | Location Based Services (Location available via API-description)     | N/A                                      | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Authentication | Federated Authentication (SAML/Azure AD)                             | Supported                                | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO.                                                                                                                                                                                                                                                                                                                                                                        |
|                | RSA Soft Token                                                       | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | Challenge Response SMS (Radius)                                      | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                | OKTA Multi factor authentication                                     | Limited supported (only supports Radius) | Does not support OKTA SAML authentication.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Table 7. Citrix Workspace app feature matrix (continued)**

| Feature |                                                               | ThinOS 9.1.6108                    | Limitations                                                                                                            |
|---------|---------------------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|         | DUO multi factor authentication                               | Supported                          | There are no limitations in this release.                                                                              |
|         | Smart cards (CAC, PIV etc)                                    | Supported                          | There are no limitations in this release.                                                                              |
|         | User Cert Auth via NetScaler Gateway (via Browser Only)       | N/A                                | N/A                                                                                                                    |
|         | Proximity/Contactless Card                                    | Supported                          | There are no limitations in this release.                                                                              |
|         | Credential insertion (For example, Fast Connect, Storebrowse) | Supported                          | There are no limitations in this release.                                                                              |
|         | Pass Through Authentication                                   | Supported                          | There are no limitations in this release.                                                                              |
|         | Save credentials (on-premise and only SF)                     | N/A                                | N/A                                                                                                                    |
|         | NetScaler nFactor Authentication                              | Not supported                      | Not supported                                                                                                          |
|         | NetScaler Full VPN                                            | Not supported                      | Not supported                                                                                                          |
|         | Netscaler Native OTP                                          | Supported                          | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|         | Biometric Authentication such as Touch ID and Face ID         | Supported (only supports Touch ID) | Only supports Touch ID.                                                                                                |
|         | Single Sign-On to Citrix Files App                            | N/A                                | N/A                                                                                                                    |
|         | Single Sign on to Citrix Mobile apps                          | N/A                                | N/A                                                                                                                    |
|         | Anonymous Store Access                                        | Supported                          | There are no limitations in this release.                                                                              |
|         | Netscaler + RSA                                               | Not supported                      | Not supported                                                                                                          |
|         | Netsclaer + Client cert authentication                        | Not supported                      | Not supported                                                                                                          |
|         | Citrix cloud + Azure Active Directory                         | Not supported                      | Not supported                                                                                                          |
|         | Citrix cloud + Active Directory + Token                       | Not supported                      | Not supported                                                                                                          |
|         | Citrix cloud + Active Directory                               | Supported                          | There are no limitations in this release.                                                                              |
|         | Citrix cloud + Citrix Gateway                                 | Not supported                      | Not supported                                                                                                          |
|         | Citrix cloud + Okta                                           | Not supported                      | Not supported                                                                                                          |
|         | Citrix cloud + SAML 2.0                                       | Not supported                      | Not supported                                                                                                          |
|         | Netscaler load balance                                        | Not supported                      | Not supported                                                                                                          |

**Table 7. Citrix Workspace app feature matrix (continued)**

| Feature               |                                                                        | ThinOS 9.1.6108 | Limitations                                                                                                            |
|-----------------------|------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------|
| Security              | TLS 1.2                                                                | Supported       | There are no limitations in this release.                                                                              |
|                       | TLS 1.0/1.1                                                            | Not supported   | ThinOS 9.1 does not provide the configuration to change TLS.                                                           |
|                       | DTLS 1.0                                                               | Supported       | There are no limitations in this release.                                                                              |
|                       | DTLS 1.2                                                               | Not supported   | Not supported                                                                                                          |
|                       | SHA2 Cert                                                              | Supported       | There are no limitations in this release.                                                                              |
|                       | Smart Access                                                           | Not supported   | Not supported                                                                                                          |
|                       | Remote Access via Citrix Gateway                                       | Supported       | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|                       | Workspace for Web Access                                               | N/A             | ThinOS does not provide local browser.                                                                                 |
|                       | IPV6                                                                   | Not supported   | Not supported—Can sign in but cannot connect to the session.                                                           |
| Keyboard Enhancements | Dynamic Keyboard Layout Synchronization with Windows VDA               | Supported       | There are no limitations in this release.                                                                              |
|                       | Unicode Keyboard Layout Mapping with Windows VDA                       | Supported       | There are no limitations in this release.                                                                              |
|                       | Client IME Enhancements with Windows VDA                               | N/A             | N/A                                                                                                                    |
|                       | Language Bar Show/Hide with Windows VDA Applications                   | N/A             | N/A                                                                                                                    |
|                       | Option Key mapping for server-side IME input mode on Windows VDA       | N/A             | N/A                                                                                                                    |
|                       | Dynamic Keyboard Layout Synchronization with Linux VDA                 | Not supported   | Not supported                                                                                                          |
|                       | Client IME Enhancements with Linux VDA                                 | N/A             | N/A                                                                                                                    |
|                       | Language Bar support for Linux VDA Applications                        | Not supported   | Not supported                                                                                                          |
|                       | Keyboard sync only when a session is launched—client Setting in ThinOS | Supported       | There are no limitations in this release.                                                                              |
|                       | Server default setting in ThinOS                                       | Supported       | There are no limitations in this release.                                                                              |
|                       | Specific keyboard in ThinOS                                            | Supported       | There are no limitations in this release.                                                                              |

**Table 7. Citrix Workspace app feature matrix (continued)**

| Feature                                                                             |                                                                 | ThinOS 9.1.6108 | Limitations                               |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------|-------------------------------------------|
| New features listed in Citrix Workspace app release notes but not in feature matrix | Dynamic e911 in Microsoft Teams (CWA2112)                       | Not Supported   | Not Supported                             |
|                                                                                     | Request control in Microsoft Teams (CWA2112)                    | Not Supported   | Not supported                             |
|                                                                                     | Support for cursor color inverting (CWA2112)                    | Supported       | There are no limitations in this release. |
|                                                                                     | Microsoft Teams enhancement to echo cancellation (CWA2111)      | Supported       | There are no limitations in this release. |
|                                                                                     | Enhancement on smart card support (CWA2112)                     | Supported       | There are no limitations in this release. |
|                                                                                     | Webcam redirection for 64-bit (Technical Preview) (CWA2111)     | Not supported   | Not supported                             |
|                                                                                     | Support for custom web stores (Technical Preview) (CWA2111)     | Not supported   | Not supported                             |
|                                                                                     | Workspace with intelligence (Technical Preview) (CWA2111)       | Not supported   | Not supported                             |
|                                                                                     | Session reliability enhancement (CWA2109)                       | Supported       | There are no limitations in this release  |
|                                                                                     | Enhancement to logging (CWA2109)                                | Supported       | There are no limitations in this release  |
|                                                                                     | Adaptive audio (CWA2109, CWA2112)                               | Supported       | There are no limitations in this release  |
|                                                                                     | Storebrowse enhancement for service continuity(CWA2109)         | Not supported   | Not supported                             |
|                                                                                     | Global App Config Service (Public Technical Preview) (CWA2109)  | Not supported   | Not supported                             |
|                                                                                     | EDT MTU discovery (CWA2109)                                     | Not supported   | Not supported                             |
|                                                                                     | Creating custom user-agent strings in network request (CWA2109) | Not supported   | Not supported                             |
|                                                                                     | Feature flag management (CWA2109)                               | Not supported   | Not supported                             |
|                                                                                     | Battery status indicator (CWA2106, CWA 2111)                    | Supported       | There are no limitations in this release. |
|                                                                                     | Service continuity (CWA2109)                                    | Not supported   | Not supported                             |
|                                                                                     | User Interface enhancement (CWA2106)                            | Not supported   | Not supported                             |
|                                                                                     | Pinning multi-monitor screen layout (CWA2103)                   | Not supported   | Not supported                             |

**Table 7. Citrix Workspace app feature matrix (continued)**

| Feature                  |                                                                             | ThinOS 9.1.6108 | Limitations                               |
|--------------------------|-----------------------------------------------------------------------------|-----------------|-------------------------------------------|
|                          | App Protection (CWA2101, CWA2106, CWA 2108 )                                | Not supported   | Not supported                             |
|                          | Authentication enhancement is available only in cloud deployments (CWA2012) | Not supported   | Not supported                             |
|                          | Multiple audio (CWA2012, CWA2010, and CWA2112)                              | Not supported   | Not supported                             |
|                          | Citrix logging (CWA2009)                                                    | Supported       | There are no limitations in this release. |
|                          | Cryptographic update (CWA2006)                                              | Not supported   | Not supported                             |
|                          | Transparent user interface (TUI) (CWA1912 and CWA1910)                      | Not supported   | Not supported                             |
|                          | GStreamer 1.x supportexperimental feature(CWA1912)                          | Supported       | There are no limitations in this release. |
|                          | App indicator icon (CWA1910)                                                | Not supported   | Not supported                             |
|                          | Latest webkit support (CWA1908 and CWA1906)                                 | Supported       | There are no limitations in this release. |
|                          | Bloomberg audio redirection (CWA1903)                                       | Supported       | There are no limitations in this release. |
|                          | Bloomberg v4 keyboard selective redirection support(CWA1808)                | Supported       | There are no limitations in this release. |
| ThinOS VDI configuration | Broker Setting                                                              | Supported       | There are no limitations in this release. |
|                          | PNA button menu                                                             | Supported       | There are no limitations in this release. |
|                          | Sign on window function                                                     | Supported       | There are no limitations in this release. |
|                          | Workspace mode                                                              | Supported       | There are no limitations in this release. |
|                          | Admin policy tool                                                           | Supported       | There are no limitations in this release. |

## VMware Horizon feature matrix

**Table 8. VMware Horizon feature matrix**

| Feature             |                              | ThinOS 9.1.6108                                  |
|---------------------|------------------------------|--------------------------------------------------|
| Broker Connectivity | SSL certificate verification | Supported only with VDI                          |
|                     | Disclaimer dialog            | Supported with VDI, RDS Hosted Desktops and Apps |
|                     | UAG compatibility            | Supported with VDI, RDS Hosted Desktops and Apps |

**Table 8. VMware Horizon feature matrix (continued)**

| Feature               |                                               | ThinOS 9.1.6108                                  |
|-----------------------|-----------------------------------------------|--------------------------------------------------|
|                       | Shortcuts from server                         | Not supported                                    |
|                       | Pre-install shortcuts from server             | Not supported                                    |
|                       | File type association                         | Not supported                                    |
|                       | Phone home                                    | Supported with VDI, RDS Hosted Desktops and Apps |
| Broker Authentication | Password authentication                       | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Single sign on                                | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | RSA authentication                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Integrated RSA SecurID token generator        | Not supported                                    |
|                       | Kiosk mode                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Remember credentials                          | Not supported                                    |
|                       | Log in as current user                        | Not supported                                    |
|                       | Nested log in as current user                 | Not supported                                    |
|                       | Log in as current user 1-way trust            | Not supported                                    |
|                       | OS biometric authentication                   | Not supported                                    |
|                       | Un-authentication access                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Radius – Cisco ACS                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Radius – SMS Passcode                         | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Radius - DUO                                  | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Radius – Microsoft Network Policy             | Supported with VDI, RDS Hosted Desktops and Apps |
| Smart card            | x.509 certificate authentication (Smart Card) | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | CAC support                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | .Net support                                  | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | PIV support                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Java support                                  | Not supported                                    |
|                       | Purebred derived credentials                  | Not supported                                    |
|                       | Device Cert auth with UAG                     | Not supported                                    |
| Desktop Operations    | Reset                                         | Supported only with VDI                          |
|                       | Restart                                       | Supported only with VDI                          |

**Table 8. VMware Horizon feature matrix (continued)**

| Feature                                                    |                                                 | ThinOS 9.1.6108                                                                    |
|------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------|
|                                                            | Log off                                         | Supported with VDI, RDS Hosted Desktops and Apps                                   |
| Session Management (Blast Extreme & PCoIP)                 | Switch desktops                                 | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | Multiple connections                            | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | Multi-broker/multi-site redirection - Universal | Not supported                                                                      |
|                                                            | App launch on multiple end points               | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | Auto-retry 5+ minutes                           | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | Blast network recovery                          | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | Time zone synchronization                       | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | Jumplist integration (Windows 7- Windows 10)    | Not supported                                                                      |
| Client Customization                                       | Command line options                            | Not supported                                                                      |
|                                                            | URI schema                                      | Not supported                                                                      |
|                                                            | Launching multiple client instances using URI   | Not supported                                                                      |
|                                                            | Preference file                                 | Not supported                                                                      |
|                                                            | Parameter pass-through to RDSH apps             | Not supported                                                                      |
|                                                            | Non interactive mode                            | Not supported                                                                      |
|                                                            | GPO-based customization                         | Not supported                                                                      |
| Protocols Supported with VDI, RDS Hosted Desktops and Apps | Blast Extreme                                   | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | H.264 - HW decode                               | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | H.265 - HW decode                               | Supported with VDI, RDS Hosted Desktops and Apps—Except OptiPlex 3000 Thin Client. |
|                                                            | Blast Codec                                     | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | JPEG/PNG                                        | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | Switch encoder                                  | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | BENIT                                           | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | Blast Extreme Adaptive Transportation           | Supported with VDI, RDS Hosted Desktops and Apps                                   |
|                                                            | RDP 8.x, 10.x                                   | Supported with VDI, RDS Hosted Desktops and Apps                                   |

**Table 8. VMware Horizon feature matrix (continued)**

| Feature                                   |                                                                     | ThinOS 9.1.6108                                  |
|-------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------|
|                                           | PCoIP                                                               | Supported with VDI, RDS Hosted Desktops and Apps |
| Features/Extensions Monitors/<br>Displays | Dynamic display resizing                                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | VDI windowed mode                                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Remote app seamless window                                          | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Multiple monitor support                                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | External monitor support for mobile                                 | Not supported                                    |
|                                           | Display pivot for mobile                                            | Not supported                                    |
|                                           | Number of displays Supported with VDI, RDS Hosted Desktops and Apps | 4                                                |
|                                           | Maximum resolution                                                  | 3840x2160                                        |
|                                           | High DPI scaling                                                    | Supported only with VDI                          |
|                                           | DPI sync                                                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Exclusive mode                                                      | Not supported                                    |
|                                           | Multiple monitor selection                                          | Supported with VDI, RDS Hosted Desktops and Apps |
| Input Device (Keyboard/Mouse)             | Language localization (EN, FR, DE, JP, KO, ES, CH)                  | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Relative mouse                                                      | Supported only with VDI                          |
|                                           | External Mouse Support                                              | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Local buffer text input box                                         | Not supported                                    |
|                                           | Keyboard Mapping                                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | International Keyboard Support                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Input Method local/remote switching                                 | Not supported                                    |
|                                           | IME Sync                                                            | Supported with VDI, RDS Hosted Desktops and Apps |
| Clipboard Services                        | Clipboard Text                                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Clipboard Graphics                                                  | Not supported                                    |
|                                           | Clipboard memory size configuration                                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Clipboard File/Folder                                               | Not supported                                    |
|                                           | Drag and Drop Text                                                  | Not supported                                    |
|                                           | Drag and Drop Image                                                 | Not supported                                    |
|                                           | Drag and Drop File/Folder                                           | Not supported                                    |



**Table 8. VMware Horizon feature matrix (continued)**

| Feature                      |                                                    | ThinOS 9.1.6108                                  |
|------------------------------|----------------------------------------------------|--------------------------------------------------|
| Connection Management        | IPv6 only network support                          | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | PCoIP IP roaming                                   | Supported with VDI, RDS Hosted Desktops and Apps |
| Optimized Device Redirection | Serial (COM) Port Redirection                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Client Drive Redirection/File Transfer             | Not supported                                    |
|                              | Scanner (TWAIN/WIA) Redirection                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | x.509 Certificate (Smart Card/Derived Credentials) | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Gyro Sensor Redirection                            | Not supported                                    |
| Real-Time Audio-Video        | Audio in (input)                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Video in (input)                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Multiple webcams                                   | Not supported                                    |
|                              | Multiple speakers                                  | Not supported                                    |
| USB Redirection              | USB redirection                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Policy: ConnectUSBOnInsert                         | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Policy: ConnectUSBOnStartup                        | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Connect/Disconnect UI                              | Not supported                                    |
|                              | USB device filtering (client side)                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Isochronous Device Support                         | Supported only with VDI                          |
|                              | Split device support                               | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Bloomberg Keyboard compatibility                   | Supported only with VDI                          |
|                              | Smartphone sync                                    | Supported only with VDI                          |
| Unified Communications       | Skype for business                                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Zoom Cloud Meetings                                | Supported with VDI, RDS Hosted Desktops          |
|                              | Cisco Jabber Softphone                             | Supported with VDI, RDS Hosted Desktops          |
|                              | Cisco WebEx Teams                                  | Supported with VDI, RDS Hosted Desktops          |
|                              | Cisco WebEx Meetings                               | Supported with VDI, RDS Hosted Desktops          |
|                              | Microsoft Teams RTAV                               | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Microsoft Teams offload                            | Supported with VDI, RDS Hosted Desktops and Apps |
| Multimedia Support           | Multimedia Redirection (MMR)                       | Supported with VDI, RDS Hosted Desktops          |

**Table 8. VMware Horizon feature matrix (continued)**

| Feature               |                             | ThinOS 9.1.6108                                  |
|-----------------------|-----------------------------|--------------------------------------------------|
|                       | HTML5 Redirection           | Not supported                                    |
|                       | Directshow Redirection      | Not supported                                    |
|                       | URL content redirection     | Not supported                                    |
|                       | MMR Multiple Audio Output   | Not supported                                    |
|                       | Browser content redirection | Not supported                                    |
| Graphics              | vDGA                        | Supported only with VDI                          |
|                       | vSGA                        | Supported only with VDI                          |
|                       | NVIDIA GRID vGPU            | Supported with VDI, RDS Hosted Desktops          |
|                       | Intel vDGA                  | Supported only with VDI                          |
|                       | AMD vGPU                    | Supported only with VDI                          |
| 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              | VMware Integrated Printing  | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Location Based Printing     | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Native Driver Support       | Not supported                                    |
| Security              | FIPS-140-2 Mode Support     | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Imprivata Integration       | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Opswat agent                | Not supported                                    |
|                       | Opswat on-demand agent      | Not supported                                    |
|                       | TLS 1.1/1.2                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Screen shot blocking        | Not supported                                    |
|                       | Keylogger blocking          | Not supported                                    |
| Session Collaboration | Session Collaboration       | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Read-only Collaboration     | Supported with VDI, RDS Hosted Desktops and Apps |
| Update                | Update notifications        | Not supported                                    |
|                       | App Store update            | Not supported                                    |
| Other                 | Smart Policies from DEM     | Supported with VDI, RDS Hosted Desktops and Apps |

**Table 8. VMware Horizon feature matrix (continued)**

| Feature |                                               | ThinOS 9.1.6108                                    |
|---------|-----------------------------------------------|----------------------------------------------------|
|         | Access to Linux Desktop - Blast Protocol Only | Supported with VDI—Only basic connection is tested |
|         | Workspace ONE mode                            | Supported with VDI, RDS Hosted Desktops and Apps   |
|         | Nested - basic connection                     | Supported with VDI, RDS Hosted Desktops and Apps   |
|         | DCT Per feature/component collection          | Not supported                                      |

For detailed information about the VMware Horizon features, see the Horizon documentation at [docs.vmware.com](https://docs.vmware.com).

## New and enhanced features

### Citrix Workspace app updates

- **Plug-and-play functionality for smart card reader enhancement**—ThinOS does not allow to disable smart card plug-and-play through Citrix Configuration Editor by modifying DriverName parameter due to ThinOS security concern. Hence, plug-and-play functionality for smart card reader is always enabled from this release.
- **Webcam redirection (HDX RealTime Webcam Video Compression) for 32-bit apps enhancement**—Only 32-bit apps on the virtual desktop with HDX RealTime Webcam Video Compression are supported by ThinOS. Dell Technologies only qualified this feature using Citrix Workspace App 2109 package. With this feature, you can customize the camera resolution and frames per second from **System Setup > Peripherals > Camera**. You can also customize this feature using Admin Policy Tool or Wyse Management Suite policy settings. HDX RealTime Webcam Video Compression is compatible with most unified communications clients. The feature has been tested for compatibility with Cisco Webex Meetings, Cisco Webex Teams, Cisco Jabber, Microsoft Teams, Skype for Business 365, and Zoom. You can use a 32-bit browser such as Google Chrome or Mozilla Firefox to verify the webcam redirection online. External USB cameras or the integrated camera can be used with HDX RealTime Webcam Video Compression. Webcam bandwidth consumption can vary with webcam models. Different webcams offer different frame rates and resolution. Dell Technologies used the following webcams for initial feature validation:
  - Microsoft LifeCam HD-3000—Highest supported resolution with HDX RealTime Webcam Video Compression is 1920x800.
  - Logitech C920, C922, C930e—Highest supported resolution with HDX RealTime Webcam Video Compression is 1600x896.
  - Wyse 5470 and 5470 All-in-One thin clients with built-in camera.

For the steps to configure camera settings, see *Dell Wyse ThinOS 9.1.4234, 9.1.5067, and 9.1.6108 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

#### HDX RealTime Webcam Video Compression limitations

- Camera with hardware encoding is not supported in ThinOS.
- Since x264 library is not integrated into ThinOS, 64-bit apps with HDX RealTime Webcam Video Compression are not supported by Citrix Workspace App. Hence, only 32-bit apps with HDX RealTime Webcam Video Compression are supported in ThinOS.
- Citrix Workspace App 2112 with HDX RealTime Webcam Video Compression works only with built-in camera. The issue is also reproduced in Linux Citrix Workspace app binary. Hence, from this ThinOS release, HDX RealTime Webcam Video Compression is only supported with Citrix Workspace app 2109.
- Sometimes, the updated Camera Width, Camera Height and Camera FPS settings does not sync from Wyse Management Suite to the thin client. You must reboot the client for the changes to take effect.
- HDX RealTime Webcam Video Compression in ThinOS supports only one webcam at a time. Citrix Workspace Linux binary can update the default webcam by modifying **HDXWebCamDevice** in `$HOME/.ICAClient/wfclient.ini` configuration file. For example, add **HDXWebCamDevice=/dev/video2** to set the webcam mapped to `/dev/video2` in a system. However, ThinOS does not allow to input the value `/dev/video2` in VDI Configuration Editor due to security reasons.
- If client camera is set to 2304x1296 or 2304x1536 video resolution, the HDX webcam redirection cannot be previewed in the session. This limitation is reproduced in CWA 2109 Linux binary as well.

- If client camera is set to 1920x1080 video resolution, the HDX webcam redirection falls back to 325x288 video resolution in the session. This limitation is reproduced in CWA 2109 Linux binary as well.
- HDX webcam camera sometimes does not work on WebEx Meeting call. This limitation is reproduced in CWA 2109 Linux binary as well.
- Zoom application video preview sometimes fails when you use Citrix HDX Webcam. This limitation is reproduced in CWA 2109 Linux binary as well.
- WebEx application video fails to preview when you use Citrix HDX Webcam. This limitation is reproduced in CWA 2109 Linux binary as well.
- External USB camera does not work with Citrix HDX Webcam in Citrix Workspace app 2112. Only the built-in camera works. This limitation is reproduced in CWA 2109 Linux binary as well.
- **Citrix Workspace app fixed issues**
  - Resolved the issue where the cursor color inverting feature does not work after you upgrade or downgrade the Citrix Workspace app package.
  -  **NOTE:** You must install ThinOS 9.1.6108 firmware before you install Citrix\_Workspace\_App\_21.12.0.18.3.pkg.
  - Resolved the issue where DriverName in smartcard settings under module.ini is changed from VDSCARDV2.DLL to VDSCARD.DLL.
- **Citrix Workspace app limitations**
  - Graphics issue while using YouTube with Browser Content Redirection (BCR) enabled.
  - Zoom optimization does not support proxy using nonanonymous authentication.
  - Mouse cursor displays a black block in Citrix HDX 3D desktop.
  - Jabra Evolve 75, Jabra Engage 75, and Jabra PRO 9450 headsets do not support answering and disconnecting calls using headset buttons for RTME, Cisco JVDI, Zoom, Cisco WebEx teams VDI, Cisco WebEx Meeting VDI, and Microsoft Teams. Jabra Engage 75 headset supports RTME.
  - Zoom window displays a shadow when you share screen.

## Unified communication updates

Cisco Jabber application package is updated to version 14.0.3.406553.1.

-  **NOTE:** Answering and disconnecting calls using headset buttons is not supported in Cisco JVDI, Zoom, Cisco WebEx teams VDI, Cisco WebEx Meeting VDI, and Microsoft Teams.

## ThinOS enhancements

- You can register devices with the Wyse Management Suite using DHCP scope options 201 and 202.
- The following are the updates in the download and installation process of firmware, BIOS, and application packages files:
  - The pop-up window for new firmware or application package is prompted before downloading the file. After you click **Install Now**, the download is initiated.
  - Once a file is downloaded, it gets installed before the next file is downloaded. After the installation of the downloaded file is finished, the next download is initiated.
  - OS image is downloaded and installed first. The client reboots after the image is installed. After the reboot, the download and installation of other packages are initiated.
- If you set a new firmware or an application package to update from group 2 when your device is in Wyse Management Suite group 1, and then change the device from group 1 to group 2, the notification window that is displayed to initiate the new firmware or application package upgrade is prompted first. After you click the **Next Reboot** button, the notification window of WMS server or group change is displayed.
- If you change the **Wyse Management Suite** server or group in **Central Configuration** when there is a notification window with a new available firmware or application package upgrade, a pop-up window is displayed to notify that the upgrade will be terminated.
- Added new wireless security type WPA3 Personal and Opportunistic Wireless Encryption (OWE).
  - Wyse 3040 Thin Client does not support WPA3 Personal and OWE.
  - Wyse 5070, 5470, 5470 All-in-One thin clients, and OptiPlex 3000 Thin Client with wireless chipset 9560 do not support OWE.
  - OptiPlex 3000 Thin Client with wireless chipset AX210 supports both WPA3 Personal and OWE with WIFI 6/6e.
-  **NOTE:** If you disable **11n** from **Wyse Management Suite** policy settings or **Admin Policy Tool**, WPA3 Personal does not work with some wireless routers.
- Added the Energy Star logo to the System Information window of OptiPlex 3000 Thin Clients.

**i** **NOTE:** The logo is present only in factory shipped OptiPlex 3000 thin clients.

- Updated the battery icons that are displayed on Wyse 5470 Thin Client.
- When the manual override option is enabled, the audio devices that are manually selected in the **Peripherals > Audio** tab take priority. Audio devices remain selected after you reboot the device.
- Supports configuring proxy for Secure MQTT using PAC/WPAD settings.
- Added **Pulse secure and Global Protect** in the VPN Protocol list. The default value is **Cisco AnyConnect**. You can connect to VPN with Cisco Anyconnect, Pulse secure, or Global Protect.
- Added camera control options such as resolution and FPS. The feature currently works in Citrix only. For more information, see [Citrix Workspace app updates](#).

For more information about the updates, see the *Dell Wyse ThinOS 9.1.4234, 9.1.5067, and 9.1.6108 Administrator's Guide* and *Dell Wyse ThinOS 9.1.4234, 9.1.5067, and 9.1.6108 Migration Guide* at [www.dell.com/support](http://www.dell.com/support).

## Updates to Admin Policy Tool and Wyse Management Suite policy settings

- **On Desktop**—Added **On Desktop** option in **Session Settings > Global Session Settings**. If you select **On desktop = Specified Applications/Desktops**, you can specify the applications or desktops list in the **Specified Applications/Desktops List** to be displayed on desktop. The option works only when you log in with classic mode or modern mode.
- **Map Disks**—Changed the default value of **Map Disks** option in **Session Settings > Global Session Settings** to enabled.
- **Show Password for Login Window**—Added **Show Password for Login Window** option in **Login Experience > Login Settings**. If you enable this option, an eye symbol is displayed in the password, passcode, or PIN field on the login window. Clicking the eye symbol displays the characters that you have entered in the password, passcode, or PIN field.

**i** **NOTE:** To use this option, ensure that there is no default password set. The option is not available on the login screen of web view windows such as Citrix Azure AD login window or Citrix OTP login window. The option is also not available on second passcode windows such as Citrix SMS passcode or Citrix OKTA passcode.
- **Analog Audio Jack pop-up**—Added **Analog Audio Jack pop-up** option in **Peripheral Management > Audio** to enable or disable the pop-up that is displayed when you plug in analog headsets.
- **SmartCard Certificate Show Common Name**—Added **SmartCard Certificate Show Common Name** in **Login Experience > SmartCard Settings** to display the common certificate name as the username when you use a smart card to log in.
- **Admin User Password**—Changed the minimum required length of **Admin User Password** from 8 characters to 9 in **Privacy & Security > Account Privileges**.
- **System Information**—Added **System Information** in **Privacy & Security > Account Privileges** to enable or disable the account privilege of having system information window.
- **Security Type**—Added **WPA3 Personal** and **Opportunistic Wireless Encryption** under the **Security Type** drop-down list in **Network Configuration > Wireless Settings**.
- **Current BIOS Admin Password**—Added **Current BIOS Admin Password** in the **BIOS** pages of all platforms.

**i** **NOTE:** If you have not synced the BIOS password in the **Wyse Management Suite** server, you can enter the current BIOS password in this field to publish the BIOS settings. If you have synced the BIOS password in the Wyse Management Suite server, this field is ignored.

**i** **NOTE:** If you enable **Set Admin Password**, set new BIOS password and then reboot, the new BIOS password is synced to WMS server automatically. If you first enable **Set Admin Password**, set the new BIOS password, and then disable **Set Admin Password**, the BIOS password is cleared to empty. On the thin client, the **Current BIOS Admin Password** option is always blank, and **Set Admin Password** option is always disabled. These options do not have any impact on the functionality.
- **Playing video**—Added the option to add a video in **Personalization > Screen Saver > Screen Saver Type**. Click **Browse** to upload a video file. The maximum file size that is allowed is 100 MB.
- **Brightness**—Added **Brightness** option in **Peripheral Management > Monitor > Monitor Settings** for adjusting the brightness of the built-in display. The option is only applicable on Wyse 5470 and Wyse 5470 All-in-One thin clients. The option is not available on external monitors.
- **Main Screen**—Removed **Main Screen** from **Peripheral Management > Monitor > Monitor Settings > MultiHead Monitor > Mirror Mode**. **Main Screen** is only available under Span mode.
- **Enable the Intel's special GPU buffer format for Dual GPU (5070 Extended only)**—Enabled the option in **Peripheral Management > Monitor > Monitor Settings**.

**i** **NOTE:** If you face issues with the mouse cursor speed, disable this option to improve the performance.

- **MultiHead Monitor**—Added **Monitor Resolution** and **Monitor Rotation** options in **Peripheral Management > Monitor > Monitor Settings** to support configuring display resolution and rotation in mirror mode with multihead monitor enabled.
- **Default Printer**—The default printer list in **Peripheral Management > Printers > Printer Settings** only supports LPD1-LPD19.
- **LPD Printer**—The LPD printer list in **Peripheral Management > Printers > Printer Settings** only supports LPD1-LPD19.
- **Enable Show Group Key**—Added the option **Enable Show Group Key** in **Services > WDA Settings** to enable an eye symbol that you can click to display the WMS group registration key.
- **Key Length**—Changed the default value for **Key Length** in **Privacy & Security > SCEP > SCEP Settings** to 4096 from 2048.
- **Manual Override**—Added **Manual Override** option in **Region & Language Settings > TimeServer Settings**. If you enable this option, changes made to the **TimeServer Settings** in the ThinOS local UI takes priority. The default value is disabled.
- **Optimize for CPU**—Added **Optimize for CPU** option in **Peripheral Management > Camera**. The option is enabled by default. The recommended settings for camera format, resolution and FPS are automatically set. The default settings are **format=RAW, resolution=320X240** and **FPS=10**. You can customize **Camera Format, Camera Width, Camera Height**, and **Camera FPS** settings after disabling this option. Before you configure the camera settings, ensure that the camera supports the specified resolution and FPS. Increasing the resolution and FPS impacts the performance. The default camera device in the Admin Policy Tool or Wyse Management Suite policy settings is not supported in this release.
- **Authority URL** and **Authority Endpoint**—Changed the **Authority URL** and **Authority Endpoint** options in **Broker Settings > Azure Virtual Desktop Settings** to read only.
- Updated the VDI configuration editor settings that cannot be modified. For more information, see the *VDI Configuration Editor* section in the latest *Dell Wyse ThinOS 9.1.4234, 9.1.5067, and 9.1.6108 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).
- Updated the ThinOS 9.x policy settings for OptiPlex 3000 Thin Client.
  - Removed the **Business Hours** option.
  - Changed the option **Disabling Push Notification** to **Ignore MQTT**.
- **Terminal Name**—If the default value has been changed, the value of **Terminal Name** does not change when you set **\$TN** in the policy or change the group of **Wyse Management Suite** server.
  - To change the terminal name—Insert a different name in the policy and send a new name using **Change Host Name** command from Wyse Management Suite.
  - To reset to the default value—Insert a special string **-default-** in the policy to reset to default value and then reset the system settings to factory default in the ThinOS local client.

## VMware Horizon update

**VMware Horizon RSA login enhancement**—Added RSA logo to the Horizon RSA login window to emphasize the **RSA passcode** input field.

## VMware Horizon Blast limitations

- **Multimedia Redirection**—There can be performance issues on videos that are played using Multimedia Redirection in VMware Horizon Blast. The issue is observed when you install both VMware Horizon and Windows Virtual Desktop packages together. As a workaround, uninstall the Azure Virtual Desktop (Microsoft AVD) package. For information about how to delete the package, see the *Dell Wyse ThinOS 9.1.4234, 9.1.5067, and 9.1.6108 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).
- **Cisco JVDI**—Sometimes JVDI fails to register. This issue is a ThinOS issue. On VMware Ubuntu Linux client, JVDI can be registered manually. But, as a workaround for this issue, do not register JVDI manually. JVDI registers automatically if you wait for 5-10 m. However, if you register manually, JVDI may not get registered and it cannot be used.
- **HEVC on OptiPlex 3000 Thin Client**—OptiPlex 3000 Thin Client does not support HEVC.
- If an error message that states **Zoom Plugin is missing some components. Please reinstall the plugin to restore it** is displayed when you connect to a Zoom call, remove all the application packages from the client, and reinstall them.

## Supported peripherals

 **NOTE:** The supported peripherals are not limited to the peripherals devices listed in this section.

**Table 9. Supported peripherals**

| Product Category    | Peripherals                                                                                   |
|---------------------|-----------------------------------------------------------------------------------------------|
| Adapters and cables | C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter                                         |
|                     | Dell Adapter - DisplayPort to DVI (Single Link) - DANARBC084                                  |
|                     | Dell Adapter - DisplayPort to HDMI 2.0 (4K) - DANAUBC087                                      |
|                     | Dell Adapter - DisplayPort to VGA - DANBNBC084                                                |
|                     | Dell Adapter - HDMI to DVI - DAUARBN004                                                       |
|                     | Dell Adapter - HDMI to VGA - DAUBNBC084                                                       |
|                     | Dell Adapter - USB-C to DisplayPort - DBQANBC067                                              |
|                     | Dell Adapter - USB-C to Dual USB-A with Power Pass-Through - DBQ2BJBC070 - Combo Adapter      |
|                     | Dell Adapter - USB-C to HDMI - DBQAUBC064                                                     |
|                     | Dell Adapter - USB-C to HDMI/DP - DBQAUANBC070                                                |
|                     | Dell Adapter - USB-C to VGA - DBQBNBC064                                                      |
|                     | StarTech.com 1 Port USB to RS232 DB9 Serial Adapter Cable - Serial adapter - USB 2.0 - RS-232 |
|                     | Trendnet USB to Serial Converter RS-232                                                       |
|                     |                                                                                               |
| Audio devices       | Dell 2.0 Speaker System - AE215                                                               |
|                     | Dell Pro Stereo Headset - Skype for Business - UC350                                          |
|                     | Dell Pro Stereo Headset - UC150 - Skype for Business                                          |
|                     | Dell Professional Sound Bar (AE515M)                                                          |
|                     | Dell USB Sound Bar (AC511M)                                                                   |
|                     | Dell Wired 2.1 Speaker System - AE415                                                         |
|                     | Jabra BIZ 2400 Duo USB MS                                                                     |
|                     | Jabra EVOLVE UC VOICE 750                                                                     |
|                     | Jabra Engage 65 Stereo Headset                                                                |
|                     | Jabra Evolve 65 MS Stereo - Headset                                                           |
|                     | Jabra Evolve 75                                                                               |
|                     | Jabra Engage 75                                                                               |
|                     | Jabra GN2000                                                                                  |
|                     | Jabra PRO 935 USB Microsoft Lync Headset - 935-15-503-185                                     |
|                     | Jabra Pro 9450                                                                                |
|                     | Jabra Speak 510 MS Bluetooth                                                                  |
|                     | Jabra UC SUPREME MS Bluetooth (link 360)                                                      |
|                     | LFH3610/00 Speechmike Premium—Only supports redirect                                          |
|                     | Logitech S-150                                                                                |
|                     | Logitech h150 - analog                                                                        |
|                     | Nuance PowerMic II—supports to redirect whole device                                          |
|                     | Olympus RecMic DR-2200—supports to redirect whole device                                      |
|                     | PHILIPS - analog                                                                              |
|                     | POLYCOM Deskphone CX300                                                                       |

**Table 9. Supported peripherals (continued)**

| Product Category | Peripherals                                                                      |
|------------------|----------------------------------------------------------------------------------|
|                  | Plantronics AB J7 PLT                                                            |
|                  | Plantronics BLACKWIRE C710, Bluetooth                                            |
|                  | Plantronics Blackwire 5220 Series                                                |
|                  | Plantronics Blackwire C5210                                                      |
|                  | Plantronics Calisto P820-M                                                       |
|                  | Plantronics SAVI W740/Savi W745—supports USB only and does not support bluetooth |
|                  | Plantronics Savi W440M-400 Series convertible wireless headset - DECT 6.0        |
|                  | Plantronics Voyager 6200 UC                                                      |
|                  | Plantronics Voyager Focus UC B825-M headset for Microsoft Lync                   |
|                  | EPOS   SENNHEISER D 10 USB ML-US Wireless DECT Headset                           |
|                  | EPOS   SENNHEISER SC 40 USB MS                                                   |
|                  | EPOS   SENNHEISER SC 660 USB ML                                                  |
|                  | EPOS   SENNHEISER SDW 5 BS-EU                                                    |
|                  | EPOS   SENNHEISER SP 10 ML Speakerphone for Lync                                 |
|                  | EPOS   SENNHEISER USB SC230                                                      |
| Camera           | Dell Ultra WB7022                                                                |
|                  | Jabra PanaCast 4K Webcam                                                         |
|                  | Logitech BRIO 4K Webcam                                                          |
|                  | Logitech C910 HD Pro Webcam                                                      |
|                  | Logitech C920 HD Pro Webcam                                                      |
|                  | Logitech C922 Pro Stream Webcam                                                  |
|                  | Logitech C925e Webcam                                                            |
|                  | Logitech C930e HD Webcam                                                         |
|                  | Logitech HD Webcam C525                                                          |
|                  | Microsoft LifeCam HD-3000                                                        |
|                  | Poly EagleEye Mini webcam                                                        |
|                  |                                                                                  |
| Displays         | C2422HE                                                                          |
|                  | C2722DE                                                                          |
|                  | C3422WE                                                                          |
|                  | E1916H                                                                           |
|                  | E1920H                                                                           |
|                  | E2016H                                                                           |
|                  | E2016Hv—China only                                                               |
|                  | E2020H                                                                           |
|                  | E2216H                                                                           |
|                  | E2216Hv—China only                                                               |
|                  | E2218HN                                                                          |
|                  |                                                                                  |



**Table 9. Supported peripherals (continued)**

| Product Category | Peripherals           |
|------------------|-----------------------|
|                  | E2220H                |
|                  | E2318H                |
|                  | E2318HN               |
|                  | E2417H                |
|                  | E2420H                |
|                  | E2420HS               |
|                  | E2720H                |
|                  | E2720HS               |
|                  | MR2416                |
|                  | P1917S                |
|                  | P2016                 |
|                  | P2017H                |
|                  | P2018H                |
|                  | P2217                 |
|                  | P2217H                |
|                  | P2219H                |
|                  | P2219HC               |
|                  | P2317H                |
|                  | P2319H                |
|                  | P2415Q (3840 x 2160)  |
|                  | P2417H                |
|                  | P2418D                |
|                  | P2418HT               |
|                  | P2418HZ               |
|                  | P2419H                |
|                  | P2419HC               |
|                  | P2421D                |
|                  | P2421DC               |
|                  | P2715Q (3840 x 2160)  |
|                  | P2719H (1920 x 1080)  |
|                  | P2719HC               |
|                  | P2720D                |
|                  | P2720DC               |
|                  | P3418HW               |
|                  | P4317Q                |
|                  | S2719HS (1920 x 1080) |
|                  | S2817Q (3840x2160)    |

**Table 9. Supported peripherals (continued)**

| Product Category                   | Peripherals                                                         |
|------------------------------------|---------------------------------------------------------------------|
|                                    | U2415                                                               |
|                                    | U2419H                                                              |
|                                    | U2419HC                                                             |
|                                    | U2421HE                                                             |
|                                    | U2518D                                                              |
|                                    | U2520D                                                              |
|                                    | U2713HM (2560 x 1440)                                               |
|                                    | U2718Q (4K) (3840 x 2160)                                           |
|                                    | U2719D (1920 x 1080)                                                |
|                                    | U2719DC                                                             |
|                                    | U2720Q                                                              |
|                                    | U2721DE                                                             |
|                                    | U3219Q (3840 x 2160)—No support for Type C to HDMI convertor        |
|                                    | U3419W (3440 x 1440)                                                |
|                                    | U4320Q                                                              |
|                                    | U4919DW                                                             |
| Docking station                    | Dell Dock - WD19-C                                                  |
|                                    | Dell Thunderbolt Dock - WD19TB—Thunderbolt Display is not supported |
| Fingerprint readers                | HID EikonTouch 4300 Fingerprint Reader                              |
|                                    | HID EikonTouch M211 Fingerprint Reader                              |
|                                    | HID EikonTouch TC510 Fingerprint Reader                             |
|                                    | HID EikonTouch TC710 Fingerprint Reader                             |
|                                    | HID EikonTouch V311 Fingerprint Reader                              |
|                                    | Imprivata HDW-IMP-1C                                                |
|                                    | KSI-1700-SX Keyboard                                                |
| Hands-Free Authentication (HFA)    | BLED112HDW-IMP-IIUR—BLEdongle                                       |
| Input devices (Keyboard and Mouse) | Bloomberg Keyboard STB 100                                          |
|                                    | Dell Keyboard KB212-B                                               |
|                                    | Dell Keyboard KB216p                                                |
|                                    | Dell Laser Scroll USB 6-Buttons Silver and Black Mouse              |
|                                    | Dell Laser Wired Mouse - MS3220                                     |
|                                    | Dell Mobile Pro Wireless Mice - MS5120W                             |
|                                    | Dell Mobile Wireless Mouse - MS3320W                                |
|                                    | Dell Multi-Device Wireless Keyboard and Mouse Combo - KM7120W       |
|                                    | Dell Multi-Device Wireless Mouse - MS5320W                          |
|                                    | Dell Optical Wireless Mouse - WM122                                 |
|                                    | Dell Optical Wireless Mouse - WM123                                 |

**Table 9. Supported peripherals (continued)**

| Product Category       | Peripherals                                                                                       |
|------------------------|---------------------------------------------------------------------------------------------------|
|                        | Dell Premier Wireless Mouse - WM527                                                               |
|                        | Dell USB Wired Keyboard - KB216                                                                   |
|                        | Dell USB Wired Optical Mouse - MS116                                                              |
|                        | Dell Wireless Keyboard and Mouse - KM636                                                          |
|                        | Dell Wireless Keyboard/mouse KM632                                                                |
|                        | Dell Wireless Mouse - WM126 - black                                                               |
|                        | Dell Wireless Mouse - WM326                                                                       |
|                        | Dell wireless Keyboard/mouse KM714                                                                |
|                        | Man & Machine C Mouse - Mouse - right and left-handed - optical - 2 buttons - wired - USB - white |
|                        | Man & Machine Its Cool Flat - Keyboard - USB - UK layout - white                                  |
|                        | Microsoft Arc Touch Mouse 1428                                                                    |
|                        | Microsoft Ergonomic Keyboard                                                                      |
|                        | Rapoo E6100, Bluetooth                                                                            |
|                        | Seal Shield Medical Grade Optical Mouse                                                           |
|                        | Seal Shield Silver Seal Waterproof-Keyboard-USB-US-waterproof-white                               |
|                        | SpaceMouse Pro                                                                                    |
|                        | SpaceNavigator 3D Space Mouse                                                                     |
| Networking             | Add On 1000 Base-T SFP transceiver—RJ-45                                                          |
| Others                 | Intuos Pro Wacom                                                                                  |
|                        | Wacom One                                                                                         |
| Printers               | Brother DCP-7190DW—works on ICA only and not Blast                                                |
|                        | Dell B1165nfw Mono Multifunction Printer                                                          |
|                        | Dell B1265dnf Multifunction Laser Printer                                                         |
|                        | Dell B2360d Laser Printer                                                                         |
|                        | Dell B2360dn Laser Printer                                                                        |
|                        | Dell Color Multifunction Printer - E525w                                                          |
|                        | Dell Color Printer- C2660dn                                                                       |
|                        | Dell Multifunction Printer - E515dn                                                               |
|                        | HP Color LaserJet CM1312MFP—tested on Blast                                                       |
|                        | HP LaserJet P2055d                                                                                |
|                        | HP M403D— works on ICA only and not Blast                                                         |
|                        | Lexmark X864de- tested on LPD only                                                                |
| Proximity card readers | Imprivata HDW-IMP-60                                                                              |
|                        | Imprivata HDW-IMP-75                                                                              |
|                        | Imprivata HDW-IMP-80                                                                              |
|                        | Imprivata HDW-IMP-82                                                                              |
|                        | KSI-1700-SX Keyboard                                                                              |

**Table 9. Supported peripherals (continued)**

| Product Category   | Peripherals                                                                                                      |
|--------------------|------------------------------------------------------------------------------------------------------------------|
|                    | OMNIKEY 5025CL                                                                                                   |
|                    | OMNIKEY 5321 V2                                                                                                  |
|                    | OMNIKEY 5321 V2 CL SAM                                                                                           |
|                    | OMNIKEY 5325 CL                                                                                                  |
|                    | OMNIKEY 5326 DFR                                                                                                 |
|                    | RFIDeas RDR-6082AKU                                                                                              |
| Signature tablets  | TOPAZ Signature Tablet T-LBK462-B8B-R                                                                            |
|                    | Wacom Signature Tablet STU-500B                                                                                  |
|                    | Wacom Signature Tablet STU-520A                                                                                  |
|                    | Wacom Signature Tablet STU-530                                                                                   |
|                    | Wacom Signature Tablet STU-430/G                                                                                 |
| Smart card readers | CHERRY KC 1000 SC - Keyboard - with Smart Card reader - USB - English - US - black - TAA Compliant - JK-A0104EU- |
|                    | Cherry SmartTerminal SMART Card Reader - ST-1044U                                                                |
|                    | Cherry SmartTerminal ST-1144 SMART Card Reader - USB 2.0                                                         |
|                    | Cherry keyboard KC 1000 SC with smart card                                                                       |
|                    | Cherry keyboard RS 6600 with smart card                                                                          |
|                    | Cherry keyboard RS 6700 with smart card                                                                          |
|                    | Dell Keyboard SK-3205 with smart card reader                                                                     |
|                    | Dell keyboard KB813 with smart card reader                                                                       |
|                    | Dell keyboard KB813t with smart card reader                                                                      |
|                    | GemPC Twin                                                                                                       |
|                    | Gemalto IDBridge CT710                                                                                           |
|                    | HID OMNIKEY 5125                                                                                                 |
|                    | HID OMNIKEY 5421                                                                                                 |
|                    | IDBridge CT31 PIV                                                                                                |
|                    | OMNIKEY HID 3021                                                                                                 |
|                    | OMNIKEY OK CardMan3121                                                                                           |
|                    | SmartOS powered SCR3310                                                                                          |
|                    | SmartOS powered SCR335                                                                                           |
|                    | Sun microsystem SCR 3311                                                                                         |
| Storage            | Bano type-c 16B                                                                                                  |
|                    | Dell External Tray Load ODD (Agate)—DVD Writer                                                                   |
|                    | Dell Portable SSD, USB-C 250 GB                                                                                  |
|                    | Kingston DT microDuo 3C 32 GB                                                                                    |
|                    | Kingston DTM30 32 GB                                                                                             |
|                    | Kingston DataTraveler G3 8 GB                                                                                    |
|                    | Samsung portable DVD Writer SE-208                                                                               |

**Table 9. Supported peripherals (continued)**

| Product Category      | Peripherals                      |
|-----------------------|----------------------------------|
|                       | SanDisk Cruzer 16 GB             |
|                       | SanDisk Cruzer 8 GB              |
|                       | SanDisk USB 3.1 and Type-C 16 GB |
|                       | SanDisk Ultra Fit 32 GB          |
| Teradici remote cards | Teradici host card 2220          |
|                       | Teradici host card 2240          |

## Supported peripherals for OptiPlex 3000 Thin Client

 **NOTE:** The supported peripherals are not limited to the peripherals devices listed in this section.

**Table 10. Supported peripherals for OptiPlex 3000 Thin Client**

| Product Category | Peripherals                                           |
|------------------|-------------------------------------------------------|
| Audio and Video  | Dell Slim Soundbar - Ariana - SB521A                  |
|                  | Dell Pro Stereo Headset - Cortez - WH3022.            |
|                  | Logitech BRIO 4K Ultra HD Webcam - 960-001105         |
|                  | Logitech C525 HD Webcam - 960-000715                  |
|                  | Logitech C930e HD Webcam - 960-000971                 |
|                  | Dell Pro Stereo Soundbar - AE515M - Nirvana M         |
|                  | Dell Stereo Soundbar - AC511M - Potential M           |
|                  | Jabra Engage 65 MS Wireless Headset - 9559-553-125    |
|                  | Jabra Evolve 65 MS Stereo - Headset - 6599-823-309    |
|                  | Dell Mobile Adapter Speakerphone - MH3021P - Apollo   |
| Displays         | Dell UltraSharp 24 Monitor - U2422H                   |
|                  | Dell 24 Monitor - P2422H                              |
|                  | Dell UltraSharp 24 USB-C HUB Monitor - U2422HE        |
|                  | Dell Collaboration 24 USB-C Hub Monitor - C2422HE     |
|                  | Dell 24 USB-C Hub Monitor - P2422HE                   |
|                  | Dell Collaboration 34 USB-C Hub Monitor - C3422WE     |
|                  | Dell UltraSharp 27 USB-C HUB Monitor - U2722DE        |
|                  | Dell 27 USB-C Hub Monitor - P2722HE                   |
|                  | Dell UltraSharp 27 Monitor - U2722D                   |
|                  | Dell Collaboration 27 USB-C Hub Monitor - C2722DE     |
|                  | Dell 27 Monitor - P2722H                              |
|                  | Dell 22 Monitor - P2222H                              |
|                  | Dell 24 Monitor - P2421                               |
|                  | Dell 24 Monitor - P2421D                              |
|                  | Dell UltraSharp 34 Curved USB-C HUB Monitor - U3421WE |

**Table 10. Supported peripherals for OptiPlex 3000 Thin Client (continued)**

| Product Category                   | Peripherals                                                                 |
|------------------------------------|-----------------------------------------------------------------------------|
|                                    | Dell 20 Monitor E2020H                                                      |
|                                    | Dell 27 Monitor - P2720D                                                    |
|                                    | Dell UltraSharp 25 USB-C Monitor - U2520D                                   |
|                                    | Dell 24 Monitor E2420HS                                                     |
|                                    | Dell 27 Monitor - P2720D                                                    |
|                                    | Dell 23 Monitor - P2319H                                                    |
|                                    | Dell 27 Monitor E2720HS                                                     |
|                                    | Dell 27 Monitor E2720H                                                      |
|                                    | Dell 24 Touch Monitor - P2418HT                                             |
|                                    | Dell 19 Monitor E1920H                                                      |
|                                    | Dell UltraSharp 32 4K USB-C Monitor - U3219Q                                |
|                                    | Dell 24 Monitor E2420H                                                      |
|                                    |                                                                             |
| Input devices (Keyboard and Mouse) | Dell Multi-Device Wireless Keyboard and Mouse Combo - KM7120W - Felix       |
|                                    | Dell Multi-Device Wireless Mouse - MS5320W - Comet                          |
|                                    | Dell Multimedia Keyboard - KB216_BLACK - Rusty                              |
|                                    | Dell Optical Mouse - MS116_BLACK - Sapphire                                 |
|                                    | Dell Wired Mouse with Fingerprint Reader - MS819 - Ultramarine              |
|                                    | Dell KB813 Smartcard Keyboard - KB813- Cardinal                             |
|                                    | Dell Mobile Pro Wireless Mice - MS5120W_Black - Splinter                    |
|                                    | Dell Business Multimedia Keyboard - KB522 - Scarlet                         |
|                                    | Dell Mobile Wireless Mouse - MS3320W_Black - Dawson                         |
|                                    | Dell Premier Multi-Device Wireless Keyboard and Mouse - Acadia IO - KM7321W |
|                                    | Dell Pro Wireless Keyboard and Mouse - Tasman (previous Windsor) - KM5221W  |
|                                    | Dell Laser Wired Mouse - MS3220_Black - Morty                               |
|                                    |                                                                             |
| Storage                            | Dell USB Slim DVD +/- RW Drive - DW316 - Agate                              |

## Tested environments matrix

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

**Table 11. Tested environment—General components**

| Component                                          | Version                      |
|----------------------------------------------------|------------------------------|
| Wyse Management Suite (cloud and on-premises)      | 3.6                          |
| Configuration UI package for Wyse Management Suite | 1.5 324                      |
| Imprivata OneSign                                  | 7.7.000.10                   |
| Citrix ADC (formerly NetScaler)                    | 12.1/13.0                    |
| StoreFront                                         | 1912 LTSR and later versions |

**Table 12. Test environment—Citrix**

| Citrix Virtual Apps and Desktops                   | Windows 10 | Windows Server 2016 | Windows Server 2019 | APPs   |
|----------------------------------------------------|------------|---------------------|---------------------|--------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Tested     | Tested              | Tested              | Tested |
| Citrix Virtual Apps and Desktops 7 2112            | Tested     | Tested              | Tested              | Tested |

**Table 13. Tested environment—VMware Horizon**

| VMware              | Windows 11 | Windows 10 | Windows Server 2016 | Windows Server 2019 | Windows Server 2016 APPs | Windows Server 2019 APPs | Ubuntu 20.04                                           |
|---------------------|------------|------------|---------------------|---------------------|--------------------------|--------------------------|--------------------------------------------------------|
| VMware Horizon 7.12 | Not tested | Tested     | Tested              | Not tested          | Tested                   | Not tested               | Not tested                                             |
| VMware Horizon 7.13 | Not tested | Tested     | Not tested          | Tested              | Not tested               | Not tested               | Not tested                                             |
| VMware Horizon 2106 | Not tested | Tested     | Tested              | Tested              | Tested                   | Tested                   | Not tested                                             |
| VMware Horizon 2111 | Tested     | Tested     | Tested              | Tested              | Tested                   | Tested                   | Tested—Only basic connection is tested on Ubuntu 20.04 |

**Table 14. Test environment—Microsoft RDP**

| Microsoft RDP                | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|------------------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| Remote Desktop Services 2016 | Tested     | Tested     | Not tested             | Not tested             | Tested              | Not tested          | Tested |
| Remote Desktop Services 2019 | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Tested              | Tested |

**Table 15. Test environment—AVD**

| Azure Virtual Desktop | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|-----------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| 2019 (MS-Prod)        | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |
| 2020 (ARMv2)          | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |

**Table 16. Tested environment—Skype for Business**

| Citrix VDI                                         | Operating system    | RTME Client | RTME Agent | Skype for Business client | Skype for Business Server |
|----------------------------------------------------|---------------------|-------------|------------|---------------------------|---------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 2.9.400     | 2.9.400    | Skype for Business 2016   | Skype for Business 2015   |
|                                                    | Windows server 2016 |             |            |                           |                           |
|                                                    | Windows server 2019 |             |            |                           |                           |
| Citrix Virtual Apps and Desktops 7 2112            |                     |             |            |                           |                           |

**Table 17. Tested environment—Skype for Business**

| VMware VDI          | Operating system    | Skype for Business Client | Skype for Business Agent | Skype for Business client | Skype for Business Server |
|---------------------|---------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| VMware Horizon 7.12 | Windows 10          | 5.4, 8.2, 8.4             | 7.12, 8.2, 8.4           | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2106 | Windows server 2016 | 5.4, 8.2, 8.4             | 7.12, 8.2, 8.4           | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2111 | Windows server 2019 | Not tested                | Not tested               | Not tested                | Not tested                |

**Table 18. Tested environment—JVDI**

| Citrix VDI                                                                                    | Operating system    | JVDI            | JVDI agent | Jabber software |
|-----------------------------------------------------------------------------------------------|---------------------|-----------------|------------|-----------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2112 | Windows 10          | 14.0.3.306553.1 | 14.0.3     | 14.0.3          |
|                                                                                               | Windows server 2016 |                 |            |                 |
|                                                                                               | Windows server 2019 |                 |            |                 |

**Table 19. Tested environment—JVDI**

| VMware VDI          | Operating system    | JVDI       | JVDI agent | Jabber software |
|---------------------|---------------------|------------|------------|-----------------|
| VMware Horizon 7.12 | Windows 10          | 14.0.3     | 14.0.3     | 14.0.3          |
|                     | Windows server 2016 | 14.0.3     | 14.0.3     | 14.0.3          |
| VMware Horizon 2106 | Windows server 2019 | Not tested | Not tested | Not tested      |
| VMware Horizon 2111 |                     |            |            |                 |

**Table 20. Tested environment—Zoom**

| Citrix VDI                                                                                    | Operating system    | Zoom package  | Zoom client for VDI software |
|-----------------------------------------------------------------------------------------------|---------------------|---------------|------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2112 | Windows 10          | 5.8.4.21112.1 | 5.8.4 (21112)                |
|                                                                                               | Windows server 2016 |               |                              |
|                                                                                               | Windows server 2019 |               |                              |

**Table 21. Tested environment—Zoom**

| VMware VDI          | Operating system    | Zoom package | Zoom software |
|---------------------|---------------------|--------------|---------------|
| VMware Horizon 7.12 | Windows 10          | 5.8.4.21112  | 5.8.4 (21112) |
| VMware Horizon 2103 | Windows server 2016 | 5.8.4.21112  | 5.8.4 (21112) |
| VMware Horizon 2106 | Windows server 2019 | Not tested   | Not tested    |

**Table 22. Tested environment—Cisco Webex VDI**

| Citrix VDI                                                                                    | Operating system    | Webex VDI       | Webex Teams software |
|-----------------------------------------------------------------------------------------------|---------------------|-----------------|----------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2112 | Windows 10          | 41.12.0.20899.1 | 41.12.0.20899        |
|                                                                                               | Windows server 2016 |                 |                      |
|                                                                                               | Windows server 2019 |                 |                      |



**Table 23. Tested environment—Cisco Webex VDI**

| VMware VDI          | Operating system    | Webex Teams   | Webex Teams software |
|---------------------|---------------------|---------------|----------------------|
| VMware Horizon 7.12 | Windows 10          | 41.12.0.20899 | 41.12.0.20899        |
| VMware Horizon 2106 | Windows server 2016 | 41.12.0.20899 | 41.12.0.20899        |
| VMware Horizon 2111 | Windows server 2019 | Not tested    | Not tested           |

**Table 24. Tested environment—Cisco Webex Meetings**

| Citrix VDI                                         | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|----------------------------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 41.12.6.12.1       | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.12 to 42.4. |
|                                                    | Windows server 2016 |                    |                                                                                                             |
| Citrix Virtual Apps and Desktops 7 2112            | Windows server 2019 |                    |                                                                                                             |

**Table 25. Tested environment—Cisco Webex Meetings**

| Citrix VDI          | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                                                                                                     |
|---------------------|---------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VMware Horizon 7.12 | Windows 10          | 41.12.6.12.1       | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.12 to 42.4. Webex Meeting does not work well with Horizon 2111. This is a Cisco limitation. |
| VMware Horizon 2106 | Windows server 2016 |                    |                                                                                                                                                                                             |
|                     | Windows server 2019 |                    |                                                                                                                                                                                             |

## Supported smart cards

**Table 26. Supported smart cards**

| Smart Card information from the ThinOS event log | Driver                             | Provider (CSP)                             | Card type                                        |
|--------------------------------------------------|------------------------------------|--------------------------------------------|--------------------------------------------------|
| ActivIdentity V1                                 | ActivClient 7.1                    | ActivClient Cryptographic Service Provider | Oberthur CosmopolC 64k V5.2                      |
| ActivIdentity V1                                 | ActivClient 7.1                    | ActivClient Cryptographic Service Provider | Gemalto Cyberflex Access 64K V2c                 |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | Gemalto TOPDLGX4                                 |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | G&D SCE 3.2                                      |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | Oberthur IDOne 5.5                               |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | Oberthur Cosmo V8                                |
| ActivIdentity crescendo card                     | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | Giesecke and Devrient SmartCafe Expert 7.0 (T=0) |
| ID Prime MD v 4.0.2                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 840                                   |
| ID Prime MD v 4.0.2 (Gemalto 840)                | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 840 B                                 |
| ID Prime MD v 4.1.0                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 3810 MIFARE 1K                        |

**Table 26. Supported smart cards (continued)**

| Smart Card information from the ThinOS event log | Driver                             | Provider (CSP)                                   | Card type                                   |
|--------------------------------------------------|------------------------------------|--------------------------------------------------|---------------------------------------------|
| ID Prime MD v 4.1.3 (Gemalto 3811)               | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 3811 Mifare-Desfire              |
| ID Prime MD v 4.1.1                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 830-FIPS                         |
| ID Prime MD v 4.3.5                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 830-FIPS Rev B                   |
| ID Prime MD v 4.4.2                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 940                              |
| Etoken Java (aladdin)                            | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDCore30B eToken 1.7.7                      |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 510x                         |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110                         |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110 FIPS                    |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110 CC                      |
| SafeNet High Assurance Applets Card              | SafeNet High Assurance Client 2.12 | SafeNet Smart Card Key Storage Provider          | SC650 (SafeNet SC650 4.1t)                  |
| A.E.T. Europe B.V.                               | SafeSign-Identity-Client-3.0.76    | SafeSign Standard Cryptographic Service Provider | Giesecke & Devrient StarCos 3.0 T=0/1 0V300 |
| A.E.T. Europe B.V.                               | SafeSign-Identity-Client-3.0.76    | SafeSign Standard Cryptographic Service Provider | Giesecke & Devrient StarCos 3.2             |
| PIV (Yubico) (black USB drive)                   | YubiKey PIV Manager                | Microsoft Base Smart Card Crypto Provider        | YubiKey 4.3.3                               |
| PIV (Yubico Neo ) (black USB drive)              | Yubikey Manager v 1.1.4            | Microsoft Base Smart Card Crypto Provider        | YubiKey 4.3.3                               |
| cv cryptovision gmbh (c) v1.0ns                  | cv_act_scinterface_6.1.6           | cv act sc/interface CSP                          | Giesecke & Devrient StarCos 3.2             |
| N/A (Buypass BelDu)                              | Net iD 6.8.3.21, 2.0.48            | Net iD - CSP                                     | BelDu 6.0.4                                 |
| N/A (GEMALTO IDPrime SIS)                        | Net iD 6.8.3.21, 2.0.48            | Net iD - CSP                                     | IDPrime SIS 4.0.2                           |
| Rutoken ECP 2.0 (2100)                           | Rutoken Drivers 4.6.3.0            | Aktiv ruToken CSP v1.0                           | Rutoken ECP 2.0 (2100)                      |
| Rutoken 2151                                     | Rutoken Drivers 4.6.3.0            | Aktiv ruToken CSP v1.0                           | Rutoken (2151)                              |

## Fixed issues

**Table 27. Fixed issues**

| Issue ID  | Description                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------|
| DTOS-7069 | <b>Dutch (Belgian)</b> and <b>French (Belgium)</b> keyboard layouts are not available in ThinOS 9.x—CIPS-25488. |
| DTOS-7066 | When using Classic desktop mode with 9.1.5067, RDP icons do not show up on the desktop—CIPS-25380.              |

**Table 27. Fixed issues (continued)**

| Issue ID  | Description                                                                                                                                                                                  |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-7010 | After upgrading from ThinOS 9.1.3129 to 9.1.5067, the UI displays <b>Apps</b> even after configuring <b>Desktop only</b> —CIPS-25461.                                                        |
| DTOS-6996 | Unable to get full screen for direct RDP connection that is configured using Admin Policy Tool—CIPS-25272.                                                                                   |
| DTOS-6993 | ThinOS stops responding when you plug in analog head set after selecting the local language as German—CIPS-25367.                                                                            |
| DTOS-6976 | Enter key on the Num pad is not working—CIPS-25373.                                                                                                                                          |
| DTOS-6969 | Performance issues are observed in ThinOS when connected to Nexan Switch—CIPS-25423                                                                                                          |
| DTOS-6967 | Screen turns off when 3.5 MM Audio jack is connected in 5070 device—CIPS-25421.                                                                                                              |
| DTOS-6819 | Resolution changes and device lose focus while working in Citrix session on ThinOS 9.x—CIPS-25176.                                                                                           |
| DTOS-6759 | Wireless configuration issues are observed when a comma is used in the password.                                                                                                             |
| DTOS-6453 | Sometimes an error message that states <b>hostname not resolved, DNS error</b> is displayed on the client.—CIPS-25154/CIPS-25184.                                                            |
| DTOS-6437 | PowerMic 3 causes USB enumeration issues when it is not plugged in before BLAST session starts, or when it is disconnected and connected back in while a BLAST session is active—CIPS-25190. |
| DTOS-6347 | Boot partition error is displayed while upgrading from ThinOS 9.1.3131 or 9.1.3129 to ThinOS 9.1.4234 firmware—CIPS-25043.                                                                   |
| DTOS-6293 | Fails to install Citrix application packages after upgrading to ThinOS 9.1.3129 or 4234 from ThinOS 8.6 using Wyse Management Suite—CIPS-24920.                                              |
| DTOS-6279 | Thin clients lose terminal name when moving to different group while upgrading from ThinOS 8.6 to 9.1.3129 or 4234 using Wyse Management Suite 3.5—CIPS-24926.                               |
| DTOS-5821 | Unable to import password protected pfx certificate—CIPS-24582.                                                                                                                              |
| DTOS-5804 | SIPR tokens stopped working after upgrading to ThinOS 9.1—CIPS-23733.                                                                                                                        |
| DTOS-5667 | Slow virtual channel error in Webex VDI plugin on ThinOS 9.1—CIPS-24767.                                                                                                                     |
| DTOS-5627 | VDI getting disconnected while using Single Access point—CIPS-24686.                                                                                                                         |
| DTOS-5596 | Thin clients lose terminal name after upgrading to ThinOS 9.1.4234—CIPS-24542, Case 126661742.                                                                                               |
| DTOS-5586 | Option to disable analog audio jack pop-up is not available on ThinOS 9.X—CIPS-24698.                                                                                                        |
| DTOS-5569 | Mouse wheel scrolls are too fast after upgrading to ThinOS 9.1.4234—CIPS-24555.                                                                                                              |
| DTOS-5562 | Device loses Wyse Management Suite cache configuration if Wyse Management Suite connection fails in ThinOS 9.x firmware—CIPS-24609.                                                          |
| DTOS-5541 | No option to disable the <b>System Information</b> window—CIPS-24527.                                                                                                                        |
| DTOS-5521 | Packages are downloaded twice when updating a Firmware—CIPS-24598.                                                                                                                           |
| DTOS-5462 | If the user press key combinations <b>Ctrl + Alt ...</b> during Windows-session (BLAST), the focus changes from session to ThinOS—CIPS-24465.                                                |
| DTOS-5413 | Unbale to publish selected Citrix apps and VDI on ThinOS 9.1 similar to 8.X—CIPS-24523.                                                                                                      |
| DTOS-5352 | Floatbar does not go away after the session launches—CIPS-24424.                                                                                                                             |
| DTOS-5328 | USB headset Hot Plug issue in RDS connection—CIPS-24383.                                                                                                                                     |
| DTOS-5327 | Cannot provide current BIOS password using policy settings instead of doing a BIOS sync—CIPS-23757.                                                                                          |
| DTOS-5204 | Unable to use variables in hostname field of a Direct RDP connection in ThinOS 9.1—CIPS-24172.                                                                                               |
| DTOS-5086 | E-signature dongle fails on ThinOs 9.1.x—CIPS-23921.                                                                                                                                         |
| DTOS-5051 | The mouse cursor lags when connected to AMD GPU DP mini port—CIPS-23947.                                                                                                                     |
| DTOS-5049 | Unable to type the password in the password field while unlocking the client—CIPS-23870                                                                                                      |

**Table 27. Fixed issues (continued)**

| Issue ID  | Description                                                                         |
|-----------|-------------------------------------------------------------------------------------|
| DTOS-4947 | Microsoft HD-3000 webcam LED is always on—CIPS-23815.                               |
| DTOS-4909 | Manual Override option for audio devices is not available in ThinOS 9.1—CIPS-23753. |

## Known issues

**Table 28. Known issues**

| Issue ID  | Description                                                                                                                                                                                                                                                       | Workaround                                                                                                                                           |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-5726 | VNC settings timeout type and the timeout policy do not show the expected values when launching a VNC client.                                                                                                                                                     | There is no workaround in this release.                                                                                                              |
| DTOS-6426 | There is no audio on the videos played using Multimedia redirection. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                                                                   | Go to <b>Peripherals &gt; Audio</b> on the client and click <b>OK</b> . The audio resumes playing.                                                   |
| DTOS-5761 | Webcam redirection on 32-bit applications does not work with 1280x720p video resolution. <b>gs_read1.0 CPU</b> usage displays 100%, and the client stops responding after about 10 minutes.                                                                       | Reduce the webcam resolution to 320p or 480p from ThinOS <b>Peripherals &gt; Camera</b> .                                                            |
| DTOS-6386 | During a Citrix session, if you enable multiple audio and open the <b>Recording</b> tab from the <b>Sound</b> window, the session gets disconnected. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.   | Do not open <b>Sound &gt; Recording</b> . You cannot switch the recording device in Windows Sound settings.                                          |
| DTOS-6920 | The client does not download package files from Wyse Management Suite. The client does not retry the download either. <b>Error 7700, 115</b> is displayed in the event log.                                                                                       | Check in Wyse Management Suite again manually or reboot the client.                                                                                  |
| DTOS-7008 | During a VDI session, Citrix HDX audio volume bar gets adjusted when using the volume control buttons on the keyboard. The issue is observed on Wyse 5470 All-in-One thin clients.                                                                                | If <b>Enable volume control for client volume</b> is added as part of Admin Policy Tool, the user does not have to adjust volume in the VDI session. |
| DTOS-7108 | If you set <b>Close lid action on battery power</b> to shut down device when you have an external monitor connected to the thin client, the external screen stays lit. The issue is observed on Wyse 5470 thin clients.                                           | There is no workaround in this release.                                                                                                              |
| DTOS-6958 | An error message that states <b>Unable to connect you to your desktop. Try again or contact your administrator for assistance</b> is displayed on the PIE login window after signing off from a VDI session. The issue is observed on Imprivata version 7.7.1134. | Ignore this error message. It does not impact Imprivata OneSign server connection.                                                                   |
| DTOS-7414 | Skype for Business calls with 32-bit Skype for Business application, without using RTME, has an audio and video lag of 4-5 s. The issue is observed on Wyse 3040 thin clients.                                                                                    | Use RTME for Skype for Business calls.                                                                                                               |
| DTOS-7385 | Audio is sometimes noisy and not audible on Zoom meetings while using 32-bit Zoom VDI application and Citrix HDX Webcam. The issue is observed on Wyse 5470 All-in-One thin clients.                                                                              | Do Zoom meeting with optimization enabled.                                                                                                           |
| DTOS-7092 | Imprivata does NOT work in PCoIP session. The issue is observed on clients with Horizon version 2111 and Imprivata 7.7.                                                                                                                                           | Do not use Horizon 2111 environment. Use Blast protocol.                                                                                             |
| DTOS-6837 | JVDI cannot register with VMware Blast.                                                                                                                                                                                                                           | Do not register manually. Wait about 5-10 m, JVDI will register automatically.                                                                       |
| DTOS-7038 | Citrix broker connections display an error that states <b>An unknown login error occurred</b> when setting broker timeout as 5 seconds.                                                                                                                           | Use the default settings for <b>Advanced &gt; Broker Session</b>                                                                                     |

**Table 28. Known issues (continued)**

| Issue ID  | Description                                                                                                                                                                                                                                                                                                                                                                             | Workaround                                                                                                                                                                                                                                                                         |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |                                                                                                                                                                                                                                                                                                                                                                                         | > <b>Citrix Broker Settings</b> > <b>Timeout.</b>                                                                                                                                                                                                                                  |
| DTOS-6741 | The default audio input and output device does not change when you change the default audio device from the application in a session. The default device that is selected on the client is used for audio input and output. The issue occurs when multiple audio is enabled. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112. | Disable multiple audio.                                                                                                                                                                                                                                                            |
| DTOS-7257 | <b>OK</b> button under the properties window does not work in Citrix ICA session.                                                                                                                                                                                                                                                                                                       | There is no workaround in this release.                                                                                                                                                                                                                                            |
| DTOS-7400 | Camera settings for Logitech webcam models do not display any resolution and frames per second.                                                                                                                                                                                                                                                                                         | The issue is observed only on secondary cameras. Use the primary camera                                                                                                                                                                                                            |
| DTOS-7380 | Horizon Universal Broker cannot be connected.                                                                                                                                                                                                                                                                                                                                           | Universal Broker is not supported in this release.                                                                                                                                                                                                                                 |
| DTOS-7403 | Customizing the supported FPS for HDX webcam is not supported when using HDX webcam technology.                                                                                                                                                                                                                                                                                         | There is no workaround in this release.                                                                                                                                                                                                                                            |
| DTOS-7185 | No default camera option in Admin Policy Tool.                                                                                                                                                                                                                                                                                                                                          | This feature is not supported in this release.                                                                                                                                                                                                                                     |
| DTOS-7064 | After disabling network proxy in Wyse Management Suite policy settings, Admin Policy Tool still displays the default settings. Wyse Management Suite settings are not synced with Admin Policy Tool.                                                                                                                                                                                    | There is no workaround in this release.                                                                                                                                                                                                                                            |
| DTOS-6894 | Network speed is slow when you connect the network cable to monitor for PCR. The issue is observed on Wyse 5470 thin client.                                                                                                                                                                                                                                                            | There is no workaround in this release.                                                                                                                                                                                                                                            |
| DTOS-7313 | Jabra Evolve 75 headset that is mapped to a Citrix session desktop keeps showing <b>Connected</b> and <b>Not Connected</b> status repeatedly.                                                                                                                                                                                                                                           | Do not use Jabra Evolve 75 headset.                                                                                                                                                                                                                                                |
| DTOS-7405 | Camera settings does not update automatically when you disconnect and plug back in external camera. The issue is observed on Wyse 5470 thin clients.                                                                                                                                                                                                                                    | Close the camera settings and reopen.                                                                                                                                                                                                                                              |
| DTOS-7417 | After disabling WMS, it still checks the Group registration code on ThinOS UI. The issue is observed on Wyse 5470 thin clients.                                                                                                                                                                                                                                                         | Do not disable WMS when group key is empty.                                                                                                                                                                                                                                        |
| DTOS-6998 | The external camera with HDX webcam redirection in 32-bit applications does not work on Wyse 5470 All-in-One thin clients. On Wyse 5070 thin clients, second camera does not work.                                                                                                                                                                                                      | Use only the built-in camera on Wyse 5470 and 5470 All-in-One thin clients. Connect only one camera to Wyse 3040, 5070 or OptiPlex 3000 thin clients.                                                                                                                              |
| DTOS-7449 | Smartcard fails to log in Citrix broker after disconnecting or reconnecting ICA session multiple times.                                                                                                                                                                                                                                                                                 | Remove and replugin smartcard.                                                                                                                                                                                                                                                     |
| DTOS-7472 | Sometimes the camera settings do not sync from Wyse Management Suite to <b>wfclient.ini</b> .                                                                                                                                                                                                                                                                                           | Reboot the client.                                                                                                                                                                                                                                                                 |
| DTOS-5356 | High <b>CPU usage</b> is observed with Zoom call optimization.                                                                                                                                                                                                                                                                                                                          | The issue is due to a Zoom limitation. For more information, see <a href="https://support.zoom.us/hc/en-us/articles/201362023-Zoom-system-requirements-Windows-macOS-Linux">https://support.zoom.us/hc/en-us/articles/201362023-Zoom-system-requirements-Windows-macOS-Linux</a> . |
| DTOS-7160 | HEVC does not work with VMware Blast. The issue is observed on OptiPlex 3000 Thin Client.                                                                                                                                                                                                                                                                                               | There is no workaround in this release.                                                                                                                                                                                                                                            |
| DTOS-7190 | When you restart the client after connecting a Bluetooth device, the Bluetooth device gets connected automatically after the restart, but the connection status is displayed incorrectly. The issue is observed on OptiPlex 3000 Thin Client.                                                                                                                                           | Reconnect the Bluetooth device.                                                                                                                                                                                                                                                    |

**Table 28. Known issues (continued)**

| Issue ID  | Description                                                                                                                              | Workaround                                                                                     |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| DTOS-7077 | Updated Static IP address is not reflecting in Systray after changing the static IP. The issue is observed on OptiPlex 3000 Thin Client. | There is no workaround in this release.                                                        |
| DTOS-8143 | Zoom Horizon VDI package does not work in a session— <b>CIPS-26069</b> .                                                                 | For the Zoom Horizon VDI package to work in a session, it must be uninstalled and reinstalled. |

# ThinOS 9.1.5067

## Release summary

Patches or Add-on releases are created to support existing platforms or software releases, correct defects, make enhancements, or add minor features.

## Release date

December 2021

## Previous version

ThinOS 9.1.4234

## Firmware upgrade

The following firmware upgrade scenarios are supported:

- ThinOS 8.6\_807 > ThinOS 9.1.5067
- ThinOS 9.1.3129 or 9.1.4234 > ThinOS 9.1.5067

**NOTE:** If you are using earlier versions of ThinOS 8.6, you must first upgrade to ThinOS 8.6\_807 and apply the latest BIOS updates before upgrading to ThinOS 9.1.5067. If you are using earlier versions of ThinOS 9.x, you must first upgrade to ThinOS 9.1.3129 or later versions before upgrading to ThinOS 9.1.5067.

For more information, see the *Dell Wyse ThinOS Version 9.1.4234 and 9.1.5067 Migration Guide* at [www.dell.com/support](http://www.dell.com/support). For the steps to access documents, see [Resources and support](#).

## Important notes

- There are chances that after the upgrade the device displays a black screen. You may reboot the device to boot it up correctly.
- If the thin client is registered in Wyse Management Suite group 1 and you set Wyse Management Suite group 2 token in group 1 policy, then the group 2 token is applied on GUI but the thin client will still be in group 1. You must reboot the thin client to change the thin client to Wyse Management Suite group 2.
- **NOTE:** Dell Technologies recommends that you set a new ThinOS application package or a ThinOS firmware package in Group 1, so that thin client installs the package, and automatically reboots, and changes to Group 2.
- If the **Live Update** option is disabled, the thin client cannot download and install any firmware or package until the next reboot. However, the firmware or packages are downloaded in the following scenarios even when the **Live Update** option is disabled:
  - When you register the thin client to Wyse Management Suite manually.
  - When you power on the thin client from a power off state.
  - When you change the Wyse Management Suite group.
- When you set a new firmware or an application package in Wyse Management Suite group 2 and then change the device from group 1 to group 2 before upgrading, the following two notifications are displayed:
  - **Wyse Management Suite server or group is changed. System is going to reboot to load full configuration. Press cancel in 60 seconds to prevent reboot.**

- **A new firmware or application is available, do you want to upgrade now or defer to the next reboot? The changes will automatically be applied in 120 seconds.**

If you do not select an option, the thin client reboots after 60 seconds. After the reboot, the new application or firmware is installed and the thin client reboots again. The thin client will be in group 2 after the reboot.

- When a new firmware or an application notification is displayed on your thin client, clicking **Next Reboot** will:
  - Displays a notification if you have changed the Wyse Management Suite group and if the files are downloaded from the new group.
  - Not display any notification if the new firmware or application is downloaded in the same group.
  - Installs the firmware or package after a reboot.

## Prerequisites for firmware upgrade

- Update the BIOS version of Wyse 5070 Thin Client to 1.3.1 or later before upgrading to ThinOS 9.1.5067. If you upgrade to ThinOS 9.1.5067 with earlier BIOS version and then upgrade the BIOS version to 1.3.1 or later, the device may fail to boot. If there is a boot failure, check if the PTT option is available under security in BIOS Setup. For Wyse 5070 Thin Clients with firmware TPM configuration, the PTT option is available after updating BIOS to 1.3.1 or later versions. You must disable the option and boot into ThinOS if you fail to boot after upgrade BIOS. For latest BIOS versions, see [Tested BIOS version for ThinOS 9.1.5067](#).
- Before you migrate from ThinOS 8.6\_807 to ThinOS 9.1.5067 or upgrade from ThinOS 9.x to 9.1.5067, power on the system and disable the sleep mode. If the system has entered the sleep mode, you must send the Wakeup On LAN command through Wyse Management Suite before using any real-time commands. To use the Wakeup On LAN command, ensure that the Wakeup On LAN option is enabled in BIOS.

## Upgrade from ThinOS 9.1.x to ThinOS 9.1.5067 using Wyse Management Suite

### Prerequisites

- Ensure that you are running ThinOS 9.1.3129 or later version on you thin client.
- The thin client must be registered to Wyse Management Suite.
- Create a group in Wyse Management Suite with a group token.
- Download the ThinOS 9.1.5067 (DTOS\_9.1.5067.pkg) firmware to upgrade.

### Steps

1. Go to the **Groups & Configs** page and select a group.
2. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**. The Configuration Control | ThinOS window is displayed.
3. In the left pane, click **Standard**.
4. From the **Standard** menu, expand **Firmware**, and click **OS Firmware Updates**.

 **NOTE:** If you cannot locate the **OS Firmware Updates** option under the **Standard** tab, use the **Advanced** tab.

5. Click **Browse** and select the **ThinOS 9.1.5067** firmware to upload.
6. From the **Select the ThinOS Firmware to deploy** drop-down menu, select the uploaded firmware.
7. Click **Save & Publish**.

The thin client downloads the firmware to install and restarts. The firmware version is upgraded.

 **NOTE:** There are chances that the upgrade might fail with event log stating **Failed to install**. In such an event, you may reboot the device and upgrade again.

## Upgrade from ThinOS 8.6 to ThinOS 9.1.5067 using Wyse Management Suite

If you are running any ThinOS 8.6 version, you must first install the ThinOS 8.6\_807 image with the latest BIOS version, and then upgrade to ThinOS 9.1.5067. For the latest BIOS versions, see the *Dell Wyse ThinOS Version 8.6\_807 Release Notes* at [www.dell.com/support](http://www.dell.com/support).



The device reboots after the ThinOS image is downloaded. Once the upgrade completes, the device is automatically registered to Wyse Management Suite. Dell Technologies recommends you to back up your device settings before you initiate the upgrade process. All device settings are erased after you upgrade from ThinOS 8.6 except the following settings:

- **Wyse Management Suite group token and server settings**
- **Static DNS**
- **Certificates**
- **IEEE802.1x wired authentication settings**
- **Wireless connections**—The WEP/Sharekey security type is changed to **Open** as they are not supported in ThinOS 9.1
- **Proxy settings**

**NOTE:** For more information about how to install the ThinOS 9.1.5067 image, see the *Dell Wyse ThinOS Version 9.1.4234 and 9.1.5067 Migration Guide* at [www.dell.com/support](http://www.dell.com/support).

## Compatibility

### ThinOS application package details

- Cisco\_Jabber\_14.0.2.306216\_3.pkg
- Cisco\_WebEx\_Meetings\_VDI\_41.10.3.19\_2.pkg
- Cisco\_WebEx\_VDI\_41.10.0.20213\_4.pkg (formerly called Cisco WebEx Teams)
- Citrix\_Workspace\_App\_21.9.0.25\_6.pkg
- EPOS\_Connect\_7.0.0.19336\_1.pkg
- HID\_Fingerprint\_Reader\_210217\_13.pkg
- Jabra\_8.5.1\_12.pkg
- Microsoft\_AVD\_1.5\_1325.pkg
- Teradici\_PCoIP\_21.03.1\_21.pkg
- VMware\_Horizon\_2106.8.3.0.18251983\_9.pkg
- Zoom\_Citrix\_5.8.0.20927\_8.pkg
- Zoom\_Horizon\_5.8.0.20927\_8.pkg
- Imprivata\_PIE\_7.6.000.0005\_1124.pkg
- Identity\_Automation\_QwickAccess\_2.0.0.3.3.pkg

### Wyse Management Suite and Configuration UI package

- Wyse Management Suite version 3.5
- Configuration UI package 1.5 300

### ThinOS build details

- ThinOS 9.1.3129 or 9.1.4234 to ThinOS 9.1.5067—**DTOS\_9.1.5067.pkg**.
- ThinOS 8.6\_807 to ThinOS 9.1.5067 conversion builds:
  - **A10Q\_wnos**—Wyse 3040 Thin Client
  - **PA10Q\_wnos**—Wyse 3040 Thin Client with PCoIP
  - **X10\_wnos**—Wyse 5070 Thin Client, Wyse 5470 Thin Client, and Wyse 5470 All-in-One Thin Client
  - **PX10\_wnos**—Wyse 5070 Thin Client with PCoIP, Wyse 5470 Thin Client with PCoIP, and Wyse 5470 All-in-One Thin Client with PCoIP

## BIOS packages

**Table 29. BIOS package**

| Platform model        | Package filename     |
|-----------------------|----------------------|
| Wyse 5070 Thin Client | bios-5070_1.13.1.pkg |

**Table 29. BIOS package (continued)**

| Platform model                   | Package filename        |
|----------------------------------|-------------------------|
| Wyse 5470 Thin Client            | bios-5470_1.10.1.pkg    |
| Wyse 5470 All-in-One Thin Client | bios-5470AIO_1.10.1.pkg |

## Tested BIOS version for ThinOS 9.1.5067

**Table 30. Tested BIOS details**

| Platform name                    | BIOS version |
|----------------------------------|--------------|
| Wyse 3040 Thin Client            | 1.2.5        |
| Wyse 5070 Thin Client            | 1.13.1       |
| Wyse 5470 All-in-One Thin Client | 1.10.1       |
| Wyse 5470 Thin Client            | 1.10.1       |

If you are upgrading BIOS on the Wyse 5470 Thin Client, ensure that you have connected the device to the external power source using the power adapter. If you do not connect the power adapter, BIOS update fails. In this event, connect an external power source and reboot twice to install BIOS.

## New and enhanced features

### Citrix Workspace app updates

- **Exporting Citrix Workspace app logs**—Citrix Workspace app logs can only be exported from **Troubleshooting > General > Export Logs** on the ThinOS device.

For more information about how to export Citrix Workspace app logs, see the *Dell Wyse ThinOS 9.1.4234 and 9.1.5067 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

- **Keyboard Layout Server Default Mode enhancement**—From Citrix Workspace App 2109 and ThinOS 9.1.5067 onwards, only the Server Default mode uses the **Scancode**. Other Keyboard layout modes such as Specific Keyboard, Client Setting, and Dynamic Sync use the default Unicode. There are no changes to the other keyboard layout modes in Citrix Workspace App 2109.

To configure, do the following:

1. Set the Keyboard Layout Mode to Server Default using Admin Policy Tool or Wyse Management Suite.
2. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced tab > VDI Configuration Editor > Citrix Configuration Editor**.
3. In the Citrix INI settings section, click **Add Row**.
4. From the **File** drop-down list, select **wfclient.ini**.
5. From the **Operation** drop-down list, select **Add or Update**.
6. In the **Section** field, enter **WFClient**.
7. In the **Key** field, enter **KeyboardEventMode**.
8. In the **Value** field, enter **Scancode**.
9. Sign out or restart the device for settings to take effect.

**NOTE:** If you want to change the Server Default mode to other keyboard layout modes, you must remove the **KeyboardEventMode** with **Scancode** setting from **Citrix Configuration Editor**.

For more information about how to configure the VDI Configuration Editor, see the *Dell Wyse ThinOS 9.1.4234 and 9.1.5067 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

- **Citrix VDA policy setting update**—In Citrix VDA 2109 and later versions, the Citrix VDA policy setting **Virtual channel allow list** is enabled by default. As a result, the non-Citrix virtual channels, such as Zoom, WebEx VDI, WebEx Meetings VDI, JVDI, Imprivata OneSign and HID do not work. You can disable the setting, or find the name of the third-party virtual channel and add it to the virtual channel allow list. For more information, see the *Citrix documentation* at [docs.citrix.com](https://docs.citrix.com).

## Limitations

- After you enable the Citrix Workspace app log feature and join the Microsoft Teams meeting, the ICA session stops responding for a few seconds.
- Citrix session gets disconnected if Adaptive Audio is enabled when you connect to a VDI desktop that runs on Citrix VDA 2109. You must disable Adaptive Audio function to connect to Citrix VDA 2109 desktop. This issue is observed in Linux Citrix Workspace app binary.
  - If you are using Desktop Delivery Controller (DDC) version 2109, you can find the Adaptive Audio policy, and disable it using the policy settings.
  - If you are using DDC version 1912, change the registry value of REG\_DWORD EnableAdaptiveAudio to 0 in the following registry paths:
    - **Desktop VDA (Windows 10)—HKLM\Software\Citrix\Audio**
    - **Server VDA (Server 2016\2019)—HKLM\Software\WOW6432Node\Citrix\Audio**
- The video resolution may be downgraded when you close and replay the Multimedia redirection (MMR) enabled video. This is observed when the thin client is connected to a VPN.
- If you are using a low-bandwidth network connection, the 1080p MMR video stops playing with no audio output. This is observed in a Citrix ICA session.
- Battery status does not appear on the session desktop when you launch a session on Wyse 5470 Thin Client. This issue is resolved in Citrix Workspace app 2111.
- The published Skype For Business application cannot connect to RTME.
- During a Microsoft Teams meeting, echo is observed when you disconnect a headset from the device.
- Audio noise is observed when recording voice with an analog or USB headset in the VDI session. This issue is observed on Wyse 5070 Thin Client.
- Microsoft Teams share screen function is disabled automatically when you switch the mouse to the client during the Teams call.
- The Citrix desktop screen does not display correctly when the Citrix policy **Use video codec for compression** is configured for the entire screen.
- The server VDA desktop stops responding when you are using a smart card to reconnect the session.
- Bluetooth device cannot be detected in the JVDI device list.
- If you open the camera in a session desktop, you cannot use the camera for other applications. You must log out of the account and log in back to the desktop.
- Sometimes, Microsoft teams audio and camera change to None on the Settings Devices list.

## Azure Virtual Desktop updates

- Windows Virtual Desktop (WVD) is renamed to Azure Virtual Desktop (AVD).
- Supports camera redirection in an RDP session. Connect your camera to the thin client and launch the RDP session. The camera is redirected automatically.



**NOTE:** The direct show application feature does not work properly when using the camera redirection in an RDP session.

For more information, see the *Dell Wyse ThinOS Version 9.1.4234 and 9.1.5067 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## VMware Horizon Blast limitations

- **Headset Redirection**—Dell sound bar SP3022/SB522A USB redirection is not supported on ThinOS. The Blast session stops responding when you use this device. This is a VMware limitation.
- **Session audio**—Sometimes the session has no audio output when you hot plug a headset. As a workaround, you must switch the audio from the ThinOS local system to HD audio and then switch back to Headset.
- **CPU performance**—If you do not sign off from the broker but only disconnects the blast session multiple times, there are a lot of mks processes in the system. This is a VMware limitation.
- **Webex VDI**—Sometimes Webex VDI is not optimized in a Horizon session, As a workaround, you must reboot the device and relaunch the Webex VDI application.

## VDI Configuration Editor

ThinOS enables the IT administrator to configure the VDI-related settings by dynamically modifying the VDI configuration files of your ThinOS device. You can configure the Citrix settings, Horizon Blast settings, and Zoom plug-in settings either using Admin Policy Tool or Wyse Management Suite.

To use the VDI settings feature, you must first upgrade to Wyse Management Suite v3.5.866 using the Configuration UI package v1.5 300 or later. If you are using Wyse Management Suite public cloud, the Configuration UI package is updated automatically by Dell.

**NOTE:** Ensure that you read the disclaimer that is highlighted on the VDI Configuration Editor page before configuring the options. Improper configuration may lead to VDI applications not work properly. You must also read the Citrix, VMware, and Zoom official documentation from their respective websites to set the relevant VDI settings. All settings are case-sensitive.

To access the configuration page, go to **Advanced > VDI Configuration Editor** on Wyse Management Suite policy settings or Admin Policy Tool. For more information about how to configure the VDI dynamic settings, see the *Dell Wyse ThinOS 9.1.4097, 9.1.4234, 9.1.5067, and 9.1.6108 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

**NOTE:** VDI settings will dynamically write into the VDI configuration files of the device. For settings to take effect, you must log out and log in to the broker again, or configure the settings before logging into the broker.

## Citrix Configuration Editor

### Citrix VDI settings

**NOTE:** Ensure that you read the disclaimer that is highlighted on the VDI Configuration Editor page before configuring the options. Improper configuration may lead to VDI applications not work properly. You must also read the Citrix official documentation from [docs.citrix.com](http://docs.citrix.com) to set the VDI settings. All settings are case-sensitive.

Citrix settings are classified by VDI application and configuration type. The following Citrix VDI settings are supported:

- Citrix INI settings
- Citrix XML settings
- Citrix JSON settings
- Citrix Keyboard layout settings

To update the file settings for Citrix VDI, see the Citrix Workspace app documentation at [docs.citrix.com](http://docs.citrix.com).

The following are the supported configuration file paths for Citrix Workspace app:

- /opt/Citrix/ICAClient/config/All\_Regions.ini
- /opt/Citrix/ICAClient/module.ini
- ~/.ICAClient/wfclient.ini
- /opt/Citrix/ICAClient/config/wfclient.template
- /opt/Citrix/ICAClient/config/AuthManConfig.xml
- /opt/Citrix/ICAClient/config/kbdlayoutmap.tbl
- /var/.config/citrix/hdx\_rtc\_engine/config.json
- ~/.ICAClient/appsrv.ini

Citrix INI settings allow you to enable or disable the Unified Communication Optimization when UC packages are installed on ThinOS. The following UC configurations are qualified by Dell Technologies:

**Table 31. Enable or disable UC plug-in settings**

| UC Plug-ins | Enable UC Plug-in using VDI settings                                                            | Disable UC Plug-in using VDI settings                                                            | Details                                                                                                                                       |
|-------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Zoom Citrix | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: ZoomMedia<br>Value: On | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: ZoomMedia<br>Value: Off | Change the values On/Off in module.ini to enable or disable the UC plug-in.<br><br>Plug-in switch string is located in the section [ICA 3.0]. |

**Table 31. Enable or disable UC plug-in settings (continued)**

| UC Plug-ins             | Enable UC Plug-in using VDI settings                                                                                                                                                                                                                                                                     | Disable UC Plug-in using VDI settings                                                                                                                                                                                                      | Details                                                                                                                                       |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
|                         | These settings enable the Zoom optimization with ZoomMedia=On in module.ini. These are the default settings after you install the UC package.                                                                                                                                                            | These settings disable the Zoom optimization with ZoomMedia=Off in module.ini.                                                                                                                                                             |                                                                                                                                               |
| Cisco WebEx VDI         | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: CiscoTeamsVirtualChannel<br>Value: On<br><br>These settings enable Cisco WebEx VDI optimization with CiscoTeamsVirtualChannel=On in module.ini. These are the default settings after you install the UC package.                | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: CiscoTeamsVirtualChannel<br>Value: Off<br><br>These settings disable Cisco WebEx VDI optimization with CiscoTeamsVirtualChannel=Off in module.ini.                | Change the values On/Off in module.ini to enable or disable the UC plug-in.<br><br>Plug-in switch string is located in the section [ICA 3.0]. |
| Cisco WebEx MeetingsVDI | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: CiscoMeetingsVirtualChannel<br>Value: On<br><br>These settings enable Cisco WebEx Meetings VDI optimization with CiscoMeetingsVirtualChannel=On in module.ini. These are the default settings after you install the UC package. | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: CiscoMeetingsVirtualChannel<br>Value: Off<br><br>These settings disable Cisco WebEx Meetings VDI optimization with CiscoMeetingsVirtualChannel=Off in module.ini. | Change the values On/Off in module.ini to enable or disable the UC plug-in.<br><br>Plug-in switch string is located in the section [ICA 3.0]. |
| Cisco Jabber            | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: CiscoVirtualChannel<br>Value: On<br><br>These settings enable Cisco JVDI optimization with CiscoVirtualChannel=On in module.ini. These are the default settings after you install the UC package.                               | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: CiscoVirtualChannel<br>Value: Off<br><br>These settings disable Cisco JVDI optimization with CiscoVirtualChannel=Off in module.ini.                               | Change the values On/Off in module.ini to enable or disable the UC plug-in.<br><br>Plug-in switch string is located in the section [ICA 3.0]. |
| Microsoft Teams         | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: VDWEBRTC<br>Value: On<br><br>These settings enable Microsoft Teams optimization with VDWEBRTC =On in module.ini. These are the default settings after you install the UC package.                                               | File: module.ini<br>Operation: Add or Update<br>Section: ICA 3.0<br>Key: VDWEBRTC<br>Value: Off<br><br>These settings disable Microsoft Teams optimization with VDWEBRTC=Off in module.ini.                                                | Change the values On/Off in module.ini to enable or disable the UC plug-in.<br><br>Plug-in switch string is located in the section [ICA 3.0]. |
| RTME                    | File: module.ini<br>Operation: Add or Update                                                                                                                                                                                                                                                             | File: module.ini<br>Operation: Add or Update                                                                                                                                                                                               | Change the values On/Off in module.ini to enable or disable the UC plug-in.                                                                   |

**Table 31. Enable or disable UC plug-in settings (continued)**

| UC Plug-ins | Enable UC Plug-in using VDI settings                                                                                                                                                                    | Disable UC Plug-in using VDI settings                                                                                                    | Details                                                    |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
|             | Section: ICA 3.0<br>Key: HDXRTME<br>Value: On<br>These settings enable Skype for business optimization with HDXRTME =On in module.ini. These are the default settings after you install the UC package. | Section: ICA 3.0<br>Key: HDXRTME<br>Value: Off<br>These settings disable Skype for business optimization with HDXRTME =Off in module.ini | Plug-in switch string is located in the section [ICA 3.0]. |

## Horizon Blast Configuration Editor

**NOTE:** Ensure that you read the disclaimer that is highlighted on the VDI Configuration Editor page before configuring the options. Improper configuration may lead to VDI applications not work properly. You must also read the VMware official documentation at [docs.vmware.com](https://docs.vmware.com) to set the VDI settings. All settings are case-sensitive. If a setting is defined in multiple locations, to know the value that must be used, see the VMware documentation.

The following are the supported configuration file paths for Horizon Blast Client:

- ~/.vmware/config
- ~/.vmware/view-preferences
- /etc/vmware/config
- /etc/vmware/view-default-config

**Enable USB trace log**—If you face any issues that are related to the USB device, you can enable the USB trace log for debugging purposes. Use the following setting in the ~/.vmware/config configuration file:

```
view-usbd.logLevel = "trace"
log.logMinLevel = 140
loglevel.user.usb = 10
```

**Numeric keypad numlock**—If you face any issue that is related to the numlock key of the USB numeric keypad, you can use the following setting in the ~/.vmware/config configuration file to resolve the issue:

```
mks.keyboard.suppressNumlocks = "TRUE"
mks.keyboard.enableHotkeyNumlockBinding = "TRUE"
```

## Zoom Plugin Configuration Editor

**NOTE:** Ensure that you read the disclaimer that is highlighted on the VDI Configuration Editor page before configuring the options. Improper configuration may lead to VDI applications not work properly. You must also read the Zoom official documentation at [support.zoom.us](https://support.zoom.us) to set the VDI settings. All settings are case-sensitive. To update the file settings under Zoom INI, refer to the Cisco document at [Configuring the Zoom VDI Linux plugin with ZoomMedia.ini - Zoom Support](#).

The following are the supported configuration file paths for Zoom plug-ins:

- Zoom Citrix— ~/.ICAClient/config/ZoomMedia.ini
- Zoom Horizon— ~/.vmware/ZoomMediaVmware.ini

### Important notes

Using the VDI configuration files, you cannot modify the following ThinOS settings that are included in Admin Policy Tool or Wyse Management Suite policy settings. A warning message is displayed when you modify the settings using VDI Configuration Editor.

**Table 32. ThinOS settings - Not allowed to be modified**

| VDI/UC               | Configuration files                            | Deny list                                                                                                                                                                                                                                                                |
|----------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Citrix Workspace app | /opt/Citrix/ICAClient/usb.conf                 | All                                                                                                                                                                                                                                                                      |
|                      | /opt/Citrix/ICAClient/config/All_Regions.ini   | [Virtual Channels\Serial Port\Device]<br>LastComPortNum=8<br>ComPort1=<br>ComPort2=<br>ComPort3=<br>ComPort4=<br>ComPort5=<br>ComPort6=<br>ComPort7=<br>ComPort8=                                                                                                        |
|                      | /opt/Citrix/ICAClient/config/module.ini        | [ICA 3.0]<br>KeyboardSync=                                                                                                                                                                                                                                               |
|                      | ~/.ICAClient/wfclient.ini                      | [WFClient]<br>Version=<br>KeyboardLayout=<br>KeyboardMappingFile=<br>KeyboardDescription=<br>KeyboardType=<br>CDMAAllowed=<br>DrivePath*<br>DriveEnabled*<br>DriveReadAccess*<br>DriveWriteAccess*<br>CursorStipple=<br>TransportReconnectEnabled=<br>ClientPrinterList= |
|                      | /var/.config/citrix/hdx_rtc_engine/config.json | {<br>"ProxyHostname": "xxxx",<br>"ProxyPort": xx<br>}                                                                                                                                                                                                                    |
|                      | ~/.ICAClient/appsrv.ini                        | [WFClient]<br>COMAllowed=                                                                                                                                                                                                                                                |
| VMware Horizon       | ~/.vmware/config                               | viewusb.AllowAutoDeviceSplitting=<br>viewusb.SplitExcludeVidPid=<br>viewusb.SplitVidPid=<br>viewusb.ExcludeVidPid=<br>viewusb.IncludeVidPid=<br>viewusb.IncludeFamily=                                                                                                   |

**Table 32. ThinOS settings - Not allowed to be modified (continued)**

| VDI/UC       | Configuration files                   | Deny list                                                                                          |
|--------------|---------------------------------------|----------------------------------------------------------------------------------------------------|
|              |                                       | viewusb.ExcludeFamily=<br>mks.enableFIPSMODE=<br>usb.enableFIPSMODE=<br>viewusb.ExcludeAllDevices= |
| Zoom Citrix  | ~/.ICAClient/config/<br>ZoomMedia.ini | [PROXY]<br>proxyType=<br>httpProxyHost=<br>httpProxyPort=<br>httpsProxyHost=<br>httpsProxyPort=    |
| Zoom Horizon | ~/.vmware/<br>ZoomMediaVmware.ini     | [PROXY]<br>proxyType=<br>httpProxyHost=<br>httpProxyPort=<br>httpsProxyHost=<br>httpsProxyPort=    |

## Wyse Management Suite policy settings and Admin Policy Tool updates

- Added the **Manual override** option for selected settings. When the manual override feature is enabled, and the user performs the required action on the ThinOS local device, the configured policies from Wyse Management Suite for these settings are not applied to the ThinOS device.

**Table 33. Manual override support matrix**

| Settings           | Action to be performed on the ThinOS local device | Default value |
|--------------------|---------------------------------------------------|---------------|
| DHCP Settings      | Click the OK button in the Network Setup window   | Disabled      |
| DNS Settings       | Click the OK button in the Network Setup window   | Disabled      |
| Proxy Settings     | Click the OK button in the Network Setup window   | Disabled      |
| Ethernet Settings  | Click the OK button in the Network Setup window   | Disabled      |
| Wireless Settings  | Click the OK button in the Network Setup window   | Disabled      |
| VPN Settings       | Add a new VPN, edit a VPN or remove a VPN         | Disabled      |
| Printers           | Click the OK button in the Printer Setup window   | Disabled      |
| Audio <sup>1</sup> | Change the audio configuration                    | Disabled      |
| Mouse*             | Click the OK button in the Peripherals window     | Enabled       |
| Keyboard*          | Click the OK button in the Peripherals window     | Enabled       |



**Table 33. Manual override support matrix (continued)**

| Settings                              | Action to be performed on the ThinOS local device                   | Default value |
|---------------------------------------|---------------------------------------------------------------------|---------------|
| Touch pad*                            | Click the OK button in the Peripherals window                       | Enabled       |
| Monitor*                              | Click the Test button and then click OK in the Display Setup window | Disabled      |
| Region & Language - Region Settings   | Change region configuration and click OK button                     | Disabled      |
| Region & Language - Language Settings | Change language configuration and click OK button                   | Disabled      |

\*The manual override option is available for these settings in the previous ThinOS release.

<sup>1</sup>After the device reboot, the USB audio is set as priority regardless of the Manual Override settings. This is a known issue.

- Added the **Camera** option in **Peripheral Management**. When you disable this option and connect the camera to the device, the device list in the Peripherals window shows empty data. The display resolution list on the device only shows resolutions from the DDC table.
- Changed the **Mute** option in **Peripheral Management > Audio** to a drop-down list. Use this option to control the playback audio and system beep separately.

**Table 34. Audio options**

| Value                   | Playback audio | System beep |
|-------------------------|----------------|-------------|
| Unmute                  | unmute         | unmute      |
| Audio mute, beep mute   | mute           | mute        |
| Audio unmute, beep mute | unmute         | mute        |

- Added the **Resolutions From DDC Table Only** option under **Peripheral Management > Monitor**. When enabled, the display resolution list on the device only shows resolutions from the DDC table.
- Added the **Ignore Server Certificate Check** option under **Privacy & Security > SCEP**.

This option is disabled by default. You must install a CA certificate first and then request a SCEP certificate by using the administrator URL. When using the administrator URL, you must FQDN with prefix HTTPS. Do not use the IP address in the URL.

If this option is enabled, there is no need to install the CA certificate on the client. You can directly request for a SCEP certificate by using the administrator URL with prefix HTTPS.

**NOTE:** If you are using earlier versions of ThinOS and if you have used the IP address in the administrator URL with the Ignore Server Certificate Check option disabled, you must change the URL to FQDN. If the Ignore Server Certificate Check option is enabled, there is no need to change the IP address in the administrator URL.

- The application name WVD is changed to AVD in the **Proxy Application** List field under **Network Configuration > Proxy Settings**.

**NOTE:** If you have already configured WVD as the application name, the proxy functionality still works.

- Added the option **Show Applications with KEYWORDS:Mandatory** under **Session Settings > Citrix Session Settings**. When this option is enabled and you log in with classic mode or modern mode, only the applications that are configured with KEYWORDS:Mandatory are displayed on the ThinOS desktop.
- Added the **Login Expire Time** option under **Broker Settings > Citrix Virtual Apps and Desktops Settings**. Use this option to set a timer after you log in to a Citrix session. After the countdown timer expires, you must enter the user credentials again to launch any new desktop or application. After you enter the credentials, the countdown timer starts again. Desktop or applications that you launch before the expiry of the countdown timer remains open and are not affected by this setting.
- The **On Desktop=None** option under **Session Settings > Global Session Settings** is not applicable to Modern desktop.
- Values of Keyboard Layout and Screen Saver Timeout from the client are displayed under System Information on the **Devices Details** page on Wyse Management Suite.

## ThinOS enhancements

- Supports device registration to Wyse Management Suite using secure DNS record fields.
  - You can register ThinOS-based devices to Wyse Management Suite 3.5 or later versions by using secure DNS record fields.
  - If you have not registered your ThinOS client to Wyse Management Suite and if you have set the DNS server with records, the device will automatically register to Wyse Management Suite.
- **NOTE:** If both secure DNS records and legacy DNS records are set in the DNS server, the secure DNS records take priority.
- Registering devices to Wyse Management Suite using secure DHCP scope options 201 and 202 is not supported.
- Supports NTFS USB drive mapping.
  - You can import files or export logs to a USB drive with NTFS format from ThinOS local UI.
  - You can map the USB drive with NTFS format to a Citrix or RDP session.
- Supports multiple DNS domain suffixes. Each value must be separated by a semicolon (;).
- Ability to save a new password specified in the prompt window when the current WPA & WPA2 personal wireless connection password is incorrect.
- Supports authentication to domain controller (NTLM) using the None broker. To set the Authentication to domain controller option, go to **Login Experience > Login Settings > Login Type** on Wyse Management Suite policy settings or Admin Policy Tool.

If you set the Broker type as None with authentication to domain controller selected, a login window is displayed after you restart the system. Only users in the Active Directory group that are set in Wyse Management Suite can log in to the device. Any policy that is configured in the user policy group is applied to ThinOS.

- Displays a message on the First Boot Wizard screen when you reset the device to factory default settings without a network connection.
- The application name WVD is changed to AVD for the **Apply proxy server on** field.
- Supports the display resolution of about 16000 pixels for a single window in a multidisplay setup. Do not exceed this resolution.

For more information about the updates, see the *Dell Wyse ThinOS Version 9.1.4234 and 9.1.5067 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Supported peripherals

**NOTE:** The supported peripherals are not limited to the peripherals devices listed in this section.

**Table 35. Supported peripherals**

| Product Category    | Peripherals                                                                                   |
|---------------------|-----------------------------------------------------------------------------------------------|
| Adapters and cables | C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter                                         |
|                     | Dell Adapter - DisplayPort to DVI (Single Link) - DANARBC084                                  |
|                     | Dell Adapter - DisplayPort to HDMI 2.0 (4K) - DANAUBC087                                      |
|                     | Dell Adapter - DisplayPort to VGA - DANBNBC084                                                |
|                     | Dell Adapter - HDMI to DVI - DAUARBN004                                                       |
|                     | Dell Adapter - HDMI to VGA - DAUBNBC084                                                       |
|                     | Dell Adapter - USB-C to DisplayPort - DBQANBC067                                              |
|                     | Dell Adapter - USB-C to Dual USB-A with Power Pass-Through - DBQ2BJBC070 - Combo Adapter      |
|                     | Dell Adapter - USB-C to HDMI - DBQAUBC064                                                     |
|                     | Dell Adapter - USB-C to HDMI/DP - DBQAUANBC070                                                |
|                     | Dell Adapter - USB-C to VGA - DBQBNBC064                                                      |
|                     | StarTech.com 1 Port USB to RS232 DB9 Serial Adapter Cable - Serial adapter - USB 2.0 - RS-232 |

**Table 35. Supported peripherals (continued)**

| Product Category | Peripherals                                                                      |
|------------------|----------------------------------------------------------------------------------|
|                  | Trendnet USB to Serial Converter RS-232                                          |
| Audio devices    | Dell 2.0 Speaker System - AE215                                                  |
|                  | Dell Pro Stereo Headset - Skype for Business - UC350                             |
|                  | Dell Pro Stereo Headset - UC150 - Skype for Business                             |
|                  | Dell Professional Sound Bar (AE515M)                                             |
|                  | Dell USB Sound Bar (AC511M)                                                      |
|                  | Dell Wired 2.1 Speaker System - AE415                                            |
|                  | Jabra BIZ 2400 Duo USB MS                                                        |
|                  | Jabra EVOLVE UC VOICE 750                                                        |
|                  | Jabra Engage 65 Stereo Headset                                                   |
|                  | Jabra Evolve 65 MS Stereo - Headset                                              |
|                  | Jabra Evolve 75                                                                  |
|                  | Jabra Engage 75                                                                  |
|                  | Jabra GN2000                                                                     |
|                  | Jabra PRO 935 USB Microsoft Lync Headset - 935-15-503-185                        |
|                  | Jabra Pro 9450                                                                   |
|                  | Jabra Speak 510 MS Bluetooth                                                     |
|                  | Jabra UC SUPREME MS Bluetooth (link 360)                                         |
|                  | LFH3610/00 Speechmike Premium—Only supports redirect                             |
|                  | Logitech S-150                                                                   |
|                  | Logitech h150 - analog                                                           |
|                  | Nuance PowerMic II—supports to redirect whole device                             |
|                  | PHILIPS - analog                                                                 |
|                  | POLYCOM Deskphone CX300                                                          |
|                  | Plantronics AB J7 PLT                                                            |
|                  | Plantronics BLACKWIRE C710, Bluetooth                                            |
|                  | Plantronics Blackwire 5220 Series                                                |
|                  | Plantronics Blackwire C5210                                                      |
|                  | Plantronics Calisto P820-M                                                       |
|                  | Plantronics SAVI W740/Savi W745—supports USB only and does not support bluetooth |
|                  | Plantronics Savi W440M-400 Series convertible wireless headset - DECT 6.0        |
|                  | Plantronics Voyager 6200 UC                                                      |
|                  | Plantronics Voyager Focus UC B825-M headset for Microsoft Lync                   |
|                  | SENNHEISER D 10 USB ML-US Wireless DECT Headset                                  |
|                  | SENNHEISER SC 40 USB MS                                                          |
|                  | SENNHEISER SC 660 USB ML                                                         |
|                  | SENNHEISER SDW 5 BS-EU                                                           |

**Table 35. Supported peripherals (continued)**

| Product Category | Peripherals                               |
|------------------|-------------------------------------------|
| Camera           | SENNHEISER SP 10 ML Speakerphone for Lync |
|                  | SENNHEISER USB SC230                      |
|                  | Jabra PanaCast 4K Webcam                  |
|                  | Logitech BRIO 4K Webcam                   |
|                  | Logitech C910 HD Pro Webcam               |
|                  | Logitech C920 HD Pro Webcam               |
|                  | Logitech C922 Pro Stream Webcam           |
|                  | Logitech C925e Webcam                     |
|                  | Logitech C930e HD Webcam                  |
|                  | Logitech HD Webcam C525                   |
|                  | Microsoft LifeCam HD-3000                 |
| Displays         | Poly EagleEye Mini webcam                 |
|                  | C2422HE                                   |
|                  | C2722DE                                   |
|                  | C3422WE                                   |
|                  | E1916H                                    |
|                  | E1920H                                    |
|                  | E2016H                                    |
|                  | E2016Hv—China only                        |
|                  | E2020H                                    |
|                  | E2216H                                    |
|                  | E2216Hv—China only                        |
|                  | E2218HN                                   |
|                  | E2220H                                    |
|                  | E2318H                                    |
|                  | E2318HN                                   |
|                  | E2417H                                    |
|                  | E2420H                                    |
|                  | E2420HS                                   |
|                  | E2720H                                    |
|                  | E2720HS                                   |
|                  | MR2416                                    |
|                  | P1917S                                    |
|                  | P2016                                     |
|                  | P2017H                                    |
|                  | P2018H                                    |
|                  | P2217                                     |

**Table 35. Supported peripherals (continued)**

| Product Category | Peripherals                                                  |
|------------------|--------------------------------------------------------------|
|                  | P2217H                                                       |
|                  | P2219H                                                       |
|                  | P2219HC                                                      |
|                  | P2317H                                                       |
|                  | P2319H                                                       |
|                  | P2415Q (3840 x 2160)                                         |
|                  | P2417H                                                       |
|                  | P2418D                                                       |
|                  | P2418HT                                                      |
|                  | P2418HZ                                                      |
|                  | P2419H                                                       |
|                  | P2419HC                                                      |
|                  | P2421D                                                       |
|                  | P2421DC                                                      |
|                  | P2715Q (3840 x 2160)                                         |
|                  | P2719H (1920 x 1080)                                         |
|                  | P2719HC                                                      |
|                  | P2720D                                                       |
|                  | P2720DC                                                      |
|                  | P3418HW                                                      |
|                  | P4317Q                                                       |
|                  | S2719HS (1920 x 1080)                                        |
|                  | S2817Q (3840x2160)                                           |
|                  | U2415                                                        |
|                  | U2419H                                                       |
|                  | U2419HC                                                      |
|                  | U2421HE                                                      |
|                  | U2518D                                                       |
|                  | U2520D                                                       |
|                  | U2713HM (2560 x 1440)                                        |
|                  | U2718Q (4K) (3840 x 2160)                                    |
|                  | U2719D (1920 x 1080)                                         |
|                  | U2719DC                                                      |
|                  | U2720Q                                                       |
|                  | U2721DE                                                      |
|                  | U3219Q (3840 x 2160)—No support for Type C to HDMI convertor |
|                  | U3419W (3440 x 1440)                                         |

**Table 35. Supported peripherals (continued)**

| Product Category                   | Peripherals                                                                                       |
|------------------------------------|---------------------------------------------------------------------------------------------------|
|                                    | U4320Q                                                                                            |
|                                    | U4919DW                                                                                           |
| Docking station                    | Dell Dock - WD19-C                                                                                |
|                                    | Dell Thunderbolt Dock - WD19TB—Thunderbolt Display is not supported                               |
| Fingerprint readers                | HID EikonTouch 4300 Fingerprint Reader                                                            |
|                                    | HID EikonTouch M211 Fingerprint Reader                                                            |
|                                    | HID EikonTouch TC510 Fingerprint Reader                                                           |
|                                    | HID EikonTouch TC710 Fingerprint Reader                                                           |
|                                    | HID EikonTouch V311 Fingerprint Reader                                                            |
|                                    | Imprivata HDW-IMP-1C                                                                              |
|                                    | KSI-1700-SX Keyboard                                                                              |
| Hands-Free Authentication (HFA)    | BLED112HDW-IMP-IIUR—BLEdongle                                                                     |
| Input devices (Keyboard and Mouse) | Bloomberg Keyboard STB 100                                                                        |
|                                    | Dell Keyboard KB212-B                                                                             |
|                                    | Dell Keyboard KB216p                                                                              |
|                                    | Dell Laser Scroll USB 6-Buttons Silver and Black Mouse                                            |
|                                    | Dell Laser Wired Mouse - MS3220                                                                   |
|                                    | Dell Mobile Pro Wireless Mice - MS5120W                                                           |
|                                    | Dell Mobile Wireless Mouse - MS3320W                                                              |
|                                    | Dell Multi-Device Wireless Keyboard and Mouse Combo - KM7120W                                     |
|                                    | Dell Multi-Device Wireless Mouse - MS5320W                                                        |
|                                    | Dell Optical Wireless Mouse - WM122                                                               |
|                                    | Dell Optical Wireless Mouse - WM123                                                               |
|                                    | Dell Premier Wireless Mouse - WM527                                                               |
|                                    | Dell USB Wired Keyboard - KB216                                                                   |
|                                    | Dell USB Wired Optical Mouse - MS116                                                              |
|                                    | Dell Wireless Keyboard and Mouse - KM636                                                          |
|                                    | Dell Wireless Keyboard/mouse KM632                                                                |
|                                    | Dell Wireless Mouse - WM126 - black                                                               |
|                                    | Dell Wireless Mouse - WM326                                                                       |
|                                    | Dell wireless Keyboard/mouse KM714                                                                |
|                                    | Man & Machine C Mouse - Mouse - right and left-handed - optical - 2 buttons - wired - USB - white |
|                                    | Man & Machine Its Cool Flat - Keyboard - USB - UK layout - white                                  |
|                                    | Microsoft Arc Touch Mouse 1428                                                                    |
|                                    | Microsoft Ergonomic Keyboard                                                                      |
|                                    | Rapoo E6100, Bluetooth                                                                            |

**Table 35. Supported peripherals (continued)**

| Product Category       | Peripherals                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------------------|
|                        | Seal Shield Medical Grade Optical Mouse                                                                          |
|                        | Seal Shield Silver Seal Waterproof-Keyboards-USB-US-waterproof-white                                             |
|                        | SpaceMouse Pro                                                                                                   |
|                        | SpaceNavigator 3D Space Mouse                                                                                    |
| Networking             | Add On 1000 Base-T SFP transceiver—RJ-45                                                                         |
| Others                 | Intuos Pro Wacom                                                                                                 |
| Printers               | Brother DCP-7190DW—works on ICA only and not Blast                                                               |
|                        | Dell B1165nfw Mono Multifunction Printer                                                                         |
|                        | Dell B1265dnf Multifunction Laser Printer                                                                        |
|                        | Dell B2360d Laser Printer                                                                                        |
|                        | Dell B2360dn Laser Printer                                                                                       |
|                        | Dell Color Multifunction Printer - E525w                                                                         |
|                        | Dell Color Printer- C2660dn                                                                                      |
|                        | Dell Multifunction Printer - E515dn                                                                              |
|                        | HP Color LaserJet CM1312MFP—tested on Blast                                                                      |
|                        | HP LaserJet P2055d                                                                                               |
|                        | HP M403D— works on ICA only and not Blast                                                                        |
| Proximity card readers | Lexmark X864de- tested on LPD only                                                                               |
|                        | Imprivata HDW-IMP-60                                                                                             |
|                        | Imprivata HDW-IMP-75                                                                                             |
|                        | Imprivata HDW-IMP-80                                                                                             |
|                        | Imprivata HDW-IMP-82                                                                                             |
|                        | KSI-1700-SX Keyboard                                                                                             |
|                        | OMNIKEY 5025CL                                                                                                   |
|                        | OMNIKEY 5321 V2                                                                                                  |
|                        | OMNIKEY 5321 V2 CL SAM                                                                                           |
|                        | OMNIKEY 5325 CL                                                                                                  |
|                        | OMNIKEY 5326 DFR                                                                                                 |
| Smart card readers     | RFIDeas RDR-6082AKU                                                                                              |
|                        | CHERRY KC 1000 SC - Keyboard - with Smart Card reader - USB - English - US - black - TAA Compliant - JK-A0104EU- |
|                        | Cherry SmartTerminal SMART Card Reader - ST-1044U                                                                |
|                        | Cherry SmartTerminal ST-1144 SMART Card Reader - USB 2.0                                                         |
|                        | Cherry keyboard KC 1000 SC with smart card                                                                       |
|                        | Cherry keyboard RS 6600 with smart card                                                                          |
|                        | Cherry keyboard RS 6700 with smart card                                                                          |
|                        | Dell Keyboard SK-3205 with smart card reader                                                                     |
|                        | Dell keyboard KB813 with smart card reader                                                                       |

**Table 35. Supported peripherals (continued)**

| Product Category      | Peripherals                                    |
|-----------------------|------------------------------------------------|
|                       | Dell keyboard KB813t with smart card reader    |
|                       | GemPC Twin                                     |
|                       | Gemalto IDBridge CT710                         |
|                       | HID OMNIKEY 5125                               |
|                       | HID OMNIKEY 5421                               |
|                       | IDBridge CT31 PIV                              |
|                       | OMNIKEY HID 3021                               |
|                       | OMNIKEY OK CardMan3121                         |
|                       | SmartOS powered SCR3310                        |
|                       | SmartOS powered SCR335                         |
|                       | Sun microsystem SCR 3311                       |
| Storage               | Bano type-c 16B                                |
|                       | Dell External Tray Load ODD (Agate)—DVD Writer |
|                       | Dell Portable SSD, USB-C 250 GB                |
|                       | Kingston DT microDuo 3C 32 GB                  |
|                       | Kingston DTM30 32 GB                           |
|                       | Kingston DataTraveler G3 8 GB                  |
|                       | Samsung portable DVD Writer SE-208             |
|                       | SanDisk Cruzer 16 GB                           |
|                       | SanDisk Cruzer 8 GB                            |
|                       | SanDisk USB 3.1 and Type-C 16 GB               |
|                       | SanDisk Ultra Fit 32 GB                        |
| Teradici remote cards | Teradici host card 2220                        |
|                       | Teradici host card 2240                        |

## Tested environments matrix

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

**Table 36. Tested environment—General components**

| Component                                          | Version                      |
|----------------------------------------------------|------------------------------|
| Wyse Management Suite (cloud and on-premises)      | 3.5                          |
| Configuration UI package for Wyse Management Suite | 1.5 296                      |
| Imprivata OneSign                                  | 7.6.001.17                   |
| Citrix ADC (formerly NetScaler)                    | 12.1/13.0                    |
| StoreFront                                         | 1912 LTSR and later versions |



**Table 37. Test environment—Citrix**

| Citrix Virtual Apps and Desktops                   | Windows 10 | Windows Server 2016 | Windows Server 2019 | APPs   |
|----------------------------------------------------|------------|---------------------|---------------------|--------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Tested     | Tested              | Tested              | Tested |
| Citrix Virtual Apps and Desktops 7 2109            | Tested     | Tested              | Tested              | Tested |

**Table 38. Tested environment—VMware Horizon**

| VMware              | Windows 10 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | Windows Server 2016 APPs | Windows Server 2019 APPs |
|---------------------|------------|------------------------|---------------------|---------------------|--------------------------|--------------------------|
| VMware Horizon 7.12 | Tested     | Not tested             | Tested              | Not tested          | Tested                   | Not tested               |
| VMware Horizon 2103 | Tested     | Not applicable         | Tested              | Tested              | Tested                   | Tested                   |
| VMware Horizon 2106 | Tested     | Not applicable         | Tested              | Tested              | Tested                   | Tested                   |

**Table 39. Test environment—Microsoft RDP**

| Microsoft RDP                | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|------------------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| Remote Desktop Services 2016 | Tested     | Tested     | Not tested             | Not tested             | Tested              | Not tested          | Tested |
| Remote Desktop Services 2019 | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Tested              | Tested |

**Table 40. Test environment—AVD**

| Azure Virtual Desktop | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|-----------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| 2019 (MS-Prod)        | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |
| 2020 (ARMv2)          | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |

**Table 41. Tested environment—Skype for Business**

| Citrix VDI                                                                                    | Operating system    | RTME Client | RTME Agent | Skype for Business client | Skype for Business Server |
|-----------------------------------------------------------------------------------------------|---------------------|-------------|------------|---------------------------|---------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2109 | Windows 10          | 2.9.400     | 2.9.400    | Skype for Business 2016   | Skype for Business 2015   |
|                                                                                               | Windows server 2016 |             |            |                           |                           |
|                                                                                               | Windows server 2019 |             |            |                           |                           |

**Table 42. Tested environment—Skype for Business**

| VMware VDI          | Operating system    | Skype for Business Client | Skype for Business Agent | Skype for Business client | Skype for Business Server |
|---------------------|---------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| VMware Horizon 7.12 | Windows 10          | 5.4, 8.2                  | 7.12, 8.2                | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2103 | Windows server 2016 | 5.4, 8.2                  | 7.12, 8.2                | Skype for Business 2016   | Skype for Business 2015   |

**Table 42. Tested environment—Skype for Business (continued)**

| VMware VDI          | Operating system    | Skype for Business Client | Skype for Business Agent | Skype for Business client | Skype for Business Server |
|---------------------|---------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| VMware Horizon 2106 | Windows server 2019 | Not tested                | Not tested               | Not tested                | Not tested                |

**Table 43. Tested environment—JVDI**

| Citrix VDI                                                                                    | Operating system    | JVDI   | JVDI agent | Jabber software |
|-----------------------------------------------------------------------------------------------|---------------------|--------|------------|-----------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2109 | Windows 10          | 14.0.2 | 14.0.2     | 14.0.2          |
|                                                                                               | Windows server 2016 |        |            |                 |
|                                                                                               | Windows server 2019 |        |            |                 |

**Table 44. Tested environment—JVDI**

| VMware VDI                                 | Operating system    | JVDI       | JVDI agent | Jabber software |
|--------------------------------------------|---------------------|------------|------------|-----------------|
| VMware Horizon 7.12<br>VMware Horizon 2103 | Windows 10          | 14.0.2     | 14.0.2     | 14.0.2          |
|                                            | Windows server 2016 | 14.0.2     | 14.0.2     | 14.0.2          |
|                                            | Windows server 2019 | Not tested | Not tested | Not tested      |

**Table 45. Tested environment—Zoom**

| Citrix VDI                                                                                    | Operating system    | Zoom package | Zoom client for VDI software |
|-----------------------------------------------------------------------------------------------|---------------------|--------------|------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2109 | Windows 10          | 5.8.0.20927  | 5.8.0 (20927)                |
|                                                                                               | Windows server 2016 |              |                              |
|                                                                                               | Windows server 2019 |              |                              |

**Table 46. Tested environment—Zoom**

| VMware VDI          | Operating system    | Zoom package | Zoom software |
|---------------------|---------------------|--------------|---------------|
| VMware Horizon 7.12 | Windows 10          | 5.8.0.20927  | 5.8.0 (20927) |
| VMware Horizon 2103 | Windows server 2016 | 5.8.0.20927  | 5.8.0 (20927) |
| VMware Horizon 2106 | Windows server 2019 | Not tested   | Not tested    |

**Table 47. Tested environment—Cisco Webex Teams**

| Citrix VDI                                                                                    | Operating system    | Webex VDI     | Webex Teams software |
|-----------------------------------------------------------------------------------------------|---------------------|---------------|----------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2109 | Windows 10          | 41.10.0.20213 | 41.10.0.20213        |
|                                                                                               | Windows server 2016 |               |                      |
|                                                                                               | Windows server 2019 |               |                      |

**Table 48. Tested environment—Cisco Webex Teams**

| VMware VDI          | Operating system    | Webex Teams   | Webex Teams software |
|---------------------|---------------------|---------------|----------------------|
| VMware Horizon 7.12 | Windows 10          | 41.10.0.20213 | 41.10.0.20213        |
| VMware Horizon 2103 | Windows server 2016 | 41.10.0.20213 | 41.10.0.20213        |
| VMware Horizon 2106 | Windows server 2019 | Not tested    | Not tested           |

**Table 49. Tested environment—Cisco Webex Meetings**

| Citrix VDI                                                                                    | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|-----------------------------------------------------------------------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2109 | Windows 10          | 41.10.3.19         | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.10 to 42.2. |
|                                                                                               | Windows server 2016 |                    |                                                                                                             |
|                                                                                               | Windows server 2019 |                    |                                                                                                             |

**Table 50. Tested environment—Cisco Webex Meetings**

| Citrix VDI                                                        | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|-------------------------------------------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| VMware Horizon 7.12<br>VMware Horizon 2103<br>VMware Horizon 2106 | Windows 10          | 41.10.3.19         | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.10 to 42.2. |
|                                                                   | Windows server 2016 |                    |                                                                                                             |
|                                                                   | Windows server 2019 |                    |                                                                                                             |

## Supported smart cards

**Table 51. Supported smart cards**

| Smart Card information from the ThinOS event log | Driver                             | Provider (CSP)                             | Card type                                        |
|--------------------------------------------------|------------------------------------|--------------------------------------------|--------------------------------------------------|
| ActivIdentity V1                                 | ActivClient 7.1                    | ActivClient Cryptographic Service Provider | Oberthur CosmopolC 64k V5.2                      |
| ActivIdentity V1                                 | ActivClient 7.1                    | ActivClient Cryptographic Service Provider | Gemalto Cyberflex Access 64K V2c                 |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | Gemalto TOPDLGX4                                 |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | G&D SCE 3.2                                      |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | Oberthur IDOne 5.5                               |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | Oberthur Cosmo V8                                |
| ActivIdentity crescendo card                     | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider | Giesecke and Devrient SmartCafe Expert 7.0 (T=0) |
| ID Prime MD v 4.0.2                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 840                                   |
| ID Prime MD v 4.0.2 (Gemalto 840)                | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 840 B                                 |
| ID Prime MD v 4.1.0                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 3810 MIFARE 1K                        |
| ID Prime MD v 4.1.3 (Gemalto 3811)               | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 3811 Mifare-Desfire                   |
| ID Prime MD v 4.1.1                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 830-FIPS                              |
| ID Prime MD v 4.3.5                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 830-FIPS Rev B                        |
| ID Prime MD v 4.4.2                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider         | IDPrime MD 940                                   |

**Table 51. Supported smart cards (continued)**

| Smart Card information from the ThinOS event log | Driver                             | Provider (CSP)                                   | Card type                                   |
|--------------------------------------------------|------------------------------------|--------------------------------------------------|---------------------------------------------|
| Etoken Java (aladdin)                            | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDCore30B eToken 1.7.7                      |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 510x                         |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110                         |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110 FIPS                    |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110 CC                      |
| SafeNet High Assurance Applets Card              | SafeNet High Assurance Client 2.12 | SafeNet Smart Card Key Storage Provider          | SC650 (SafeNet SC650 4.1t)                  |
| A.E.T. Europe B.V.                               | SafeSign-Identity-Client-3.0.76    | SafeSign Standard Cryptographic Service Provider | Giesecke & Devrient StarCos 3.0 T=0/1 0V300 |
| A.E.T. Europe B.V.                               | SafeSign-Identity-Client-3.0.76    | SafeSign Standard Cryptographic Service Provider | Giesecke & Devrient StarCos 3.2             |
| PIV (Yubico) (black USB drive)                   | YubiKey PIV Manager                | Microsoft Base Smart Card Crypto Provider        | YubiKey 4.3.3                               |
| PIV (Yubico Neo ) (black USB drive)              | Yubikey Manager v 1.1.4            | Microsoft Base Smart Card Crypto Provider        | YubiKey 4.3.3                               |
| cv cryptovision gmbh (c) v1.0ns                  | cv_act_scinterface_6.1.6           | cv act sc/interface CSP                          | Giesecke & Devrient StarCos 3.2             |
| N/A (Buypass BelDu)                              | Net iD 6.8.3.21, 2.0.48            | Net iD - CSP                                     | BelDu 6.0.4                                 |
| N/A (GEMALTO IDPrime SIS)                        | Net iD 6.8.3.21, 2.0.48            | Net iD - CSP                                     | IDPrime SIS 4.0.2                           |
| Rutoken ECP 2.0 (2100)                           | Rutoken Drivers 4.6.3.0            | Aktiv ruToken CSP v1.0                           | Rutoken ECP 2.0 (2100)                      |
| Rutoken 2151                                     | Rutoken Drivers 4.6.3.0            | Aktiv ruToken CSP v1.0                           | Rutoken (2151)                              |

## Fixed issues

**Table 52. Fixed issues**

| Issue ID  | Description                                                                                                      |
|-----------|------------------------------------------------------------------------------------------------------------------|
| DTOS-5635 | CIPS-24716 - Wireless reconnection issue in ThinOS 9.x firmware.                                                 |
| DTOS-5632 | (Citrix number 80858789) CIPS-24715 - Keyboard layout issue in the Citrix VDI session when using CWA 21.9.       |
| DTOS-5563 | CIPS-24634 - Screensaver timeout from the device is not passing to the Wyse Management Suite server.             |
| DTOS-5444 | CIPS-24501 - Case 126090009 - An error is observed during Azure SAML2 authentication.                            |
| DTOS-5277 | CIPS-23802 - On Wyse 3040 Thin Client, 49 percent of ping packets are lost when disabling the power-saving mode. |
| DTOS-5266 | CIPS-24313 - Cursor focus is lost when the cursor reaches the window side on a Modern view desktop.              |
| DTOS-5223 | CIPS-24258 - Smart card details are retained on the screen even when it is removed.                              |
| DTOS-5221 | CIPS-24257 - Window focus is lost when logging into the thin client.                                             |

**Table 52. Fixed issues (continued)**

| Issue ID  | Description                                                                                                                                                                                              |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-5195 | CIPS-23664 - Case 119577083 - Workspace ONE displays an error stating that the Horizon client is not installed.                                                                                          |
| DTOS-5185 | CIPS-24015 - Microphone does not work after unplugging a 3.5 mm analog headset.                                                                                                                          |
| DTOS-5178 | CIPS-23665 - Citrix apps or desktops are not displayed.                                                                                                                                                  |
| DTOS-5170 | CIPS-24150 - Time on the local client is not synchronized with the time server.                                                                                                                          |
| DTOS-5082 | CIPS-23857 - Power and Sleep tab appears for a few seconds on the Wyse 3040 Thin Client.                                                                                                                 |
| DTOS-5050 | CIPS-23658 - Admin Mode does not work with the Imprivata classic mode when using the ThinOS classic desktop.                                                                                             |
| DTOS-5029 | CIPS-23985 - An issue is observed when pulling Citrix Workspace app logs from the thin client.                                                                                                           |
| DTOS-5028 | CIPS-23772 - NHS USB redirect Olympus speech microphone fails after a VDI session is closed on the Wyse 3040 Thin Client.                                                                                |
| DTOS-4976 | CIPS-23836 - After the device resumes from sleep or hibernate, the smart card reader and the RSA token do not work.                                                                                      |
| DTOS-4956 | CIPS-23835 - Closing or opening the lid causes Wyse 5470 Thin Client to reboot.                                                                                                                          |
| DTOS-4944 | CIPS-22805 - Distorted display and a slow cursor movement are observed on screens that are connected to the external graphics card on Wyse 5070 Thin Client.                                             |
| DTOS-4868 | When you set the <b>Close Lid Action When Plugged in</b> to <b>Turn off the built-in display</b> , closing or opening the lid results in a system reboot. This is observed on the Wyse 5470 Thin Client. |
| DTOS-4812 | CIPS-23708 - On the Wyse 5070 and Wyse 5470 Thin Clients, the \$ sign does not work when using a French Keyboard Layout in a VNC session.                                                                |
| DTOS-4810 | CIPS-23591 - Wyse Management Suite policy for the time server information does not work.                                                                                                                 |
| DTOS-4808 | CIPS-23416   Numeric keypad numlock issue is observed.                                                                                                                                                   |
| DTOS-4764 | CIPS-23456 - On the Wyse 5470 PCoIP thin client, the mouse position is incorrect when using an external monitor as a main display.                                                                       |
| DTOS-4762 | CIPS-23624   The PCoIP session stops responding.                                                                                                                                                         |
| DTOS-4747 | CIPS-23208   The DDC Table option is missing from ThinOS 9.x.                                                                                                                                            |
| DTOS-4684 | CIPS-23381 - On the Wyse 3040 Thin Client, the application resets to the primary display in a VMware RDS session.                                                                                        |
| DTOS-4527 | CIPS-23409 - Communication with the time server is overloaded.                                                                                                                                           |
| DTOS-4465 | CIPS-23331 - The device restarts when the terminal is locked in a Zoom session.                                                                                                                          |
| DTOS-4464 | CIPS-23329 - On the Wyse 5070 Thin Client, you cannot log in to the WVD desktop while connecting through ARMv2.                                                                                          |
| DTOS-4463 | CIPS-23286 - On the Wyse 5070 Thin Client, you cannot disable the web cam completely.                                                                                                                    |
| DTOS-4325 | On the Wyse 3040 Thin Client, an undefined error is displayed when you start a session.                                                                                                                  |
| DTOS-4240 | CIPS-23161 - On the Wyse 3040 Thin Client, an incorrect session sign-off or application remains open in the remote session.                                                                              |
| DTOS-4564 | CIPS-22681 - Manual override is missing for audio, time zone, network, printer, and language.                                                                                                            |
| DTOS-5478 | A close battery low message is displayed when the power adapter is connected.                                                                                                                            |
| DTOS-4765 | CIPS-23158 - The Domain drop-down list on the login screen is small.                                                                                                                                     |
| DTOS-4711 | CIPS-22283 - The 8.6 INI expire time feature is missing in Wyse Management Suite policy settings for ThinOS 9.x.                                                                                         |

**Table 52. Fixed issues (continued)**

| Issue ID  | Description                                                                                                           |
|-----------|-----------------------------------------------------------------------------------------------------------------------|
| DTOS-4710 | (Citrix number 80383486, Citrix number 80444553) CIPS-20734 - ThinOS ignores the session reliability timeout setting. |

## Known issues

**Table 53. Known issues**

| Issue ID  | Description                                                                                                                                        | Workaround                                                                                               |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| DTOS-5789 | The Zoom configuration file ZoomMediaVmware.ini is unavailable even though the zoom package is installed on the client.                            | Reinstall the Zoom package.                                                                              |
| DTOS-5760 | PIE stops responding after you move the window in a Citrix session.                                                                                | Force restart the device.                                                                                |
| DTOS-5630 | ThinOS user interface cannot be opened after you switch select groups more than three times.                                                       | Force restart the device.                                                                                |
| DTOS-5626 | The sign-on password in the Remote Connections window is automatically changed to a long string of characters when you switch between broker URLs. | Type the correct password again on the General Options tab.                                              |
| DTOS-5618 | Thin client stops responding for two to three seconds when you launch the ICA session or start the UC application in the ICA session.              | Wait until the device is active.                                                                         |
| DTOS-5609 | ThinOS local user interface stops responding. The USB disk does not work in Troubleshooting. Peripherals and Shutdown menu cannot be opened.       | Force restart the device.                                                                                |
| DTOS-5606 | Session cannot be connected at the first time.                                                                                                     | Reconnect the session again.                                                                             |
| DTOS-5598 | After hot-plugging a headset, the audio device does not synchronize as a local device in the Blast session.                                        | Switch the ThinOS local system audio setting to HD audio and then switch back to Headset.                |
| DTOS-5592 | System stops responding when you hot plug a USB disk.                                                                                              | Force restart the thin client.                                                                           |
| DTOS-5582 | When you convert ThinOS 8.6 to 9.1.5043, the Wyse Management Suite information is unavailable and a blue screen is displayed.                      | Restart the device. The Wyse Management Suite information is restored.                                   |
| DTOS-5558 | In a Citrix session, an error message may be displayed when you log in and launch a desktop or a published application.                            | There is no workaround in this release.                                                                  |
| DTOS-5454 | In a Citrix session, the desktop stops responding when you disconnect or sign out.                                                                 | Sign off from the broker server.                                                                         |
| DTOS-5408 | When you plug out a smart card or a smart card reader, the VMware Horizon broker is signed out but the blast session is not closed.                | Restart the device.                                                                                      |
| DTOS-5343 | The sign-in broker window stops responding after the device resumes from sleep mode.                                                               | Force restart the thin client.                                                                           |
| DTOS-5199 | If the network signal is weak and you connect to the PSK wireless connection, the credential window is displayed.                                  | Click the Cancel button in the credential window, and manually connect to the wireless connection again. |
| DTOS-4926 | When using Imprivata PIE, the FP/Proxy authentications do not work when you perform multiple FP enrollments in short time.                         | Close the VDI session or restart the device.                                                             |
| DTOS-5823 | The name of AVD package still shows as WVD on the event log tab.                                                                                   | There is no workaround in this release.                                                                  |
| DTOS-5814 | The device cannot work with secure DHCP.                                                                                                           | Use the secure DNS record.                                                                               |

**Table 53. Known issues (continued)**

| Issue ID  | Description                                                                                                                                                             | Workaround                                                                                  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| DTOS-5813 | When the smart card server is timed out and you launch a session, the select store window is displayed.                                                                 | Select the store again to log in.                                                           |
| DTOS-5810 | [3040]When you remove the current connected wireless SSID and add another PSK SSID with a wrong password, many low signal logs are generated.                           | There is no workaround in this release and no impact to the functionality.                  |
| DTOS-5796 | When you save settings from Admin Policy Tool, a print event log <b>Left Admin Mode</b> is generated.                                                                   | There is no workaround in this release and no impact to the functionality.                  |
| DTOS-5793 | When you do not specify any strings in the Group Registration key box and click the Validate Key button, a message stating <b>Checked into WMS Server</b> is displayed. | There is no workaround in this release.                                                     |
| DTOS-5762 | After you redirect a USB disk to a PIE Citrix session and exit PIE, the disk is not recognized by the local device.                                                     | Connect the USB disk again.                                                                 |
| DTOS-5761 | Web cam redirection with 1280x720p video resolution for a 32-bit application does not work.                                                                             | Disconnect the camera and reconnect it.                                                     |
| DTOS-5740 | When you maximize a seamless application on the second display with a different resolution, the application resolution remains same as the main screen.                 | There is no workaround in this release.                                                     |
| DTOS-5726 | The client behavior is not same as the VNC settings timeout type and the timeout policy.                                                                                | There is no workaround in this release.                                                     |
| DTOS-5683 | The device cannot be restarted when the Idle Time and the Schedule Reboot Time are same.                                                                                | There is no workaround in this release.                                                     |
| DTOS-5681 | There is no prompt for clicking the Force Coredump button.                                                                                                              | There is no workaround in this release.                                                     |
| DTOS-5665 | In VDI settings, if the setting is a number, the string does not get changed.                                                                                           | Remove the setting and add again, or add a new setting.                                     |
| DTOS-5640 | Unable to use the keyboard and cursor when you unlock the terminal.                                                                                                     | Restart the device.                                                                         |
| DTOS-5608 | The USB drive kernel connected to the device stops responding when launching a session multiple times.                                                                  | Remove and reconnect the smart card.                                                        |
| DTOS-5537 | Desktop Viewer or Toolbar blocks do not work.                                                                                                                           | Click the session power icon, and select Disconnect. The session desktop gets disconnected. |
| DTOS-5213 | The printer class is not automatically configured for a USB printer.                                                                                                    | There is no workaround in this release.                                                     |
| DTOS-5639 | CPU utilization reaches 100 percent during a Webex Teams VDI call.                                                                                                      | There is no workaround in this release.                                                     |
| DTOS-5617 | The Teradici Cloud Access Login page keeps checking and does not give an option to add username and password.                                                           | There is no workaround in this release.                                                     |
| DTOS-5614 | When you specify the printer information in a group on Wyse Management Suite, the corresponding details appear on the printer setup page of a different group.          | There is no workaround in this release.                                                     |
| DTOS-5583 | USB scanner or printer is not listed in system log.                                                                                                                     | There is no workaround in this release.                                                     |
| DTOS-5553 | USB redirecting and mapping do not work in a Citrix session.                                                                                                            | There is no workaround in this release.                                                     |
| DTOS-5552 | C6404322: Rows cannot be removed in Admin Policy Tool after clearing and disabling printers in the printer setup window.                                                | There is no workaround in this release.                                                     |

**Table 53. Known issues (continued)**

| Issue ID   | Description                                                                                                                                                                                                                                                                                                                                                                                                            | Workaround                                                                                                                                                                                                                           |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-5551  | C6404310: Unable to add the LPD printer rows in the Admin Policy Tool.                                                                                                                                                                                                                                                                                                                                                 | There is no workaround in this release.                                                                                                                                                                                              |
| DTOS-5515  | When you maximize the Skype video window and you move the mouse, the screen flashes.                                                                                                                                                                                                                                                                                                                                   | Do not set maximize mode.                                                                                                                                                                                                            |
| DTOS-5513  | In a Citrix session, you cannot resolve the hostname error when the broker is set for smart card authentication only.                                                                                                                                                                                                                                                                                                  | There is no workaround in this release.                                                                                                                                                                                              |
| DTOS-5411  | DHCP option 182 (domain list) does not work with DHCP options for Wyse Management Suite.                                                                                                                                                                                                                                                                                                                               | Set the domain list from Wyse Management Suite.                                                                                                                                                                                      |
| DTOS-5405  | Cursor appeared differently after you enable or disable the relative mouse in a PCoIP session .                                                                                                                                                                                                                                                                                                                        | Relaunch the PCoIP session.                                                                                                                                                                                                          |
| DTOS-5359  | When you play a YouTube video with BCR enabled, the BCR content blinks and a graphic-related issue is observed.                                                                                                                                                                                                                                                                                                        | Reduce the video resolution to lower than 1080p.                                                                                                                                                                                     |
| DTOS-5356  | High CPU usage is observed with Zoom call optimization.                                                                                                                                                                                                                                                                                                                                                                | There is no workaround in this release.                                                                                                                                                                                              |
| DTOS-5351  | VPN cannot be autoreconnected when ThinOS resumes from sleep mode.                                                                                                                                                                                                                                                                                                                                                     | Manually reconnect or restart the device.                                                                                                                                                                                            |
| DTOS-5218  | ThinOS stops responding, and the device restarts when you attempt to update the EPOS SP30 firmware.                                                                                                                                                                                                                                                                                                                    | There is no workaround in this release.                                                                                                                                                                                              |
| DTOS-5132  | You cannot connect to all applications available in the auto-Connect List when the published applications are in the logged off status.                                                                                                                                                                                                                                                                                | Need connect these apps by manual click.                                                                                                                                                                                             |
| DTOS-5058  | The smart card cannot be detected by the device when you quickly reconnect the smart card,                                                                                                                                                                                                                                                                                                                             | Plug out the smart card and wait for more than 10 seconds before plugging in the smart card again.                                                                                                                                   |
| DTOS-5000  | The broker login window is displayed on top of the Admin Policy tool screen when an application is getting installed.                                                                                                                                                                                                                                                                                                  | There is no workaround in this release.                                                                                                                                                                                              |
| DTOS-4996  | The Printer Open Failed error is not displayed when you disconnect the printer and click the Test Print button.                                                                                                                                                                                                                                                                                                        | There is no workaround in this release.                                                                                                                                                                                              |
| DTOS-8011  | The thin client does not get locked automatically after leaving the thin client unattended for 10 minutes.                                                                                                                                                                                                                                                                                                             | After the thin client is checked in to the WMS server, you must change the <b>Screen Saver Settings</b> under <b>Personalization &gt; Screen Saver</b> to make the lock terminal work. Do not use the default screen saver settings. |
| BITS477310 | When you change the monitor's USB-C prioritization setting from High Data Speed to High Resolution, a black screen is displayed with a No USB-C Signal found message. Affected displays are U3023E, U4320Q , U2520D , U2421HF, U2721DE, U2421E, U2422H, U2422HE, U2722D, U2722DE , P3222QE, U3023E, U3223E, U3222QE, U2723QE, P3222QE, and C2722DE. This issue is observed on the Wyse 5070 and Wyse 5470 Thin Client. | Force restart the device.                                                                                                                                                                                                            |



# ThinOS 9.1.4234

## Release date

October 2021

## Downgrading the ThinOS firmware

If you are downgrading ThinOS 9.1.4234 to ThinOS 8.6, ThinOS 9.0, or ThinOS 9.1 versions that are older than 9.1.3129, you must use the Dell Wyse USB Imaging Tool to install the ThinOS 8.x or 9.x Merlin image that is posted to [www.dell.com/support](http://www.dell.com/support). Before you downgrade, ensure that you disable the secure boot option. If you want to downgrade to ThinOS 9.0, you must also clear Trusted Platform Module (TPM) or Platform Trust Technology (PTT) in BIOS. Else, ThinOS resets to factory settings after each reboot. You can downgrade from ThinOS 9.1.4234 to ThinOS 9.1.3129 using Wyse Management Suite.

## Firmware upgrade

The following firmware upgrade scenarios are supported:

- ThinOS 8.6\_807 > ThinOS 9.1.4234
- ThinOS 9.1.3129 > ThinOS 9.1.4234

**NOTE:** If you are using earlier versions of ThinOS 8.6, you must first upgrade to ThinOS 8.6\_807 and apply the latest BIOS updates before upgrading to ThinOS 9.1.4234. If you are using ThinOS 9.0, or any version of ThinOS 9.1 that is older than 9.1.3129, you must first upgrade to ThinOS 9.1.3129 before upgrading to ThinOS 9.1.4234.

For more information, see the *Dell Wyse ThinOS Version 9.1.4234 Migration Guide* at [www.dell.com/support](http://www.dell.com/support). For the steps to access documents, see [Resources and support](#).

## Important notes

- In Wyse Management Suite 3.5, the device group key is case sensitive. If the existing ThinOS 8.6 device uses a group key with a different case on the previous version of Wyse Management Suite server, the client cannot check in to the Wyse Management Suite server after you upgrade the server to Wyse Management Suite 3.5 and the device to ThinOS 9.1. For more information, see the *Dell Wyse Management Suite 3.5 Release Notes* and *Dell Wyse Management Suite 3.5 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).
- Installation can fail even though the image download is complete. This issue is observed when the package settings are changed in the device group before the device is checked in to Wyse Management Suite from shutdown state.
- There are chances that after the upgrade the device displays a black screen. You may reboot the device to boot it up correctly.
- If the thin client is registered in Wyse Management Suite group 1 and you set Wyse Management Suite group 2 token in group 1 policy, then the group 2 token is applied on GUI but the thin client will still be in group 1. You must reboot the thin client to change the thin client to Wyse Management Suite group 2.
- **NOTE:** Dell Technologies recommends that you set a new 9.1.4234 application package or a 9.1.4234 OS firmware package in Group 1, so that thin client installs the package, and automatically reboots, and changes to Group 2.
- If the **Live Update** option is disabled, the thin client cannot download and install any firmware or package until the next reboot. However, the firmware or packages are downloaded in the following scenarios even when the **Live Update** option is disabled:
  - When you register the thin client to Wyse Management Suite manually.
  - When you power on the thin client from a power off state.
  - When you change the Wyse Management Suite group.

- When you set a new firmware or an application package in Wyse Management Suite group 2 and then change the device from group 1 to group 2 before upgrading, the following two notifications are displayed:
  - **Wyse Management Suite server or group is changed. System is going to reboot to load full configuration. Press cancel in 60 seconds to prevent reboot.**
  - **A new firmware or application is available, do you want to upgrade now or defer to the next reboot? The changes will automatically be applied in 120 seconds.**

If you do not select an option, the thin client reboots after 60 seconds. After the reboot, the new application or firmware is installed and the thin client reboots again. The thin client will be in group 2 after the reboot.

- When a new firmware or an application notification is displayed on your thin client, clicking **Next Reboot** will:
  - Displays a notification if you have changed the Wyse Management Suite group and if the files are downloaded from the new group.
  - Not display any notification if the new firmware or application is downloaded in the same group.
  - Installs the firmware or package after a reboot.
- ThinOS 9.1.4234 does not apply OS firmware application package and BIOS firmware in child **Select** group.

## Prerequisites for firmware upgrade

- Update the BIOS version of Wyse 5070 Thin Client to 1.3.1 or later before upgrading to ThinOS 9.1.4234. If you upgrade to ThinOS 9.1.4234 with earlier BIOS version and then upgrade the BIOS version to 1.3.1 or later, the device may fail to boot. For latest BIOS versions, see [Tested BIOS version for ThinOS 9.1.4234](#).
- Before you migrate from ThinOS 8.6\_807 to ThinOS 9.1.4234 or upgrade from ThinOS 9.1.3129 to 9.1.4234, power on the system and disable the sleep mode. If the system has entered the sleep mode, you must send the WOL command through Wyse Management Suite before using any real-time commands. To use the WOL command, ensure that the Wake-On-LAN (WOL) option is enabled in BIOS.

## Upgrade from ThinOS 8.6 to ThinOS 9.1.4234 using Wyse Management Suite

If you are running any ThinOS 8.6 version, you must first install the ThinOS 8.6\_807 image with the latest BIOS version, and then upgrade to ThinOS 9.1.4234. For the latest BIOS versions, see [Tested BIOS version for ThinOS 9.1.4234](#).

The device reboots after the ThinOS image is downloaded. Once the upgrade completes, the device is automatically registered to Wyse Management Suite. Dell Technologies recommends you to back up your device settings before you initiate the upgrade process. All device settings are erased after you upgrade from ThinOS 8.6 except the following settings:

- **Wyse Management Suite group token and server settings**
- **Static DNS**
- **Certificates**
- **IEEE802.1x wired authentication settings**
- **Wireless connections**—The WEP/Sharekey security type is changed to **Open** as they are not supported in ThinOS 9.1.4234
- **Proxy settings**

 **NOTE:** For more information about how to install the ThinOS 9.1.4234 image, see the *Dell Wyse ThinOS Version 9.1.4234 Migration Guide* at [www.dell.com/support](http://www.dell.com/support).

## Upgrade from ThinOS 9.1.3129 to ThinOS 9.1.4234 using Wyse Management Suite

### Prerequisites

- If you are using ThinOS version 9.0, upgrade to ThinOS 9.1.3129.
- If you are using a ThinOS 9.1 version that is older than 9.1.3129, upgrade to ThinOS 9.1.3129.
- The thin client must be registered to Wyse Management Suite.
- Download the ThinOS 9.1.4234 (DTOS\_9.1.4234.pkg) firmware to upgrade.

## Steps

1. Go to the **Groups & Configs** page and select a group.
2. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**. The Configuration Control | ThinOS window is displayed.
3. In the left pane, click **Standard**.
4. From the **Standard** menu, expand **Firmware**, and click **OS Firmware Updates**.

 **NOTE:** If you cannot locate the **OS Firmware Updates** option under the **Standard** tab, use the **Advanced** tab.

5. Click **Browse** and select the **ThinOS 9.1.4234 OS** firmware to upload.
6. From the **Select the ThinOS Firmware to deploy** drop-down menu, select the uploaded firmware.
7. Click **Save & Publish**.  
The thin client downloads the firmware to install and restarts. The firmware version is upgraded.

## Important notes for upgrading from ThinOS 9.1.3129 to ThinOS 9.1.4234

- There are chances that the upgrade might fail with event log stating **Failed to install**. In such an event, you may reboot the device and upgrade again.
- After you upgrade, if Zoom is not launching or Zoom optimization is not working in Blast or Citrix session, remove the zoom package and reinstall it.

# Compatibility

## ThinOS build details

- ThinOS 9.1.3129 to ThinOS 9.1.4234—**DTOS\_9.1.4234.pkg**.
- ThinOS 8.6\_807 to ThinOS 9.1 conversion builds:
  - **A10Q\_wnos**—Wyse 3040 Thin Client
  - **PA10Q\_wnos**—Wyse 3040 Thin Client with PCoIP
  - **X10\_wnos**—Wyse 5070 Thin Client, Wyse 5470 Thin Client, and Wyse 5470 All-in-One Thin Client
  - **PX10\_wnos**—Wyse 5070 Thin Client with PCoIP, Wyse 5470 Thin Client with PCoIP, and Wyse 5470 All-in-One Thin Client with PCoIP

## ThinOS application package details

- Cisco\_Jabber\_14.0.1.305989\_3.pkg
- Cisco\_WebEx\_Meetings\_VDI\_41.6.1.10\_2.pkg
- Cisco\_WebEx\_VDI\_41.6.1.19187\_1.pkg (formerly called Cisco WebEx Teams)
- Citrix\_Workspace\_App\_21.6.0.28\_10.pkg
- EPOS\_Connect\_6.1.0.19549\_20.pkg
- HID\_Fingerprint\_Reader\_210217\_10.pkg
- Jabra\_7.2.0\_10.pkg
- Microsoft\_WVD\_1.3\_1229.pkg
- Teradici\_PCoIP\_21.03.1\_17.pkg
- VMware\_Horizon\_2106.8.3.0.18251983\_5.pkg
- Zoom\_Citrix\_5.7.6.20822\_2.pkg
- Zoom\_Horizon\_5.7.6.20822\_2.pkg
- Imprivata\_PIE\_7.5\_1113.pkg
- Identity\_Automation\_QwickAccess\_2.0.0.3\_3.pkg

## Previous version

ThinOS 9.1.3129

## Tested BIOS version for ThinOS 9.1.4234

Table 54. Tested BIOS details

| Platform name                    | BIOS version |
|----------------------------------|--------------|
| Wyse 3040 Thin Client            | 1.2.5        |
| Wyse 5070 Economy Thin Client    | 1.12.0       |
| Wyse 5070 Standard Thin Client   | 1.12.0       |
| Wyse 5070 Extended Thin Client   | 1.12.0       |
| Wyse 5470 All-in-One Thin Client | 1.9.0        |
| Wyse 5470 Mobile Thin Client     | 1.9.0        |

If you are upgrading BIOS on the Wyse 5470 Thin Client, ensure that you have connected the device to the external power source using the power adapter. If you do not connect the power adapter, BIOS update fails. In this event, connect an external power source and reboot twice to install BIOS.

 **NOTE:** When you use the BIOS upgrade feature for the first time, the BIOS package downloads even if the existing BIOS version is the same version that is uploaded.

## Citrix Workspace app feature matrix

Table 55. Citrix Workspace app feature matrix

| Feature             |                                              | ThinOS 9.1.4234 | ThinOS 9.1.4234 limitations                                                                          |
|---------------------|----------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------|
| Citrix Workspace    | Citrix Virtual Apps                          | Supported       | Citrix session prelaunch and session linger features are not supported. This is Linux binary design. |
|                     | Citrix Virtual Desktops                      | Supported       | There are no limitations in this release.                                                            |
|                     | Citrix Content Collaboration (Citrix Files)  | N/A             | N/A                                                                                                  |
|                     | Citrix Access Control Service                | N/A             | N/A                                                                                                  |
|                     | Citrix Workspace Browser                     | N/A             | N/A                                                                                                  |
|                     | SaaS/Webapps with SSO                        | Not supported   | Not supported                                                                                        |
|                     | Citrix Mobile Apps                           | N/A             | N/A                                                                                                  |
|                     | Intelligent Workspace features               | N/A             | N/A                                                                                                  |
| Endpoint Management | Auto configure using DNS for Email Discovery | Supported       | There are no limitations in this release.                                                            |
|                     | Centralized Management Settings              | Supported       | There are no limitations in this release.                                                            |
|                     | App Store Updates/Citrix Auto updates        | N/A             | N/A                                                                                                  |
| UI                  | Desktop Viewer/Toolbar                       | Supported       | There are no limitations in this release.                                                            |
|                     | Multi-tasking                                | Supported       | There are no limitations in this release.                                                            |

**Table 55. Citrix Workspace app feature matrix (continued)**

| Feature                 |                                        | ThinOS 9.1.4234 | ThinOS 9.1.4234 limitations                                                                                                                                                                                                                                                                                                                         |
|-------------------------|----------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Follow Me Sessions (Workspace Control) | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
| HDX Host Core           | Adaptive transport                     | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                         | Session reliability                    | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                         | Auto-client Reconnect                  | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                         | Bi-directional Content redirection     | N/A             | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                         | URL redirection                        | N/A             | URL redirection has limitations in Citrix Workspace app for Linux client. It requires to launch client browser through Local app access policy (which is not supported in Linux client), to access the URL redirection blacklist URL. Citrix support recommends using Browser Content Redirection (BCR) in Linux client to replace URL redirection. |
|                         | File open in Citrix Workspace app      | N/A             | Not supported. No local file explorer on ThinOS.                                                                                                                                                                                                                                                                                                    |
|                         | Browser content redirection            | Limited support | Browser Content Redirection (BCR) with CEF is enabled by default. ThinOS does not provide the configuration to change BCR with WebKitGKT+.                                                                                                                                                                                                          |
|                         | Multiport ICA                          | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                         | Multistream ICA                        | Not supported   | Not supported                                                                                                                                                                                                                                                                                                                                       |
|                         | SDWAN support                          | Not supported   | Not supported                                                                                                                                                                                                                                                                                                                                       |
| HDX IO/Devices/Printing | Local Printing                         | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                         | Generic USB Redirection                | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                         | Client drive mapping/File Transfer     | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
| HDX Integration         | Local App Access                       | N/A             | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                         | Multi-touch                            | N/A             | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                         | Mobility pack                          | N/A             | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                         | HDX Insight                            | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |

**Table 55. Citrix Workspace app feature matrix (continued)**

| Feature         |                                                  | ThinOS 9.1.4234 | ThinOS 9.1.4234 limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|--------------------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | HDX Insight with NSAP VC                         | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                 | EUEM Experience Matrix                           | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                 | Session Sharing                                  | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HDX Multi-media | Audio Playback                                   | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                 | Bi-directional Audio (VoIP)                      | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                 | Webcam redirection                               | Supported       | Webcam redirection works for 32-bit applications. For example, Skype and GoToMeeting. You can use a 32-bit browser to verify webcam redirection online. For example, <a href="http://www.webcamtests.com">www.webcamtests.com</a> . This is Citrix binary design.                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                 | Video playback                                   | Supported       | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                 | Flash redirection                                | N/A             | Citrix Linux binary supports only x86 client.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                 | Microsoft Teams Optimization                     | Supported       | Do not hot plug headset or the camera during a meeting, or a call. Do not switch the camera during a meeting. It causes the audio and video reception to be inconsistent. Restart Microsoft Teams to resolve this issue. This is also Citrix binary issue. Supports Microsoft Teams optimization through HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. This is a Citrix binary design. For more information, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |
|                 | Skype for business Optimization pack             | Supported       | Not supported through proxy server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                 | Cisco Jabber Unified Communications Optimization | Supported       | For more information, see the Dell Wyse ThinOS Version 9.1.4234                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Table 55. Citrix Workspace app feature matrix (continued)**

| Feature |                                                                    | ThinOS 9.1.4234                        | ThinOS 9.1.4234 limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|--------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                                    |                                        | Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|         | Unified Communication<br>Zoom Cloud Meeting<br>Optimization        | Supported                              | Support Zoom optimization via HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                              |
|         | Unified Communication<br>Cisco Webex Teams<br>Offloading (tVDI)    | Supported                              | Supports Webex Teams optimization mode through HTTP proxy server which is configured in ThinOS Network Proxy by APT/ Wyse Management Suite. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                 |
|         | Unified Communication<br>Cisco Webex Meetings<br>Offloading (wVDI) | Supported                              | Dell Technologies recommends to wait for 10s to join a second meeting after you end the first meeting. Otherwise, VDI mode may not work. Supports Webex Meetings optimization mode through HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |
|         | Windows Multimedia redirection                                     | Supported                              | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|         | UDP Audio                                                          | Supported (not with NetScaler Gateway) | Limited support—Not supported with Citrix ADC (formerly NetScaler) due to Citrix's limitation.                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**Table 55. Citrix Workspace app feature matrix (continued)**

| Feature        |                                                                  | ThinOS 9.1.4234                          | ThinOS 9.1.4234 limitations                                                                                            |
|----------------|------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| HDX Graphics   | H.264-enhanced SuperCodec                                        | Supported                                | There are no limitations in this release.                                                                              |
|                | Client hardware acceleration                                     | Supported                                | There are no limitations in this release.                                                                              |
|                | 3DPro Graphics                                                   | Supported                                | There are no limitations in this release.                                                                              |
|                | External Monitor Support                                         | Supported                                | There are no limitations in this release.                                                                              |
|                | True Multi Monitor                                               | Supported                                | There are no limitations in this release.                                                                              |
|                | Desktop Composition redirection                                  | N/A                                      | N/A                                                                                                                    |
|                | Location Based Services (Location available via API-description) | N/A                                      | N/A                                                                                                                    |
| Authentication | Federated Authentication (SAML/Azure AD)                         | Supported                                | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|                | RSA Soft Token                                                   | Supported                                | There are no limitations in this release.                                                                              |
|                | Challenge Response SMS (Radius)                                  | Supported                                | There are no limitations in this release.                                                                              |
|                | OKTA Multi factor authentication                                 | Limited supported (only supports Radius) | Does not support OKTA SAML authentication.                                                                             |
|                | DUO multi factor authentication                                  | Supported                                | There are no limitations in this release.                                                                              |
|                | Smart cards (CAC, PIV etc)                                       | Supported                                | There are no limitations in this release.                                                                              |
|                | User Cert Auth via NetScaler Gateway (via Browser Only)          | N/A                                      | N/A                                                                                                                    |
|                | Proximity/Contactless Card                                       | Supported                                | There are no limitations in this release.                                                                              |
|                | Credential insertion (For example, Fast Connect, Storebrowse)    | Supported                                | There are no limitations in this release.                                                                              |
|                | Pass Through Authentication                                      | Supported                                | There are no limitations in this release.                                                                              |
|                | Save credentials (on-premise and only SF)                        | N/A                                      | N/A                                                                                                                    |
|                | NetScaler nFactor Authentication                                 | Not supported                            | Not supported                                                                                                          |
|                | NetScaler Full VPN                                               | Not supported                            | Not supported                                                                                                          |
|                | Netscaler Native OTP                                             | Supported                                | Does not support lock terminal when logging on                                                                         |



**Table 55. Citrix Workspace app feature matrix (continued)**

| Feature               |                                                          | ThinOS 9.1.4234                    | ThinOS 9.1.4234 limitations                                                                                            |
|-----------------------|----------------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                       |                                                          |                                    | Netscaler with web-based authentication such as OTP and Azure SAML SSO.                                                |
|                       | Biometric Authentication such as Touch ID and Face ID    | Supported (only supports Touch ID) | Only supports Touch ID.                                                                                                |
|                       | Single Sign-On to Citrix Files App                       | N/A                                | N/A                                                                                                                    |
|                       | Single Sign on to Citrix Mobile apps                     | N/A                                | N/A                                                                                                                    |
|                       | Anonymous Store Access                                   | Supported                          | There are no limitations in this release.                                                                              |
|                       | Netscaler + RSA                                          | Not supported                      | Not supported                                                                                                          |
|                       | Netsclaer + Client cert authentication                   | Not supported                      | Not supported                                                                                                          |
|                       | Citrix cloud + Azure Active Directory                    | Not supported                      | Not supported                                                                                                          |
|                       | Citrix cloud + Active Directory + Token                  | Not supported                      | Not supported                                                                                                          |
|                       | Citrix cloud + Citrix Gateway                            | Not supported                      | Not supported                                                                                                          |
|                       | Citrix cloud + Okta                                      | Not supported                      | Not supported                                                                                                          |
|                       | Citrix cloud + SAML 2.0                                  | Not supported                      | Not supported                                                                                                          |
|                       | Netscaler load balance                                   | Not supported                      | Not supported                                                                                                          |
| Security              | TLS 1.2                                                  | Supported                          | There are no limitations in this release.                                                                              |
|                       | TLS 1.0/1.1                                              | Not supported                      | ThinOS 9.1.4234 does not provide the configuration to change TLS.                                                      |
|                       | DTLS 1.0                                                 | Supported                          | There are no limitations in this release.                                                                              |
|                       | DTLS 1.2                                                 | Not supported                      | Not supported                                                                                                          |
|                       | SHA2 Cert                                                | Supported                          | There are no limitations in this release.                                                                              |
|                       | Smart Access                                             | Not supported                      | Not supported                                                                                                          |
|                       | Remote Access via Citrix Gateway                         | Supported                          | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|                       | Workspace for Web Access                                 | N/A                                | ThinOS does not provide local browser.                                                                                 |
|                       | IPV6                                                     | Not supported                      | Not supported                                                                                                          |
| Keyboard Enhancements | Dynamic Keyboard Layout Synchronization with Windows VDA | Supported                          | There are no limitations in this release.                                                                              |

**Table 55. Citrix Workspace app feature matrix (continued)**

| Feature                                                                            |                                                                             | ThinOS 9.1.4234 | ThinOS 9.1.4234 limitations               |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------|-------------------------------------------|
|                                                                                    | Unicode Keyboard Layout Mapping with Windows VDA                            | Supported       | There are no limitations in this release. |
|                                                                                    | Client IME Enhancements with Windows VDA                                    | N/A             | N/A                                       |
|                                                                                    | Language Bar Show/Hide with Windows VDA Applications                        | N/A             | N/A                                       |
|                                                                                    | Option Key mapping for server-side IME input mode on Windows VDA            | N/A             | N/A                                       |
|                                                                                    | Dynamic Keyboard Layout Synchronization with Linux VDA                      | Not supported   | Not supported                             |
|                                                                                    | Client IME Enhancements with Linux VDA                                      | N/A             | N/A                                       |
|                                                                                    | Language Bar support for Linux VDA Applications                             | Not supported   | Not supported                             |
|                                                                                    | Keyboard sync only when a session is launched—client Setting in ThinOS      | Supported       | There are no limitations in this release. |
|                                                                                    | Server default setting in ThinOS                                            | Supported       | There are no limitations in this release. |
|                                                                                    | Specific keyboard in ThinOS                                                 | Supported       | There are no limitations in this release. |
| New features listed in Citrix Workspace App release note but not in feature matrix | Battery status indicator (CWA2106)                                          | Supported       | There are no limitations in this release. |
|                                                                                    | Service continuity (Technical Preview) (CWA2104, CWA2106)                   | Not supported   | Not supported                             |
|                                                                                    | Pinning multi-monitor screen layout (CWA2103)                               | Not supported   | Not supported                             |
|                                                                                    | App Protection (CWA2101, CWA2106 )                                          | Not supported   | Not supported                             |
|                                                                                    | Authentication enhancement is available only in cloud deployments (CWA2012) | Not supported   | Not supported                             |
|                                                                                    | Multiple audio (CWA2012 and CWA2010)                                        | Not supported   | Not supported                             |
|                                                                                    | Citrix logging (CWA2009)                                                    | Supported       | There are no limitations in this release. |
|                                                                                    | Cryptographic update (CWA2006)                                              | Not supported   | Not supported                             |
|                                                                                    | Transparent user interface (TUI) (CWA1912 and CWA1910)                      | Not supported   | Not supported                             |

**Table 55. Citrix Workspace app feature matrix (continued)**

| Feature                  |                                                              | ThinOS 9.1.4234 | ThinOS 9.1.4234 limitations               |
|--------------------------|--------------------------------------------------------------|-----------------|-------------------------------------------|
|                          | GStreamer 1.x supportexperimental feature(CWA1912)           | Supported       | There are no limitations in this release. |
|                          | App indicator icon (CWA1910)                                 | Not supported   | Not supported                             |
|                          | Latest webkit support (CWA1908 and CWA1906)                  | Supported       | There are no limitations in this release. |
|                          | Bloomberg audio redirection (CWA1903)                        | Supported       | There are no limitations in this release. |
|                          | Bloomberg v4 keyboard selective redirection support(CWA1808) | Supported       | There are no limitations in this release. |
| ThinOS VDI configuration | Broker Setting                                               | Supported       | There are no limitations in this release. |
|                          | PNA button menu                                              | Supported       | There are no limitations in this release. |
|                          | Sign on window function                                      | Supported       | There are no limitations in this release. |
|                          | Workspace mode                                               | Supported       | There are no limitations in this release. |
|                          | Admin policy tool                                            | Supported       | There are no limitations in this release. |

## VMware Horizon feature matrix

**Table 56. VMware Horizon feature matrix**

| Feature               |                                   | ThinOS 9.1.4234                                  |
|-----------------------|-----------------------------------|--------------------------------------------------|
| Broker Connectivity   | SSL certificate verification      | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Disclaimer dialog                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | UAG compatibility                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Shortcuts from server             | Not supported                                    |
|                       | Pre-install shortcuts from server | Not supported                                    |
|                       | File type association             | Not supported                                    |
|                       | Phone home                        | Supported with VDI, RDS Hosted Desktops and Apps |
| Broker Authentication | Password authentication           | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Single sign on                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | RSA authentication                | Supported with VDI, RDS Hosted Desktops and Apps |

**Table 56. VMware Horizon feature matrix (continued)**

| Feature                                    |                                                 | ThinOS 9.1.4234                                  |
|--------------------------------------------|-------------------------------------------------|--------------------------------------------------|
|                                            | Integrated RSA SecurID token generator          | Not supported                                    |
|                                            | Kiosk mode                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Remember credentials                            | Not supported                                    |
|                                            | Log in as current user                          | Not supported                                    |
|                                            | Nested log in as current user                   | Not supported                                    |
|                                            | Log in as current user 1-way trust              | Not supported                                    |
|                                            | OS biometric authentication                     | Not supported                                    |
|                                            | Un-authentication access                        | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Radius – Cisco ACS                              | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Radius – SMS Passcode                           | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Radius - DUO                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Radius – Microsoft Network Policy               | Supported with VDI, RDS Hosted Desktops and Apps |
| Smart card                                 | x.509 certificate authentication (Smart Card)   | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | CAC support                                     | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | .Net support                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | PIV support                                     | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Java support                                    | Not supported                                    |
|                                            | Purebred derived credentials                    | Not supported                                    |
|                                            | Device Cert auth with UAG                       | Not supported                                    |
| Desktop Operations                         | Reset                                           | Supported only with VDI                          |
|                                            | Restart                                         | Supported only with VDI                          |
|                                            | Log off                                         | Supported with VDI, RDS Hosted Desktops and Apps |
| Session Management (Blast Extreme & PCoIP) | Switch desktops                                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Multiple connections                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Multi-broker/multi-site redirection - Universal | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | App launch on multiple end points               | Supported with VDI, RDS Hosted Desktops and Apps |
|                                            | Auto-retry 5+ minutes                           | Supported with VDI, RDS Hosted Desktops and Apps |

**Table 56. VMware Horizon feature matrix (continued)**

| Feature                                                    |                                               | ThinOS 9.1.4234                                  |
|------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------|
|                                                            | Blast network recovery                        | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Time zone synchronization                     | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Jumplist integration (Windows 7- Windows 10)  | Not supported                                    |
| Client Customization                                       | Command line options                          | Not supported                                    |
|                                                            | URI schema                                    | Not supported                                    |
|                                                            | Launching multiple client instances using URI | Not supported                                    |
|                                                            | Preference file                               | Not supported                                    |
|                                                            | Parameter pass-through to RDSH apps           | Not supported                                    |
|                                                            | Non interactive mode                          | Not supported                                    |
|                                                            | GPO-based customization                       | Not supported                                    |
| Protocols Supported with VDI, RDS Hosted Desktops and Apps | Blast Extreme                                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | H.264 - HW decode                             | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | H.265 - HW decode                             | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Blast Codec                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | JPEG/PNG                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Switch encoder                                | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | BENIT                                         | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Blast Extreme Adaptive Transportation         | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | RDP 8.x, 10.x                                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | PCoIP                                         | Supported with VDI, RDS Hosted Desktops and Apps |
| Features/Extensions Monitors/ Displays                     | Dynamic display resizing                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | VDI windowed mode                             | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Remote app seamless window                    | Not supported                                    |
|                                                            | Multiple monitor support                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | External monitor support for mobile           | Not supported                                    |
|                                                            | Display pivot for mobile                      | Not supported                                    |

**Table 56. VMware Horizon feature matrix (continued)**

| Feature                       |                                                                     | ThinOS 9.1.4234                                  |
|-------------------------------|---------------------------------------------------------------------|--------------------------------------------------|
|                               | Number of displays Supported with VDI, RDS Hosted Desktops and Apps | 4                                                |
|                               | Maximum resolution                                                  | 3840x2160                                        |
|                               | High DPI scaling                                                    | Supported only with VDI                          |
|                               | DPI sync                                                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | Exclusive mode                                                      | Not supported                                    |
|                               | Multiple monitor selection                                          | Supported with VDI, RDS Hosted Desktops and Apps |
| Input Device (Keyboard/Mouse) | Language localization (EN, FR, DE, JP, KO, ES, CH)                  | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | Relative mouse                                                      | Supported only with VDI                          |
|                               | External Mouse Support                                              | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | Local buffer text input box                                         | Not supported                                    |
|                               | Keyboard Mapping                                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | International Keyboard Support                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | Input Method local/remote switching                                 | Not supported                                    |
|                               | IME Sync                                                            | Supported with VDI, RDS Hosted Desktops and Apps |
| Clipboard Services            | Clipboard Text                                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | Clipboard Graphics                                                  | Not supported                                    |
|                               | Clipboard memory size configuration                                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | Drag and Drop Text                                                  | Not supported                                    |
|                               | Drag and Drop Image                                                 | Not supported                                    |
|                               | Drag and Drop File/Folder                                           | Not supported                                    |
| Connection Management         | IPv6 only network support                                           | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | PCoIP IP roaming                                                    | Supported with VDI, RDS Hosted Desktops and Apps |
| Optimized Device Redirection  | Serial (COM) Port Redirection                                       | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | Client Drive Redirection/File Transfer                              | Not supported                                    |
|                               | Scanner (TWAIN/WIA) Redirection                                     | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | x.509 Certificate (Smart Card/ Derived Credentials)                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                               | Gyro Sensor Redirection                                             | Not supported                                    |

**Table 56. VMware Horizon feature matrix (continued)**

| Feature                |                                    | ThinOS 9.1.4234                                  |
|------------------------|------------------------------------|--------------------------------------------------|
| Real-Time Audio-Video  | Audio in (input)                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Video in (input)                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Multiple webcams                   | Not supported                                    |
|                        | Multiple speakers                  | Not supported                                    |
| USB Redirection        | USB redirection                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Policy: ConnectUSBOnInsert         | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Policy: ConnectUSBOnStartup        | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Connect/Disconnect UI              | Not supported                                    |
|                        | USB device filtering (client side) | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Isochronous Device Support         | Supported only with VDI                          |
|                        | Split device support               | Supported only with VDI                          |
|                        | Bloomberg Keyboard compatibility   | Supported with VDI, RDS Hosted Desktops and Apps |
| Unified Communications | Smartphone sync                    | Supported only with VDI                          |
|                        | Skype for business                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Zoom Cloud Meetings                | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Cisco Jabber Softphone             | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Cisco WebEx Teams                  | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Cisco WebEx Meetings               | Not supported                                    |
|                        | Microsoft Teams RTAV               | Supported with VDI, RDS Hosted Desktops and Apps |
| Multimedia Support     | Microsoft Teams offload            | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | Multimedia Redirection (MMR)       | Supported with VDI, RDS Hosted Desktops and Apps |
|                        | HTML5 Redirection                  | Not supported                                    |
|                        | Directshow Redirection             | Not supported                                    |
|                        | URL content redirection            | Not supported                                    |
| Graphics               | Browser content redirection        | Not supported                                    |
|                        | vDGA                               | Supported only with VDI                          |
|                        | vSGA                               | Supported only with VDI                          |
|                        | NVIDIA GRID VGPU                   | Supported with VDI, RDS Hosted Desktops and Apps |

**Table 56. VMware Horizon feature matrix (continued)**

| Feature               |                                               | ThinOS 9.1.4234                                  |
|-----------------------|-----------------------------------------------|--------------------------------------------------|
| Mobile Support        | Intel vDGA                                    | Supported only with VDI                          |
|                       | AMD vGPU                                      | Supported only with VDI                          |
|                       | 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              | VMware Integrated Printing                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Location Based Printing                       | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Native Driver Support                         | Not supported                                    |
| Security              | FIPS-140-2 Mode Support                       | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Imprivata Integration                         | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Opsswat agent                                 | Not supported                                    |
|                       | Opsswat on-demand agent                       | Not supported                                    |
|                       | TLS 1.1/1.2                                   | Supported with VDI, RDS Hosted Desktops and Apps |
| Session Collaboration | Session Collaboration                         | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Read-only Collaboration                       | Supported with VDI, RDS Hosted Desktops and Apps |
| Update                | Update notifications                          | Not supported                                    |
|                       | App Store update                              | Not supported                                    |
| Other                 | Smart Policies from DEM                       | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Access to Linux Desktop - Blast Protocol Only | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Workspace ONE mode                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Nested - basic connection                     | Supported with VDI, RDS Hosted Desktops and Apps |

For detailed information about the VMware Horizon features, see the Horizon documentation at [docs.vmware.com](https://docs.vmware.com).



## Windows Virtual Desktop and RDP feature comparison matrix

**Table 57. Windows Virtual Desktop and RDP feature comparison matrix**

| Category Supported | Features                                         | ThinOS 9.1.4234 |
|--------------------|--------------------------------------------------|-----------------|
| Service            | Direct connection to Desktop via RDP             | Supported       |
|                    | Microsoft Remote Desktop Services broker (Local) | Supported       |
|                    | Windows Virtual Desktop (Azure)                  | Supported       |
| Session            | Desktop                                          | Supported       |
|                    | Remote App (Integrated)                          | Not supported   |
|                    | Remote App (Immersive )                          | Supported       |
| Input              | Keyboard                                         | Supported       |
|                    | Mouse                                            | Supported       |
|                    | Single touch                                     | Supported       |
|                    | Multi-touch                                      | Not supported   |
| Audio Visual       | Audio in                                         | Supported       |
|                    | Audio out                                        | Supported       |
| Storage            | Folder/Drive Redirection                         | Supported       |
| Clipboard          | Clipboard (text)                                 | Supported       |
|                    | Clipboard (object)                               | Supported       |
|                    | Clipboard (file)                                 | Not supported   |
| Redirections       | Printer                                          | Supported       |
|                    | Serial Port                                      | Not supported   |
|                    | SmartCard                                        | Not supported   |
|                    | USB (General)                                    | Not supported   |
| Session Experience | Dynamic Resolution                               | Supported       |
|                    | Start Command                                    | Supported       |
|                    | Desktop Experience                               | Not supported   |
|                    | Desktop Scale Factor                             | Supported       |
|                    | Multi-Monitor (All)                              | Supported       |
|                    | Restricted full screen session                   | Supported       |
|                    | Keyboard Layout Mapping                          | Not supported   |
|                    | Time Zone Mapping                                | Supported       |
|                    | RemoteFX                                         | Not supported   |
|                    | Video/Audio/Online playback                      | Supported       |
|                    | Compression                                      | Supported       |
|                    | Optimize for low speed link                      | Supported       |
|                    |                                                  |                 |
| Graphics (CODECs)  | H.264 Support                                    | Supported       |
|                    | H.264 AVC-444                                    | Not supported   |
|                    | TSMC (MMR)                                       | Not supported   |

**Table 57. Windows Virtual Desktop and RDP feature comparison matrix (continued)**

| Category Supported | Features             | ThinOS 9.1.4234 |
|--------------------|----------------------|-----------------|
|                    | VOR                  | Not supported   |
| Authentication     | TS Gateway Supported | Supported       |
|                    | - TSGW II            | Not supported   |
|                    | - TSGW III           | Not supported   |
|                    | - TSGW WebSocket     | Not supported   |
|                    | - TSGW + UDP         | Not supported   |
|                    | NLA                  | Supported       |
|                    | SmartCard            | Not supported   |
|                    | Imprivata            | Supported       |

## New and enhanced features

### Citrix Workspace app updates

- Browser content redirection (BCR) enhancements—BCR with Chromium Embedded Framework (CEF) is enabled by default. ThinOS does not provide the configuration to change BCR with WebKitGKT+.
- Zoom optimization enhancements—Added the HTTP proxy support for anonymous authentication in Zoom optimization. Configure HTTP Proxy server and Proxy Application List as **ZOOM** in Admin Policy Tool or Wyse Management Suite to make Zoom optimization function through the proxy server. The following are the Zoom limitations:
  - HTTPS proxy server is not supported for Zoom optimization in ThinOS.
  - HTTP proxy server with nonanonymous authentication is not supported in ThinOS.
- NetScaler/ADC enhancements—Added NetScaler/ADC Authentication Method. Dell Technologies recommends that you configure the **NetScaler/ADC Authentication Method with RSA+LDAP** either from the **Wyse Management Suite** policy or the **Admin Policy tool** for users who want to use Citrix ADC authentication methods, such as RSA+LDAP with MFA. This setting is supported from Wyse Management Suite 3.5 and later versions.

For more information, see the *Dell Wyse ThinOS 9.1.4234 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

### VMware Horizon Blast updates

#### Smartphone sync

You can sync your iPhone or Android smartphone into a Blast session.

 **NOTE:** Among the Android smartphones, only Huawei phones are tested.

For more information, see the *Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

#### Bloomberg keyboard STB 100 mapping

You can connect the keyboard using either single or dual USB cables. No setting changes or redirection is required. All the function keys work without any redirection. For steps to disable redirection, see the *Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

#### High Efficiency Video Coding (HEVC) or H.265

In ThinOS 9.1.4234, VMware Blast Extreme supports High Efficiency Video Coding (HEVC). HEVC is also known as H.265. This feature is disabled by default. To use this feature, select the **Allow High Efficiency Video Decoding (HEVC)** check box from

**Connection Manager > Global Connection Settings > Horizon.** You can go to the VMware Horizon Performance tracker and see **Encoder Name** to verify whether HEVC is working. If the name contains HEVC, the feature is working. HEVC in Blast Extreme requires both the ESXi hosts that support the virtual desktops, and RDSH servers to have NVIDIA Tesla or newer graphics cards to offload the encoding. HEVC does not work with only ESXi CPU encoding. If there are no supported graphics cards present, the H.264 or JPEG/PNG encoding is used. For more information, see the *VMware Blast Extreme Optimization Guide* at [techzone.vmware.com](http://techzone.vmware.com).

**NOTE:** HEVC requires hardware support including the graphics card, on both the client and the agent side. If either the client or the agent cannot support HEVC, the session falls back to H.264.

#### Limitations

- If you launch a session that has been launched from another device, the HEVC feature does not work. The server uses H.264 in this scenario. To use HEVC, sign off other sessions before connecting to the session from the ThinOS client.
- You must upgrade Wyse Management Suite to version 3.5 or later to support the HEVC feature.

## Microsoft Teams optimization

VMware Horizon 2106 for the client side includes Microsoft Teams media optimization by default. Media optimization for Microsoft Teams that is installed by default in Horizon Agent, is controlled by a group policy object (GPO). GPO is not enabled by default. You can enable the optimization by using a Group Policy Editor.

For the steps on enabling the optimization using a Group Policy Editor, see the *Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

**NOTE:** Install the Horizon Agent before you install Microsoft Teams.

To check whether Microsoft Teams is launched in optimized mode, click the three dots next to your profile picture, and go to **About > Version**. A banner that says **VMware Media Optimized** is displayed, indicating that Microsoft Teams has launched in optimized mode. Alternatively, you can click the three dots next to your profile picture, and go to **Settings > Devices > Audio devices**. Check whether the local headset names are displayed in the **Speakers** and **Microphone** drop-down lists, instead of **Virtual DevTap** or **VDI**.

**NOTE:** This feature is not supported on Wyse 3040 Thin Client.

## Microsoft Teams optimization feature matrix

**Table 58. Microsoft Teams optimization feature matrix**

| Scenario                       | ThinOS 9.1.4234                                                 |
|--------------------------------|-----------------------------------------------------------------|
| Long audio call                | Supported                                                       |
| Call—Make an audio call        | Supported                                                       |
| Call—Answer an audio call      | Supported                                                       |
| Call—Make a video call         | Supported                                                       |
| Call—Answer a video call       | Supported                                                       |
| Call—Turn the camera on or off | Supported                                                       |
| Call—Enter or exit full screen | Supported                                                       |
| Call—Hold or resume a call     | Supported                                                       |
| Call—End call                  | Supported                                                       |
| Call—Mute or unmute audio      | Supported                                                       |
| Call—Transfer                  | Supported                                                       |
| Call—Consult then transfer     | Supported                                                       |
| Call—Keypad                    | Not tested                                                      |
| Call—Start or stop recording   | Supported—You can use this feature in group calls and meetings. |

**Table 58. Microsoft Teams optimization feature matrix (continued)**

| Scenario                                                     | ThinOS 9.1.4234                                                                             |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Call—Turn off or turn on incoming video                      | Supported                                                                                   |
| Call—Group video call                                        | Supported                                                                                   |
| Call—Group audio call                                        | Supported                                                                                   |
| Call—Invite someone during a call                            | Supported                                                                                   |
| Meeting                                                      | Supported                                                                                   |
| Share screen—Desktop                                         | Supported                                                                                   |
| Share screen—PowerPoint                                      | Supported                                                                                   |
| Chat                                                         | Supported                                                                                   |
| Audio or video call in VDI server desktop                    | Supported                                                                                   |
| Audio or video call in published Microsoft Teams application | Not tested                                                                                  |
| Devices—Plug in or disconnect the headset                    | Supported—Dell Technologies recommends to not plug in or disconnect headsets during a call. |
| Devices—Switch headset                                       | Supported—Dell Technologies recommends to not switch headsets during a call.                |
| Devices—Plug in or disconnect the camera                     | Supported—Dell Technologies recommends to not plug in or disconnect camera during a call.   |
| Devices—Switch camera                                        | Supported—Dell Technologies recommends to not switch the camera during a call.              |
| Headset buttons—Answer/Mute/End Call                         | Not supported                                                                               |

## Microsoft Teams optimization limitations and known issues

- Depending on your network bandwidth latency, the audio quality may fluctuate. To avoid this issue, ensure that your network bandwidth is adequate for audio or video call. Dell Technologies recommends 200 Kbps or higher network speed for a single client.
- Audio is still played through the first headset when you switch to the second headset during the call. This issue is observed when you have installed the JVDI package on the thin client. Workaround is that if you are using Microsoft Teams (or Zoom), do not install the Cisco JVDI package. This issue is due to Cisco limitation.
- When using a headset, you cannot answer or end the call through headset buttons. This issue is due to a limitation of Microsoft Teams.
- Sharing screen when Microsoft Teams is published as an application is not supported. This issue is due to a limitation of VMware Horizon.
- There maybe inconsistency on how the video is displayed during video calls. The issue fixes by itself after 5 minutes.
- Microsoft Teams optimization is not supported through proxy.
- Audio may be inconsistent during video calls. Try the following:
  - Sometimes audio is distorted during a call. Workaround is to change the headset.
  - Sometimes there can be network issues. Ensure that your network bandwidth is adequate for audio and video calls. Dell Technologies recommends 200 Kbps or higher network speed for a single client.

## Zoom optimization enhancements

Added the HTTP proxy support for anonymous authentication in Zoom optimization. Configure HTTP Proxy server and Proxy Application List as **ZOOM** in Admin Policy Tool or Wyse Management Suite to make Zoom optimization function through the proxy server. The following are the Zoom limitations:

- HTTPS proxy server is not supported for Zoom optimization in ThinOS.
- HTTP proxy server with nonanonymous authentication is not supported in ThinOS.

## Teradici PCoIP update

Updated the Teradici PCoIP package version to 21.03.1\_17. No new features are added.

## Windows Virtual Desktop update

RDP session supports LPT, LPD and SMB printers from Windows Virtual Desktop version 1.3\_1229. RDP protocol supports standard printers.

For more information, see the *Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Unified Communications optimization packages update

- Updated Cisco Webex VDI to version 41.6.1.19187\_1.
- Updated Cisco Jabber to version 14.0.1.305989\_3.
- Updated Zoom to version 5.7.6.20822\_2.

**i NOTE:** For known issues on Wyse 3040 Thin Clients while using Unified Communications optimization packages, see the *Citrix Unified Communications support on Wyse 3040 Thin Clients* section in *Dell Wyse ThinOS 9.1.4234 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Authentication updates

### Identity automation updates

Identity Automation QwickAccess package is updated to 2.0.0.3. The following are the enhancements:

- Identity Automation QwickAccess supports Citrix Broker agent and supports user binding card in same domain with Citrix Broker agent. Users in different domains are not supported and not recommended.
- API key is treated as password in Wyse Management Suite policy settings, Admin Policy Tool, and ThinOS local user interface. It is not displayed in plain text.
- Identity Automation QwickAccess is verified based on Identity server version 1.6.0.1.
- PIN reset is removed in this release.

### Identity Automation feature matrix

**Table 59. Identity Automation feature matrix**

| Identity Automation Feature |                                                   | ThinOS 9.1.4234 |
|-----------------------------|---------------------------------------------------|-----------------|
| Broker Type                 | Authenticate to Citrix Virtual Apps and Desktops  | Supported       |
|                             | Authenticate to VMware Horizon broker             | Not supported   |
|                             | Authenticate to Microsoft Remote Desktop Services | Not supported   |
| Proxy Card                  | New card enroll                                   | Supported       |
|                             | Authenticate with proximity card and password     | Supported       |
|                             | Authenticate with proximity card and PIN          | Supported       |
|                             | Authenticate with password                        | Supported       |
| SSPR                        | Seamless change password support                  | Not supported   |
|                             | Self-service password reset                       | Not supported   |

**Table 59. Identity Automation feature matrix (continued)**

| Identity Automation Feature |                                                         | ThinOS 9.1.4234 |
|-----------------------------|---------------------------------------------------------|-----------------|
|                             | Self-service PIN reset                                  | Not supported   |
| Lock/Unlock                 | Lock/Unlock the terminal by tapping a proximity card    | Supported       |
|                             | Convenient tap-over functionality                       | Supported       |
| IA server settings          | Settings for authenticate card frequency                | Supported       |
|                             | Settings for authenticate card method (PIN or password) | Supported       |
|                             | Settings for incorrect PIN time                         | Supported       |
|                             | Settings for PIN length requirement                     | Supported       |
|                             | Settings for PIN reset                                  | Not supported   |

## Imprivata PIE limitation

Third-party self-service password reset function is not supported in this release.

## ThinOS updates

- **Secure Boot**—If **Secure Boot** is disabled, and the BIOS password is set as the default value or if there is no BIOS password, the prompt window to reboot the system and enable **Secure Boot** is not displayed from this release onwards. **Secure Boot** is enabled after the next reboot.
- **Net iD smart card firmware**—Updated the Net iD smart card firmware version to 6.8.3.21.
- From ThinOS 9.1.4234 onwards, you can enable or disable IPv6 from **Advanced > Network Configuration > Common Settings > Enable IPv6** in Wyse Management Suite policy settings or the Admin Policy Tool. IPv6 is enabled by default for both wired and wireless networks.
- The window that is displayed when you change a group in Wyse Management Suite is changed.
- The window that is displayed when you update packages and the operating system firmware is changed.
- The **HTTP/HTTPS** proxy default port is changed from 808 to 8080.

For more information about the updates, see the *Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Display audio limitations

Display audio using converter is not supported on all platforms.

- **Wyse 5070 Thin Client**—Only DP1 and DP2 ports support display audio.
- **Wyse 5470 Thin Client**—When two monitors that support display audio are connected to Dell WD19 docking station, the **HDMI/DP** audio option disappears if you remove one of the monitors.
- **Wyse 3040 Thin Client**
  - Setting the display resolution higher than 1920x1080 results in a black screen.
  - By default the display audio is disabled. You must enable the display audio in Wyse Management Suite and reboot the client.
  - Display audio does not update real time. If you change the monitor or the DP port, you must reboot the client to update the display audio option.
  - Wyse 3040 Thin Client supports only one display audio. If one DP port is working with display audio, then the other DP port does not work with display audio.

## Updates to Admin Policy Tool and Wyse Management Suite policy settings

- **VNCD Server**—Added input validation for the VNCD Server field in **Services > VNC Service**. You can only enter values in the format of IP addresses.
- **Disable Shutdown**—Added **Disable Shutdown** option in **Login Experience > Login Settings**. This option disables the **Shutdown** option in the ThinOS **Shutdown** window, and also disables the physical shutdown button on the thin client.
- **Reboot on monitor connection**—Changed the default value of **Reboot on monitor connection** option under **Enable ProveID Embedded Mode** in **Login Experience > 3rd Party Authentication > Imprivata** to disabled.
- **API Key**—Changed the **API Key** field option in **Login Experience > Login Settings > Identity Automation > Identity Automation** to password type to hide the input values.
- **Enable IPv6**—Added the option **Enable IPv6** in **Network Configuration > Common Settings** to enable or disable IPv6.
- **Scheduled Reboot and Shutdown Settings**—Added time format validation for the following fields under **System Settings > Scheduled Reboot Settings** and **Scheduled Shutdown Settings**:
  - **Scheduled Reboot Settings > Scheduled Reboot Time**
  - **Scheduled Reboot Settings > Reboot after Idle Time**
  - **Scheduled Shutdown Settings > Scheduled Shutdown Time**
  - **Scheduled Shutdown Settings > Shutdown after Idle Time**
- **NOTE:** If you change the time zone on the local client, the **Scheduled Reboot settings** and **Scheduled Shutdown settings** takes effect only after a reboot.
- **Granular Control of Peripherals**—Added **Granular Control of Peripherals** in **Privacy & Security > Account Privileges** to make the selected tabs visible in the **Peripherals** window. To see this option, you must set the privilege level as **Customize** and enable **Peripherals**.
  - **NOTE:** If no tabs are selected, all tabs will be visible in the **Peripherals** window by default.
- **DHCP**—Updated the **DHCP** option in **Privacy & Security > Account Privileges**. The setting is enabled by default. To see this option, you must set the privilege level as **Customize** and enable **Network Setup**.
- **Allow High Efficiency Video Decoding**—Added **Allow High Efficiency Video Decoding** option in **Session Settings > Blast Session Settings** to enable or disable High Efficiency Video Decoding for Blast.
- **On Desktop**—Moved **On Desktop** option from **Session Settings > Citrix Session Settings** to **Session Settings > Global Session Settings**.

For more information about the updates, see the *Dell Wyse ThinOS 9.1.4234 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Tested environments matrix

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

**Table 60. Tested environment—General components**

| Component                                     | Version                      |
|-----------------------------------------------|------------------------------|
| Wyse Management Suite (cloud and on-premises) | 3.5/3.3.1                    |
| Imprivata OneSign                             | 7.5.000.9                    |
| Citrix ADC (formerly NetScaler)               | 12.1/13.0                    |
| StoreFront                                    | 1912 LTSR and later versions |

**Table 61. Test environment—Citrix**

| Citrix Virtual Apps and Desktops                   | Windows 10 | Windows Server 2016 | Windows Server 2019 | APPs   |
|----------------------------------------------------|------------|---------------------|---------------------|--------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Tested     | Tested              | Tested              | Tested |
| Citrix Virtual Apps and Desktops 7 2103            | Tested     | Tested              | Tested              | Tested |

**Table 62. Tested environment—VMware Horizon**

| VMware              | Windows 10 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | Windows Server 2016 APPs | Windows Server 2019 APPs |
|---------------------|------------|------------------------|---------------------|---------------------|--------------------------|--------------------------|
| VMware Horizon 7.12 | Tested     | Not tested             | Tested              | Tested              | Tested                   | Tested                   |
| VMware Horizon 2103 | Tested     | Not applicable         | Tested              | Tested              | Tested                   | Tested                   |
| VMware Horizon 2106 | Tested     | Not applicable         | Tested              | Tested              | Tested                   | Tested                   |

**Table 63. Test environment—Microsoft RDP**

| Microsoft RDP                | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|------------------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| Remote Desktop Services 2016 | Tested     | Tested     | Not tested             | Not tested             | Tested              | Not tested          | Tested |
| Remote Desktop Services 2019 | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Tested              | Tested |

**Table 64. Test environment—WVD**

| Windows Virtual Desktop | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|-------------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| 2019 (MS-Prod)          | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |
| 2020 (ARMv2)            | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |

**Table 65. Tested environment—Skype for Business**

| Citrix VDI                                                                                    | Operating system    | RTME Client | RTME Agent | Skype for Business client | Skype for Business Server |
|-----------------------------------------------------------------------------------------------|---------------------|-------------|------------|---------------------------|---------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 2.9.300     | 2.9.300    | Skype for Business 2016   | Skype for Business 2015   |
|                                                                                               | Windows server 2016 |             |            |                           |                           |
|                                                                                               | Windows server 2019 |             |            |                           |                           |

**Table 66. Tested environment—Skype for Business**

| VMware VDI          | Operating system    | Skype for Business Client | Skype for Business Agent | Skype for Business client | Skype for Business Server |
|---------------------|---------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| VMware Horizon 7.12 | Windows 10          | 5.4, 8.2                  | 7.12, 8.2                | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2103 | Windows server 2016 | 5.4, 8.2                  | 7.12, 8.2                | Skype for Business 2016   | Skype for Business 2015   |
|                     | Windows server 2019 | Not tested                | Not tested               | Not tested                | Not tested                |



**Table 67. Tested environment—JVDI**

| Citrix VDI                                                                                    | Operating system    | JVDI   | JVDI agent | Jabber software |
|-----------------------------------------------------------------------------------------------|---------------------|--------|------------|-----------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 14.0.1 | 14.0.1     | 14.0.1          |
|                                                                                               | Windows server 2016 |        |            |                 |
|                                                                                               | Windows server 2019 |        |            |                 |

**Table 68. Tested environment—JVDI**

| VMware VDI          | Operating system    | JVDI       | JVDI agent | Jabber software |
|---------------------|---------------------|------------|------------|-----------------|
| VMware Horizon 7.12 | Windows 10          | 14.0.1     | 14.0.1     | 14.0.1          |
|                     | Windows server 2016 | 14.0.1     | 14.0.1     | 14.0.1          |
| VMware Horizon 2103 | Windows server 2019 | Not tested | Not tested | Not tested      |

**Table 69. Tested environment—Zoom**

| Citrix VDI                                                                                    | Operating system    | Zoom package | Zoom software |
|-----------------------------------------------------------------------------------------------|---------------------|--------------|---------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 5.7.6.20822  | 5.7.6.20822   |
|                                                                                               | Windows server 2016 |              |               |
|                                                                                               | Windows server 2019 |              |               |

**Table 70. Tested environment—Zoom**

| VMware VDI          | Operating system    | Zoom package | Zoom software |
|---------------------|---------------------|--------------|---------------|
| VMware Horizon 7.12 | Windows 10          | 5.7.6.20822  | 5.7.6.20822   |
| VMware Horizon 2103 | Windows server 2016 | 5.7.6.20822  | 5.7.6.20822   |
|                     | Windows server 2019 | Not tested   | Not tested    |

**Table 71. Tested environment—Cisco Webex Teams**

| Citrix VDI                                                                                    | Operating system    | Webex VDI    | Webex Teams software |
|-----------------------------------------------------------------------------------------------|---------------------|--------------|----------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 41.6.1.19187 | 41.6.1.19162         |
|                                                                                               | Windows server 2016 |              |                      |
|                                                                                               | Windows server 2019 |              |                      |

**Table 72. Tested environment—Cisco Webex Teams**

| VMware VDI          | Operating system    | Webex Teams  | Webex Teams software |
|---------------------|---------------------|--------------|----------------------|
| VMware Horizon 7.12 | Windows 10          | 41.6.1.19187 | 41.6.0.19162         |
| VMware Horizon 2103 | Windows server 2016 | 41.6.1.19187 | 41.6.0.19162         |
|                     | Windows server 2019 | Not tested   | Not tested           |

**Table 73. Tested environment—Cisco Webex Meetings**

| Citrix VDI                                                                                    | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|-----------------------------------------------------------------------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 41.6.1.10.2        | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.6 to 41.10. |
|                                                                                               | Windows server 2016 |                    |                                                                                                             |
|                                                                                               | Windows server 2019 |                    |                                                                                                             |

# Supported peripherals

**NOTE:** The supported peripherals are not limited to the peripherals devices listed in this section.

**Table 74. Supported peripherals**

| Product Category    | Peripherals                                                                                   |
|---------------------|-----------------------------------------------------------------------------------------------|
| Adapters and cables | C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter                                         |
|                     | Dell Adapter - DisplayPort to DVI (Single Link) - DANARBC084                                  |
|                     | Dell Adapter - DisplayPort to HDMI 2.0 (4K) - DANAUBC087                                      |
|                     | Dell Adapter - DisplayPort to VGA - DANBNBC084                                                |
|                     | Dell Adapter - HDMI to DVI - DAUARBN004                                                       |
|                     | Dell Adapter - HDMI to VGA - DAUBNBC084                                                       |
|                     | Dell Adapter - USB-C to DisplayPort - DBQANBC067                                              |
|                     | Dell Adapter - USB-C to Dual USB-A with Power Pass-Through - DBQ2BJBC070 - Combo Adapter      |
|                     | Dell Adapter - USB-C to HDMI - DBQAUBC064                                                     |
|                     | Dell Adapter - USB-C to HDMI/DP - DBQAUANBC070                                                |
|                     | Dell Adapter - USB-C to VGA - DBQBNBC064                                                      |
|                     | StarTech.com 1 Port USB to RS232 DB9 Serial Adapter Cable - Serial adapter - USB 2.0 - RS-232 |
|                     | Trendnet USB to Serial Converter RS-232                                                       |
|                     |                                                                                               |
| Audio devices       | Dell 2.0 Speaker System - AE215                                                               |
|                     | Dell Pro Stereo Headset - Skype for Business - UC350                                          |
|                     | Dell Pro Stereo Headset - UC150 - Skype for Business                                          |
|                     | Dell Professional Sound Bar (AE515M)                                                          |
|                     | Dell USB Sound Bar (AC511M)                                                                   |
|                     | Dell Wired 2.1 Speaker System - AE415                                                         |
|                     | Jabra BIZ 2400 Duo USB MS                                                                     |
|                     | Jabra EVOLVE UC VOICE 750                                                                     |
|                     | Jabra Engage 65 Stereo Headset                                                                |
|                     | Jabra Evolve 65 MS Stereo - Headset                                                           |
|                     | Jabra Evolve 75                                                                               |
|                     | Jabra GN2000                                                                                  |
|                     | Jabra PRO 935 USB Microsoft Lync Headset - 935-15-503-185                                     |
|                     | Jabra Pro 9450                                                                                |
|                     | Jabra Speak 510 MS Bluetooth                                                                  |
|                     | Jabra UC SUPREME MS Bluetooth (link 360)                                                      |
|                     | LFH3610/00 Speechmike Premium—Only supports redirect                                          |
|                     | Logitech S-150                                                                                |
|                     | Logitech h150 - analog                                                                        |
|                     | Nuance PowerMic II—supports to redirect whole device                                          |
|                     | PHILIPS - analog                                                                              |
|                     |                                                                                               |
|                     |                                                                                               |

**Table 74. Supported peripherals (continued)**

| Product Category | Peripherals                                                                      |
|------------------|----------------------------------------------------------------------------------|
|                  | POLYCOM Deskphone CX300                                                          |
|                  | Plantronics AB J7 PLT                                                            |
|                  | Plantronics BLACKWIRE C710, Bluetooth                                            |
|                  | Plantronics Blackwire 5220 Series                                                |
|                  | Plantronics Blackwire C5210                                                      |
|                  | Plantronics Calisto P820-M                                                       |
|                  | Plantronics SAVI W740/Savi W745—supports USB only and does not support bluetooth |
|                  | Plantronics Savi W440M-400 Series convertible wireless headset - DECT 6.0        |
|                  | Plantronics Voyager 6200 UC                                                      |
|                  | Plantronics Voyager Focus UC B825-M headset for Microsoft Lync                   |
|                  | SENNHEISER D 10 USB ML-US Wireless DECT Headset                                  |
|                  | SENNHEISER SC 40 USB MS                                                          |
|                  | SENNHEISER SC 660 USB ML                                                         |
|                  | SENNHEISER SDW 5 BS-EU                                                           |
|                  | SENNHEISER SP 10 ML Speakerphone for Lync                                        |
|                  | SENNHEISER USB SC230                                                             |
| Camera           | Jabra PanaCast 4K Webcam                                                         |
|                  | Logitech BRIO 4K Webcam                                                          |
|                  | Logitech C910 HD Pro Webcam                                                      |
|                  | Logitech C920 HD Pro Webcam                                                      |
|                  | Logitech C922 Pro Stream Webcam                                                  |
|                  | Logitech C925e Webcam                                                            |
|                  | Logitech C930e HD Webcam                                                         |
|                  | Logitech HD Webcam C525                                                          |
|                  | Microsoft LifeCam HD-3000                                                        |
|                  | Poly EagleEye Mini webcam                                                        |
| Displays         | C2422HE                                                                          |
|                  | C2722DE                                                                          |
|                  | C3422WE                                                                          |
|                  | E1916H                                                                           |
|                  | E1920H                                                                           |
|                  | E2016H                                                                           |
|                  | E2016Hv—China only                                                               |
|                  | E2020H                                                                           |
|                  | E2216H                                                                           |
|                  | E2216Hv—China only                                                               |
|                  | E2218HN                                                                          |

**Table 74. Supported peripherals (continued)**

| Product Category | Peripherals           |
|------------------|-----------------------|
|                  | E2220H                |
|                  | E2318H                |
|                  | E2318HN               |
|                  | E2417H                |
|                  | E2420H                |
|                  | E2420HS               |
|                  | E2720H                |
|                  | E2720HS               |
|                  | MR2416                |
|                  | P1917S                |
|                  | P2016                 |
|                  | P2017H                |
|                  | P2018H                |
|                  | P2217                 |
|                  | P2217H                |
|                  | P2219H                |
|                  | P2219HC               |
|                  | P2317H                |
|                  | P2319H                |
|                  | P2415Q (3840 x 2160)  |
|                  | P2417H                |
|                  | P2418D                |
|                  | P2418HT               |
|                  | P2418HZ               |
|                  | P2419H                |
|                  | P2419HC               |
|                  | P2421D                |
|                  | P2421DC               |
|                  | P2715Q (3840 x 2160)  |
|                  | P2719H (1920 x 1080)  |
|                  | P2719HC               |
|                  | P2720D                |
|                  | P2720DC               |
|                  | P3418HW               |
|                  | P4317Q                |
|                  | S2719HS (1920 x 1080) |
|                  | S2817Q (3840x2160)    |

**Table 74. Supported peripherals (continued)**

| Product Category                   | Peripherals                                                         |
|------------------------------------|---------------------------------------------------------------------|
|                                    | U2415                                                               |
|                                    | U2419H                                                              |
|                                    | U2419HC                                                             |
|                                    | U2421HE                                                             |
|                                    | U2518D                                                              |
|                                    | U2520D                                                              |
|                                    | U2713HM (2560 x 1440)                                               |
|                                    | U2718Q (4K) (3840 x 2160)                                           |
|                                    | U2719D (1920 x 1080)                                                |
|                                    | U2719DC                                                             |
|                                    | U2720Q                                                              |
|                                    | U2721DE                                                             |
|                                    | U3219Q (3840 x 2160)                                                |
|                                    | U3419W (3440 x 1440)                                                |
|                                    | U4320Q                                                              |
|                                    | U4919DW                                                             |
| Docking station                    | Dell Dock - WD19-C                                                  |
|                                    | Dell Thunderbolt Dock - WD19TB—Thunderbolt Display is not supported |
| Fingerprint readers                | HID EikonTouch 4300 Fingerprint Reader                              |
|                                    | HID EikonTouch M211 Fingerprint Reader                              |
|                                    | HID EikonTouch TC510 Fingerprint Reader                             |
|                                    | HID EikonTouch TC710 Fingerprint Reader                             |
|                                    | HID EikonTouch V311 Fingerprint Reader                              |
|                                    | Imprivata HDW-IMP-1C                                                |
|                                    | KSI-1700-SX Keyboard                                                |
| Hands-Free Authentication (HFA)    | BLED112HDW-IMP-IIUR—BLEdongle                                       |
| Input devices (Keyboard and Mouse) | Bloomberg Keyboard STB 100                                          |
|                                    | Dell Keyboard KB212-B                                               |
|                                    | Dell Keyboard KB216p                                                |
|                                    | Dell Laser Scroll USB 6-Buttons Silver and Black Mouse              |
|                                    | Dell Laser Wired Mouse - MS3220                                     |
|                                    | Dell Mobile Pro Wireless Mice - MS5120W                             |
|                                    | Dell Mobile Wireless Mouse - MS3320W                                |
|                                    | Dell Multi-Device Wireless Keyboard and Mouse Combo - KM7120W       |
|                                    | Dell Multi-Device Wireless Mouse - MS5320W                          |
|                                    | Dell Optical Wireless Mouse - WM122                                 |
|                                    | Dell Optical Wireless Mouse - WM123                                 |

**Table 74. Supported peripherals (continued)**

| Product Category       | Peripherals                                                                                       |
|------------------------|---------------------------------------------------------------------------------------------------|
|                        | Dell Premier Wireless Mouse - WM527                                                               |
|                        | Dell USB Wired Keyboard - KB216                                                                   |
|                        | Dell USB Wired Optical Mouse - MS116                                                              |
|                        | Dell Wireless Keyboard and Mouse - KM636                                                          |
|                        | Dell Wireless Keyboard/mouse KM632                                                                |
|                        | Dell Wireless Mouse - WM126 - black                                                               |
|                        | Dell Wireless Mouse - WM326                                                                       |
|                        | Dell wireless Keyboard/mouse KM714                                                                |
|                        | Man & Machine C Mouse - Mouse - right and left-handed - optical - 2 buttons - wired - USB - white |
|                        | Man & Machine Its Cool Flat - Keyboard - USB - UK layout - white                                  |
|                        | Microsoft Arc Touch Mouse 1428                                                                    |
|                        | Microsoft Ergonomic Keyboard                                                                      |
|                        | Rapoo E6100, bluetooth                                                                            |
|                        | Seal Shield Medical Grade Optical Mouse                                                           |
|                        | Seal Shield Silver Seal Waterproof-Keyboards-USB-US-waterproof-white                              |
|                        | SpaceMouse Pro                                                                                    |
|                        | SpaceNavigator 3D Space Mouse                                                                     |
| Networking             | Add On 1000 Base-T SFP transceiver—RJ-45                                                          |
| Others                 | Intuos Pro Wacom                                                                                  |
| Printers               | Brother DCP-7190DW—works on ICA only and not Blast                                                |
|                        | Dell B1165nfw Mono Multifunction Printer                                                          |
|                        | Dell B1265dnf Multifunction Laser Printer                                                         |
|                        | Dell B2360d Laser Printer                                                                         |
|                        | Dell B2360dn Laser Printer                                                                        |
|                        | Dell Color Multifunction Printer - E525w                                                          |
|                        | Dell Color Printer- C2660dn                                                                       |
|                        | Dell Multifunction Printer - E515dn                                                               |
|                        | HP Color LaserJet CM1312MFP—tested on Blast                                                       |
|                        | HP LaserJet P2055d                                                                                |
|                        | HP M403D— works on ICA only and not Blast                                                         |
|                        | Lexmark X864de- tested on LPD only                                                                |
| Proximity card readers | Imprivata HDW-IMP-60                                                                              |
|                        | Imprivata HDW-IMP-75                                                                              |
|                        | KSI-1700-SX Keyboard                                                                              |
|                        | OMNIKEY 5025CL                                                                                    |
|                        | OMNIKEY 5321 V2                                                                                   |
|                        | OMNIKEY 5321 V2 CL SAM                                                                            |

**Table 74. Supported peripherals (continued)**

| Product Category      | Peripherals                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------|
|                       | OMNIKEY 5325 CL                                                                                                  |
|                       | OMNIKEY 5326 DFR                                                                                                 |
|                       | RFIDeas RDR-6082AKU                                                                                              |
| Smart card readers    | CHERRY KC 1000 SC - Keyboard - with Smart Card reader - USB - English - US - black - TAA Compliant - JK-A0104EU- |
|                       | Cherry SmartTerminal SMART Card Reader - ST-1044U                                                                |
|                       | Cherry SmartTerminal ST-1144 SMART Card Reader - USB 2.0                                                         |
|                       | Cherry keyboard KC 1000 SC with smart card                                                                       |
|                       | Cherry keyboard RS 6600 with smart card                                                                          |
|                       | Cherry keyboard RS 6700 with smart card                                                                          |
|                       | Dell Keyboard SK-3205 with Smartcard reader                                                                      |
|                       | Dell keyboard KB813 with Smartcard reader                                                                        |
|                       | Dell keyboard KB813t with Smartcard reader                                                                       |
|                       | GemPC Twin                                                                                                       |
|                       | Gemalto IDBridge CT710                                                                                           |
|                       | HID OMNIKEY 5125                                                                                                 |
|                       | HID OMNIKEY 5421                                                                                                 |
|                       | IDBridge CT31 PIV                                                                                                |
|                       | OMNIKEY HID 3021                                                                                                 |
|                       | OMNIKEY OK CardMan3121                                                                                           |
|                       | SmartOS powered SCR3310                                                                                          |
|                       | SmartOS powered SCR335                                                                                           |
|                       | Sun microsystem SCR 3311                                                                                         |
| Storage               | Bano type-c 16B                                                                                                  |
|                       | Dell External Tray Load ODD (Agate)—DVD Writer                                                                   |
|                       | Dell Portable SSD, USB-C 250 GB                                                                                  |
|                       | Kingston DT microDuo 3C 32 GB                                                                                    |
|                       | Kingston DTM30 32 GB                                                                                             |
|                       | Kingston DataTraveler G3 8 GB                                                                                    |
|                       | Samsung portable DVD Writer SE-208                                                                               |
|                       | SanDisk Cruzer 16 GB                                                                                             |
|                       | SanDisk Cruzer 8 GB                                                                                              |
|                       | SanDisk USB 3.1 and Type-C 16 GB                                                                                 |
|                       | SanDisk Ultra Fit 32 GB                                                                                          |
| Teradici remote cards | Teradici host card 2220                                                                                          |
|                       | Teradici host card 2240                                                                                          |

# Supported smart cards

**Table 75. Supported smart cards**

| Smart Card information from the ThinOS event log | Driver                             | Provider (CSP)                                   | Card type                                        |
|--------------------------------------------------|------------------------------------|--------------------------------------------------|--------------------------------------------------|
| ActivIdentity V1                                 | ActivClient 7.1                    | ActivClient Cryptographic Service Provider       | Oberthur CosmopolC 64k V5.2                      |
| ActivIdentity V1                                 | ActivClient 7.1                    | ActivClient Cryptographic Service Provider       | Gemalto Cyberflex Access 64K V2c                 |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider       | Gemalto TOPDLGX4                                 |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider       | G&D SCE 3.2                                      |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider       | Oberthur IDOne 5.5                               |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider       | Oberthur Cosmo V8                                |
| ActivIdentity crescendo card                     | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider       | Giesecke and Devrient SmartCafe Expert 7.0 (T=0) |
| ID Prime MD v 4.0.2                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 840                                   |
| ID Prime MD v 4.0.2 (Gemalto 840)                | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 840 B                                 |
| ID Prime MD v 4.1.0                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 3810 MIFARE 1K                        |
| ID Prime MD v 4.1.3 (Gemalto 3811)               | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 3811 Mifare-Desfire                   |
| ID Prime MD v 4.1.1                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 830-FIPS                              |
| ID Prime MD v 4.3.5                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 830-FIPS Rev B                        |
| ID Prime MD v 4.4.2                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 940                                   |
| Etoken Java (aladdin)                            | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDCore30B eToken 1.7.7                           |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 510x                              |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110                              |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110 FIPS                         |
| Etoken Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110 CC                           |
| SafeNet High Assurance Applets Card              | SafeNet High Assurance Client 2.12 | SafeNet Smart Card Key Storage Provider          | SC650 (SafeNet SC650 4.1t)                       |
| A.E.T. Europe B.V.                               | SafeSign-Identity-Client-3.0.76    | SafeSign Standard Cryptographic Service Provider | Giesecke & Devrient StarCos 3.0 T=0/1 0V300      |



**Table 75. Supported smart cards (continued)**

| Smart Card information from the ThinOS event log | Driver                          | Provider (CSP)                                   | Card type                       |
|--------------------------------------------------|---------------------------------|--------------------------------------------------|---------------------------------|
| A.E.T. Europe B.V.                               | SafeSign-Identity-Client-3.0.76 | SafeSign Standard Cryptographic Service Provider | Giesecke & Devrient StarCos 3.2 |
| PIV (Yubico) (black USB drive)                   | YubiKey PIV Manager             | Microsoft Base Smart Card Crypto Provider        | YubiKey 4.3.3                   |
| PIV (Yubico Neo ) (black USB drive)              | Yubikey Manager v 1.1.4         | Microsoft Base Smart Card Crypto Provider        | YubiKey 4.3.3                   |
| cv cryptovision gmbh (c) v1.0ns                  | cv_act_scinterface_6.1.6        | cv act sc/interface CSP                          | Giesecke & Devrient StarCos 3.2 |
| N/A (Buypass BelDu)                              | Net iD 6.8.3.21, 2.0.48         | Net iD - CSP                                     | BelDu 6.0.4                     |
| N/A (GEMALTO IDPrime SIS)                        | Net iD 6.8.3.21, 2.0.48         | Net iD - CSP                                     | IDPrime SIS 4.0.2               |
| Rutoken ECP 2.0 (2100)                           | Rutoken Drivers 4.6.3.0         | Aktiv ruToken CSP v1.0                           | Rutoken ECP 2.0 (2100)          |
| Rutoken 2151                                     | Rutoken Drivers 4.6.3.0         | Aktiv ruToken CSP v1.0                           | Rutoken (2151)                  |

## Fixed issues

**Table 76. Fixed issues**

| Issue ID  | Description                                                                                                                                                                            |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-4911 | Camera is not detected when installed with Zoom VDI Client app on virtual desktop. The issue is observed on Wyse 5470 All-in-One Thin Client with ThinOS 9.1.3192— <b>CIPS-23520</b> . |
| DTOS-4743 | Double entry of the device in the Wyse Management Suite group list drop-down— <b>CIPS-23147</b> .                                                                                      |
| DTOS-4687 | RDP uses a TS Gateway after the TS gateway is disabled in the Wyse Management Suite. The issue is observed on Wyse 3040 Thin Client with ThinOS 9.1.3112— <b>CIPS-23471</b> .          |
| DTOS-4514 | Pressing <b>Enter</b> unlocks the VDI session, after you lock the terminal. The issue is observed on Wyse 5470 Thin Client with ThinOS 9.1.3112— <b>CIPS-22939</b> .                   |
| DTOS-4481 | It takes 10 seconds or more to authenticate using smartcards. The issue is observed on Wyse 5070 Thin Client— <b>CIPS-23343</b> .                                                      |
| DTOS-4409 | Omni Key 3021 card reader does not redirect to VMware session on ThinOS 9.x— <b>CIPS-23202</b> .                                                                                       |
| DTOS-4403 | Unable to log in to Horizon with UAG. The issue is observed on Wyse 5070 Thin Client with ThinOS 9.1.3112— <b>CIPS-23210</b> .                                                         |
| DTOS-4375 | OmniKey 3121 smart card reader fails to redirect in View Blast and PCoIP sessions— <b>CIPS-23203</b> .                                                                                 |
| DTOS-4362 | No pin prompt for smart cards after firmware update— <b>CIPS-23076. Case 112855083</b> .                                                                                               |
| DTOS-4358 | Fails to launch Citrix application when RSA (2FA) is included— <b>CIPS-23247</b> .                                                                                                     |
| DTOS-4352 | Smart card login does not work on ThinOS 9.1.3112— <b>CIPS-23043</b> .                                                                                                                 |
| DTOS-4326 | Wyse 5470 Thin Client crashes when connected to home broadband routers— <b>CIPS-23148</b> .                                                                                            |
| DTOS-4314 | Horizon View fails to log in when the user password contains special characters <b>"</b> , <b>&lt;</b> , or <b>&gt;</b> — <b>CIPS-23125</b> .                                          |
| DTOS-4313 | Unable to log in to Horizon when password contains the special character <b>&gt;</b> . The issue is observed on Wyse 3040 Thin Client with ThinOS 9.1.3112— <b>CIPS-23138</b> .        |

**Table 76. Fixed issues (continued)**

| Issue ID            | Description                                                                                                                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-4310           | Jabber microphone does not work consistently— <b>CIPS-23105</b> .                                                                                                                                             |
| DTOS-4209           | <b>\$TN</b> does not translate the terminal name when it is defined in the RDP Direct Connection username field in Wyse management Suite— <b>CIPS-23016, Case 118991265</b> .                                 |
| DTOS-4139           | Some keys do not work when you use a Japanese keyboard with PCoIP— <b>CIPS-22956</b> .                                                                                                                        |
| DTOS-4006           | Unable to authenticate when connecting internally with no UAG using smart card. The issue is observed on Wyse 5470 Thin Client with ThinOS 9.1.3112— <b>CIPS-22826</b> .                                      |
| DTOS-3979           | An error occurs when configuring 2 broker URLs. Failover setting does not work in ThinOS 9.x— <b>CIPS-22680</b> .                                                                                             |
| DTOS-3954           | On ThinOS 9.1.3112, after the Wyse authentication, the storefront portal is not on the main screen, but split into 2 screens— <b>CIPS-22806</b> .                                                             |
| DTOS-3953           | Inconsistent display and slow cursor movement is observed on monitors that are connected to external graphics cards. The issue is observed on Wyse 5070 Thin Client with ThinOS 9.1.3112— <b>CIPS-22805</b> . |
| DTOS-3950           | Amazon Web Services session drops unexpectedly while using Microsoft Office apps— <b>CIPS-22418</b> .                                                                                                         |
| DTOS-3909/DTOS-3530 | SCEP auto enrollment does not work in ThinOS 9.x— <b>CIPS-22725, CIPS-21937</b> .                                                                                                                             |
| DTOS-3890           | Idle Timeout does not work in PCoIP and Blast sessions when the value is set to 0. The issue is observed in ThinOS 9.1.2101.                                                                                  |
| DTOS-3748           | Unable to launch PCoIP desktops in ThinOS 9.1.2101— <b>CIPS-21360</b> .                                                                                                                                       |
| DTOS-3506           | Unable to authenticate and log in to HealthCast, using Qwikaccess. The issue is observed on Wyse 3040 Thin Client with ThinOS 9.1.2101— <b>CIPS-22323</b> .                                                   |
| DTOS-3482           | VNC fails to connect if the device is idle for too long. The issue is observed on Wyse 5070 Thin Client with ThinOS 9.1.2101— <b>CIPS-22070</b> .                                                             |
| DTOS-3466           | Elo Touch Solution 10,1" 1002L does not work with ThinOS 9.1.2101. The issue is observed on Wyse 5070 Thin Client with ThinOS 9.1.2101— <b>CIPS-22302</b> .                                                   |
| DTOS-3441           | There is a 30-60 seconds delay while connecting a Bluetooth mouse to ThinOS— <b>CIPS-22239</b> .                                                                                                              |
| DTOS-3381           | Key commands do not work as expected in a Windows Virtual Desktop RDS session. The issue is observed on Wyse 5070 Thin Client with ThinOS 9.1.2101— <b>CIPS-21920</b> .                                       |
| DTOS-3359           | Citrix broker failover does not work as expected in ThinOS 9— <b>CIPS-22156</b> .                                                                                                                             |
| DTOS-3326           | SIPR tokens stopped working after upgrading to ThinOS 9.1.2101— <b>CIPS-22144</b> .                                                                                                                           |
| DTOS-3325           | Graphics issue is observed on a Dell E2020H monitor that is connected to a DP1 port. The issue is observed on Wyse 3040 Thin Client with ThinOS 9.1.2101— <b>CIPS-22165</b> .                                 |
| DTOS-3292           | Ingenico Lane 3000 has redirection issues in VMware session. The issue is observed in ThinOS 9.1.2101— <b>VMware #SR21233499906, CIPS-22123</b> .                                                             |
| DTOS-3286           | Ingenico card reader does not redirect in VMware View session— <b>CIPS-21751</b> .                                                                                                                            |
| DTOS-3242           | <b>Disable Terminal Shutdown</b> option is not available in ThinOS 9— <b>CIPS-22024</b> .                                                                                                                     |
| DTOS-3241           | <b>On Desktop</b> is missing from <b>Global Session Settings</b> for ThinOS 9. The option is available as <b>Display on Desktop</b> in Wyse Management Suite when configuring ThinOS 8.6 devices.             |
| DTOS-3207           | The option to disable lock and shutdown for users is not available— <b>CIPS-21755</b> .                                                                                                                       |
| DTOS-3175           | Imprivata 2FA authentication issues are observed on devices that run ThinOS 9.1.2101— <b>CIPS-21819</b> .                                                                                                     |
| DTOS-2995           | Password input issue on Citrix session. Sometimes, when a correct password is entered after entering a wrong password, the device fails to log in— <b>CIPS-21740</b> .                                        |

**Table 76. Fixed issues (continued)**

| Issue ID  | Description                                                                                                                                                                             |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-2891 | Smart card authentication fails on SIPR network but works on NIPR network. The issue is observed on Wyse 5070 Thin Client with ThinOS 9.1.2101— <b>CIPS-21612</b> .                     |
| DTOS-2772 | Client loses connection on wireless roaming. The issue is observed on Wyse 3040 Thin Client with ThinOS 9.1.2101.                                                                       |
| DTOS-2739 | Updating the BIOS to version 1.2.5 on Wyse 3040 Thin Client can sometimes cause an error that states <b>Fatal Error: System is tampered, and will be restored</b> — <b>CIPS-21185</b> . |
| DTOS-2242 | Granular control of peripherals is not available in 9.1.                                                                                                                                |
| DTOS-1985 | Wyse 3040 Thin Client reboots when you touch the screen. The issue is observed on Faytech touch displays— <b>CIPS-20280</b> .                                                           |
| DTOS-1696 | Letters ¥ and \ cannot be used on Japanese keyboard layout.                                                                                                                             |

## Known issues

**Table 77. Known issues**

| Issue ID  | Description                                                                                                                                                                                                                                                   | Workaround                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| DTOS-4898 | The Bluetooth mouse name is not displayed properly in the Bluetooth scan window.                                                                                                                                                                              | There is no workaround in this release.                  |
| DTOS-4893 | <b>Enable LPD service for the printer</b> option does not work on ThinOS 9.1.4234 but works on ThinOS 8.x.                                                                                                                                                    | There is no workaround in this release.                  |
| DTOS-4884 | Some application icons are not displayed on the desktop when logged into classic mode using VPN.                                                                                                                                                              | Use connection manager to get the full application list. |
| DTOS-4804 | The selected default printer in the local client does not take effect in a broker connection.                                                                                                                                                                 | There is no workaround in this release.                  |
| DTOS-4740 | Pid information is not captured in the event log when you disconnect an HID 4500 device.                                                                                                                                                                      | There is no impact on the functionality.                 |
| DTOS-4713 | The RDP connection waiting prompt box overlaps the window to enter credentials.                                                                                                                                                                               | There is no workaround in this release.                  |
| DTOS-4696 | Default Printer drop-down list value is <b>Unselected</b> in the Admin Policy Tool. The issue is observed on Wyse 5070 Thin Client.                                                                                                                           | There is no workaround in this release.                  |
| DTOS-4683 | An incorrect tip is displayed when you click the <b>Picture Shown Time</b> field under <b>Advanced &gt; Personalization &gt; Screen Saver &gt; Screen Saver Type &gt; Showing Pictures</b> in Admin Policy Tool or the Wyse Management Suite Policy settings. | There is no workaround in this release.                  |
| DTOS-4654 | USB headset and Bluetooth headset names are displayed as same under <b>Peripherals &gt; Audio</b> .                                                                                                                                                           | There is no workaround in this release.                  |
| DTOS-4554 | When you connect a monitor to the client using a Type-C to HDMI connector, the monitor displays a black screen. The issue is observed on Wyse 5470 Thin Client.                                                                                               | There is no workaround in this release.                  |
| DTOS-4505 | A blue screen is displayed for more than 15 seconds after restarting the device from PIE login window. The issue is observed on Wyse 5470 All-in-One Thin Client with PIE version 7.5.                                                                        | There is no workaround in this release.                  |
| DTOS-4479 | The PCoIP session is displayed on the system tray for a while after you sign out from account successfully.                                                                                                                                                   | There is no workaround in this release.                  |

**Table 77. Known issues (continued)**

| Issue ID  | Description                                                                                                                                                                                                                                                                                                              | Workaround                                                                                                                                                                                                                                                                                                                                           |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | The issue is observed on Horizon Broker server version 10.151.135.22.                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                      |
| DTOS-4349 | It takes approximately 2 minutes to start printing when you click the <b>Test Print</b> button. The issue is observed on Wyse 5070 Thin Client.                                                                                                                                                                          | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-4340 | After you enable customized login from <b>Advanced &gt; Broker Settings &gt; Amazon WorkSpaces Settings</b> , if you press <b>ESC</b> button twice when you start the broker sign-on window, only Amazon WorkSpaces logo is displayed on the customized login page. Username and password text fields are not displayed. | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-4319 | Cursor disappears after you enable or disable the relative mouse option in PCoIP session.                                                                                                                                                                                                                                | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-4191 | When you export Citrix logs to a USB drive, the name of the Citrix log file is <b>citrixlog.zip</b> .                                                                                                                                                                                                                    | There is no impact on the functionality.                                                                                                                                                                                                                                                                                                             |
| DTOS-4188 | The <b>Test Print</b> button must be clicked multiple times for the serial printer to print the results. The issue is observed on Wyse 5070 Thin Client.                                                                                                                                                                 | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-4126 | <b>Device Error = -1</b> is displayed after you wake the client from sleep mode.                                                                                                                                                                                                                                         | Close the error window. There is no impact on the functionality.                                                                                                                                                                                                                                                                                     |
| DTOS-3888 | When you set the resolution to 1920x1080 after connecting a monitor that supports a resolution larger than 1920x1080, the resolution is changed to 1680x1050 or 1600x900. The issue is observed when you power off the monitor and power it back on.                                                                     | Set the resolution manually.                                                                                                                                                                                                                                                                                                                         |
| DTOS-3803 | When <b>Citrix Workspace mode</b> is enabled and <b>HTTP User Agent</b> option is set, you cannot log in to Citrix server.                                                                                                                                                                                               | Disable <b>Citrix Workspace mode</b> .                                                                                                                                                                                                                                                                                                               |
| DTOS-2754 | An incorrect error message is displayed when launch a desktop or app that is under maintenance mode. The issue is observed on Citrix Workspace app version 21.4.0.11.1.                                                                                                                                                  | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-4870 | An incorrect message is displayed when you launch a desktop VDA that is launched on another device. The issue is observed on Citrix Workspace app version 21.6.0.28.7.                                                                                                                                                   | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-4944 | Inconsistent display and slow cursor movement is observed on monitors that are connected to external AMD graphics cards. The issue is observed on Wyse 5070 Thin Client.                                                                                                                                                 | Do not connect monitors to AMD graphics cards.                                                                                                                                                                                                                                                                                                       |
| DTOS-5106 | Sometimes the Zoom VDI in Citrix session does not work and you cannot start or join a meeting, after you upgrade the Citrix Workspace app package.                                                                                                                                                                       | Uninstall the Zoom Citrix package and reinstall it.                                                                                                                                                                                                                                                                                                  |
| DTOS-5107 | Sometimes the Zoom VDI in Citrix does not launch in optimized mode, after you upgrade the Citrix Workspace app package.                                                                                                                                                                                                  | Uninstall the Zoom Citrix package and reinstall it.                                                                                                                                                                                                                                                                                                  |
| DTOS-5334 | HID fingerprint reader does not work after you upgrade the HID package.                                                                                                                                                                                                                                                  | Disable the <b>Enable HID Fingerprint Reader</b> option from <b>Advanced &gt; Session Settings &gt; Global Session Settings</b> in the <b>Admin Policy Tool</b> or <b>Wyse Management Suite</b> policy settings, and save the setting changes. Enable the <b>Enable HID Fingerprint Reader</b> option again, before you log in to the Citrix server. |

# ThinOS 9.1.4097

## Release date

March 2022

## Compatibility

### ThinOS build details

**DTOS\_9.1.4097.pkg**—OptiPlex 3000 Thin Client

### ThinOS application package details

- Cisco\_Jabber\_14.0.1.305989\_2.pkg
- Cisco\_WebEx\_Meetings\_VDI\_41.6.1.10\_2.pkg
- Cisco\_WebEx\_VDI\_41.6.1.19187\_1.pkg (formerly called Cisco WebEx Teams)
- Citrix\_Workspace\_App\_21.6.0.28\_2.pkg
- EPOS\_Connect\_6.1.0.19549\_20.pkg
- HID\_Fingerprint\_Reader\_210217\_10.pkg
- Jabra\_7.2.0\_10.pkg
- Microsoft\_WVD\_1.3\_1196.pkg
- Teradici\_PCoIP\_21.03.1\_10.pkg
- VMware\_Horizon\_2106.8.3.0.18251983\_6.pkg
- Zoom\_Citrix\_5.7.6.20822\_1.pkg
- Zoom\_Horizon\_5.7.6.20822\_1.pkg
- Identity\_Automation\_QwickAccess\_2.0.0\_3.pkg

## Tested BIOS version for ThinOS 9.1.4097

**Table 78. Tested BIOS details**

| Platform name             | BIOS version |
|---------------------------|--------------|
| OptiPlex 3000 Thin Client | 1.0.0        |

**NOTE:** When you use the BIOS upgrade feature for the first time, the BIOS package downloads even if the existing BIOS version is the same version that is uploaded.

## Citrix Workspace app feature matrix

**Table 79. Citrix Workspace app feature matrix**

| Feature          |                     | ThinOS 9.1.4097 + Citrix Workspace app 2106 | ThinOS 9.1.4097 limitations                              |
|------------------|---------------------|---------------------------------------------|----------------------------------------------------------|
| Citrix Workspace | Citrix Virtual Apps | Supported                                   | Citrix session prelaunch and session linger features are |

**Table 79. Citrix Workspace app feature matrix (continued)**

| Feature             |                                              | ThinOS 9.1.4097 + Citrix Workspace app 2106 | ThinOS 9.1.4097 limitations                                                                                                                                                                                                                                                                                                                         |
|---------------------|----------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                                              |                                             | not supported. This is Linux binary design.                                                                                                                                                                                                                                                                                                         |
|                     | Citrix Virtual Desktops                      | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                     | Citrix Content Collaboration (Citrix Files)  | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                     | Citrix Access Control Service                | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                     | Citrix Workspace Browser                     | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                     | SaaS/Webapps with SSO                        | Not supported                               | Not supported                                                                                                                                                                                                                                                                                                                                       |
|                     | Citrix Mobile Apps                           | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                     | Intelligent Workspace features               | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                 |
| Endpoint Management | Auto configure using DNS for Email Discovery | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                     | Centralized Management Settings              | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                     | App Store Updates/Citrix Auto updates        | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                 |
| UI                  | Desktop Viewer/Toolbar                       | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                     | Multi-tasking                                | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                     | Follow Me Sessions (Workspace Control)       | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
| HDX Host Core       | Adaptive transport                           | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                     | Session reliability                          | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                     | Auto-client Reconnect                        | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                           |
|                     | Bi-directional Content redirection           | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                 |
|                     | URL redirection                              | N/A                                         | URL redirection has limitations in Citrix Workspace app for Linux client. It requires to launch client browser through Local app access policy (which is not supported in Linux client), to access the URL redirection blacklist URL. Citrix support recommends using Browser Content Redirection (BCR) in Linux client to replace URL redirection. |

**Table 79. Citrix Workspace app feature matrix (continued)**

| Feature                 |                                    | ThinOS 9.1.4097 + Citrix Workspace app 2106 | ThinOS 9.1.4097 limitations                                                                                                                                                                                                                                       |
|-------------------------|------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | File open in Citrix Workspace app  | N/A                                         | Not supported. No local file explorer on ThinOS.                                                                                                                                                                                                                  |
|                         | Browser content redirection        | Limited support                             | Only supports WebKitGTK+, does not support CEF. BCR with CEF. Some of the QUMU videos fail to playback when Browser Content Redirection (BCR) is enabled. YouTube videos of 1080p fails to playback. This is a Citrix binary known issue.                         |
|                         | Multiport ICA                      | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Multistream ICA                    | Not supported                               | Not supported                                                                                                                                                                                                                                                     |
|                         | SDWAN support                      | Not supported                               | Not supported                                                                                                                                                                                                                                                     |
| HDX IO/Devices/Printing | Local Printing                     | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Generic USB Redirection            | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Client drive mapping/File Transfer | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
| HDX Integration         | Local App Access                   | N/A                                         | N/A                                                                                                                                                                                                                                                               |
|                         | Multi-touch                        | N/A                                         | N/A                                                                                                                                                                                                                                                               |
|                         | Mobility pack                      | N/A                                         | N/A                                                                                                                                                                                                                                                               |
|                         | HDX Insight                        | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | HDX Insight with NSAP VC           | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | EUEM Experience Matrix             | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Session Sharing                    | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
| HDX Multi-media         | Audio Playback                     | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Bi-directional Audio (VoIP)        | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Webcam redirection                 | Supported                                   | Webcam redirection works for 32-bit applications. For example, Skype and GoToMeeting. You can use a 32-bit browser to verify webcam redirection online. For example, <a href="http://www.webcamtests.com">www.webcamtests.com</a> . This is Citrix binary design. |
|                         | Video playback                     | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                         |

**Table 79. Citrix Workspace app feature matrix (continued)**

| Feature |                                                           | ThinOS 9.1.4097 + Citrix Workspace app 2106 | ThinOS 9.1.4097 limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------|-----------------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | Flash redirection                                         | N/A                                         | Citrix Linux binary supports only x86 client.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|         | Microsoft Teams Optimization                              | Supported                                   | Do not hot plug headset or the camera during a meeting, or a call. Do not switch the camera during a meeting. It causes the audio and video reception to be inconsistent. Restart Microsoft Teams to resolve this issue. This is also Citrix binary issue. Supports Microsoft Teams optimization through proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. This is a Citrix binary design. For more information, see the Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |
|         | Skype for business Optimization pack                      | Supported                                   | Not supported through proxy server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|         | Cisco Jabber Unified Communications Optimization          | Supported                                   | For more information, see the Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|         | Unified Communication Zoom Cloud Meeting Optimization     | Supported                                   | Zoom optimization via proxy server with anonymous authentication is not supported. For more information, see the Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         | Unified Communication Cisco Webex Teams Offloading (tVDI) | Supported                                   | Supports Webex Teams optimization mode through proxy server which is configured in ThinOS Network Proxy by APT/ Wyse Management Suite. It does not support the proxy configured by DHCP Option 252. For more information, see the Dell Wyse ThinOS 9.1.4097, , 9.1.4234, and later versions                                                                                                                                                                                                                                                                                                                                                                                                        |



**Table 79. Citrix Workspace app feature matrix (continued)**

| Feature        |                                                                    | ThinOS 9.1.4097 + Citrix Workspace app 2106 | ThinOS 9.1.4097 limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------|--------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                                                                    |                                             | Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                | Unified Communication<br>Cisco Webex Meetings<br>Offloading (wVDI) | Supported                                   | Dell Technologies recommends to wait for 10s to join a second meeting after you end the first meeting. Otherwise, VDI mode may not work. Supports Webex Meetings optimization mode through proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |
|                | Windows Multimedia redirection                                     | Supported                                   | Some of QUMU videos do not playback when BCR is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                | UDP Audio                                                          | Supported (not with NetScaler Gateway)      | Limited support—Not supported with Citrix ADC (formerly NetScaler) due to Citrix's limitation.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| HDX Graphics   | H.264-enhanced SuperCodec                                          | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                | Client hardware acceleration                                       | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                | 3DPro Graphics                                                     | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                | External Monitor Support                                           | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                | True Multi Monitor                                                 | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                | Desktop Composition redirection                                    | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                | Location Based Services (Location available via API-description)   | N/A                                         | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Authentication | Federated Authentication (SAML/Azure AD)                           | Supported                                   | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO.                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                | RSA Soft Token                                                     | Supported                                   | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

**Table 79. Citrix Workspace app feature matrix (continued)**

| Feature |                                                               | ThinOS 9.1.4097 + Citrix Workspace app 2106 | ThinOS 9.1.4097 limitations                                                                                            |
|---------|---------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|         | Challenge Response SMS (Radius)                               | Supported                                   | There are no limitations in this release.                                                                              |
|         | OKTA Multi factor authentication                              | Limited supported (only supports Radius)    | Does not support OKTA SAML authentication.                                                                             |
|         | DUO multi factor authentication                               | Supported                                   | There are no limitations in this release.                                                                              |
|         | Smart cards (CAC, PIV etc)                                    | Supported                                   | There are no limitations in this release.                                                                              |
|         | User Cert Auth via NetScaler Gateway (via Browser Only)       | N/A                                         | N/A                                                                                                                    |
|         | Proximity/Contactless Card                                    | Supported                                   | There are no limitations in this release.                                                                              |
|         | Credential insertion (For example, Fast Connect, Storebrowse) | Supported                                   | There are no limitations in this release.                                                                              |
|         | Pass Through Authentication                                   | Supported                                   | There are no limitations in this release.                                                                              |
|         | Save credentials (on-premise and only SF)                     | N/A                                         | N/A                                                                                                                    |
|         | NetScaler nFactor Authentication                              | Not supported                               | Not supported                                                                                                          |
|         | NetScaler Full VPN                                            | Not supported                               | Not supported                                                                                                          |
|         | Netscaler Native OTP                                          | Supported                                   | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|         | Biometric Authentication such as Touch ID and Face ID         | Supported (only supports Touch ID)          | Only supports Touch ID.                                                                                                |
|         | Single Sign-On to Citrix Files App                            | N/A                                         | N/A                                                                                                                    |
|         | Single Sign on to Citrix Mobile apps                          | N/A                                         | N/A                                                                                                                    |
|         | Anonymous Store Access                                        | Supported                                   | There are no limitations in this release.                                                                              |
|         | Netscaler + RSA                                               | Not supported                               | Not supported                                                                                                          |
|         | Netsclaer + Client cert authentication                        | Not supported                               | Not supported                                                                                                          |
|         | Citrix cloud + Azure Active Directory                         | Not supported                               | Not supported                                                                                                          |
|         | Citrix cloud + Active Directory + Token                       | Not supported                               | Not supported                                                                                                          |
|         | Citrix cloud + Citrix Gateway                                 | Not supported                               | Not supported                                                                                                          |
|         | Citrix cloud + Okta                                           | Not supported                               | Not supported                                                                                                          |

**Table 79. Citrix Workspace app feature matrix (continued)**

| Feature               |                                                                        | ThinOS 9.1.4097 + Citrix Workspace app 2106 | ThinOS 9.1.4097 limitations                                                                                            |
|-----------------------|------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Security              | Citrix cloud + SAML 2.0                                                | Not supported                               | Not supported                                                                                                          |
|                       | Netscaler load balance                                                 | Not supported                               | Not supported                                                                                                          |
|                       | TLS 1.2                                                                | Supported                                   | There are no limitations in this release.                                                                              |
|                       | TLS 1.0/1.1                                                            | Not supported                               | Not supported                                                                                                          |
|                       | DTLS 1.0                                                               | Supported                                   | There are no limitations in this release.                                                                              |
|                       | DTLS 1.2                                                               | Not supported                               | Not supported                                                                                                          |
|                       | SHA2 Cert                                                              | Supported                                   | There are no limitations in this release.                                                                              |
|                       | Smart Access                                                           | Not supported                               | Not supported                                                                                                          |
|                       | Remote Access via Citrix Gateway                                       | Supported                                   | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|                       | Workspace for Web Access                                               | N/A                                         | ThinOS does not provide local browser.                                                                                 |
| Keyboard Enhancements | IPV6                                                                   | Not supported                               | Not supported                                                                                                          |
|                       | Dynamic Keyboard Layout Synchronization with Windows VDA               | Supported                                   | There are no limitations in this release.                                                                              |
|                       | Unicode Keyboard Layout Mapping with Windows VDA                       | Supported                                   | There are no limitations in this release.                                                                              |
|                       | Client IME Enhancements with Windows VDA                               | N/A                                         | N/A                                                                                                                    |
|                       | Language Bar Show/Hide with Windows VDA Applications                   | N/A                                         | N/A                                                                                                                    |
|                       | Option Key mapping for server-side IME input mode on Windows VDA       | N/A                                         | N/A                                                                                                                    |
|                       | Dynamic Keyboard Layout Synchronization with Linux VDA                 | Not supported                               | Not supported                                                                                                          |
|                       | Client IME Enhancements with Linux VDA                                 | N/A                                         | N/A                                                                                                                    |
|                       | Language Bar support for Linux VDA Applications                        | Not supported                               | Not supported                                                                                                          |
|                       | Keyboard sync only when a session is launched—client Setting in ThinOS | Supported                                   | There are no limitations in this release.                                                                              |
|                       | Server default setting in ThinOS                                       | Supported                                   | There are no limitations in this release.                                                                              |
|                       | Specific keyboard in ThinOS                                            | Supported                                   | There are no limitations in this release.                                                                              |

**Table 79. Citrix Workspace app feature matrix (continued)**

| Feature                                                                            |                                                                             | ThinOS 9.1.4097 + Citrix Workspace app 2106 | ThinOS 9.1.4097 limitations               |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------|
| New features listed in Citrix Workspace App release note but not in feature matrix | Battery status indicator (CWA2106)                                          | Supported                                   | There are no limitations in this release. |
|                                                                                    | Service continuity (Technical Preview) (CWA2104, CWA2106)                   | Not supported                               | Not supported                             |
|                                                                                    | Pinning multi-monitor screen layout (CWA2103)                               | Not supported                               | Not supported                             |
|                                                                                    | App Protection (CWA2101, CWA2106 )                                          | Not supported                               | Not supported                             |
|                                                                                    | Authentication enhancement is available only in cloud deployments (CWA2012) | Not supported                               | Not supported                             |
|                                                                                    | Multiple audio (CWA2012 and CWA2010)                                        | Not supported                               | Not supported                             |
|                                                                                    | Citrix logging (CWA2009)                                                    | Supported                                   | There are no limitations in this release. |
|                                                                                    | Cryptographic update (CWA2006)                                              | Not supported                               | Not supported                             |
|                                                                                    | Transparent user interface (TUI) (CWA1912 and CWA1910)                      | Not supported                               | Not supported                             |
|                                                                                    | GStreamer 1.x supportexperimental feature(CWA1912)                          | Supported                                   | There are no limitations in this release. |
|                                                                                    | App indicator icon (CWA1910)                                                | Not supported                               | Not supported                             |
|                                                                                    | Latest webkit support (CWA1908 and CWA1906)                                 | Supported                                   | There are no limitations in this release. |
|                                                                                    | Bloomberg audio redirection (CWA1903)                                       | Supported                                   | There are no limitations in this release. |
|                                                                                    | Bloomberg v4 keyboard selective redirection support(CWA1808)                | Supported                                   | There are no limitations in this release. |
| ThinOS VDI configuration                                                           | Broker Setting                                                              | Supported                                   | There are no limitations in this release. |
|                                                                                    | PNA button menu                                                             | Supported                                   | There are no limitations in this release. |
|                                                                                    | Sign on window function                                                     | Supported                                   | There are no limitations in this release. |
|                                                                                    | Workspace mode                                                              | Supported                                   | There are no limitations in this release. |
|                                                                                    | Admin policy tool                                                           | Supported                                   | There are no limitations in this release. |

## VMware Horizon feature matrix

**Table 80. VMware Horizon feature matrix**

| Feature               |                                               | ThinOS 9.1.4097                                  |
|-----------------------|-----------------------------------------------|--------------------------------------------------|
| Broker Connectivity   | SSL certificate verification                  | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Disclaimer dialog                             | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | UAG compatibility                             | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Shortcuts from server                         | Not supported                                    |
|                       | Pre-install shortcuts from server             | Not supported                                    |
|                       | File type association                         | Not supported                                    |
|                       | Phone home                                    | Supported with VDI, RDS Hosted Desktops and Apps |
| Broker Authentication | Password authentication                       | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Single sign on                                | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | RSA authentication                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Integrated RSA SecurID token generator        | Not supported                                    |
|                       | Kiosk mode                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Remember credentials                          | Not supported                                    |
|                       | Log in as current user                        | Not supported                                    |
|                       | Nested log in as current user                 | Not supported                                    |
|                       | Log in as current user 1-way trust            | Not supported                                    |
|                       | OS biometric authentication                   | Not supported                                    |
|                       | Un-authentication access                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Radius – Cisco ACS                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Radius – SMS Passcode                         | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Radius - DUO                                  | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Radius – Microsoft Network Policy             | Supported with VDI, RDS Hosted Desktops and Apps |
| Smart card            | x.509 certificate authentication (Smart Card) | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | CAC support                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | .Net support                                  | Supported with VDI, RDS Hosted Desktops and Apps |

**Table 80. VMware Horizon feature matrix (continued)**

| Feature                                                    |                                                 | ThinOS 9.1.4097                                  |
|------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------|
|                                                            | PIV support                                     | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Java support                                    | Not supported                                    |
|                                                            | Purebred derived credentials                    | Not supported                                    |
|                                                            | Device Cert auth with UAG                       | Not supported                                    |
| Desktop Operations                                         | Reset                                           | Supported only with VDI                          |
|                                                            | Restart                                         | Supported only with VDI                          |
|                                                            | Log off                                         | Supported with VDI, RDS Hosted Desktops and Apps |
| Session Management (Blast Extreme & PCoIP)                 | Switch desktops                                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Multiple connections                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Multi-broker/multi-site redirection - Universal | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | App launch on multiple end points               | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Auto-retry 5+ minutes                           | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Blast network recovery                          | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Time zone synchronization                       | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Jumplist integration (Windows 7- Windows 10)    | Not supported                                    |
| Client Customization                                       | Command line options                            | Not supported                                    |
|                                                            | URI schema                                      | Not supported                                    |
|                                                            | Launching multiple client instances using URI   | Not supported                                    |
|                                                            | Preference file                                 | Not supported                                    |
|                                                            | Parameter pass-through to RDSH apps             | Not supported                                    |
|                                                            | Non interactive mode                            | Not supported                                    |
|                                                            | GPO-based customization                         | Not supported                                    |
| Protocols Supported with VDI, RDS Hosted Desktops and Apps | Blast Extreme                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | H.264 - HW decode                               | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | H.265 - HW decode                               | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | Blast Codec                                     | Supported with VDI, RDS Hosted Desktops and Apps |
|                                                            | JPEG/PNG                                        | Supported with VDI, RDS Hosted Desktops and Apps |

**Table 80. VMware Horizon feature matrix (continued)**

| Feature                                   |                                                                     | ThinOS 9.1.4097                                  |
|-------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------|
|                                           | Switch encoder                                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | BENIT                                                               | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Blast Extreme Adaptive Transportation                               | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | RDP 8.x, 10.x                                                       | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | PCoIP                                                               | Supported with VDI, RDS Hosted Desktops and Apps |
| Features/Extensions Monitors/<br>Displays | Dynamic display resizing                                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | VDI windowed mode                                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Remote app seamless window                                          | Not supported                                    |
|                                           | Multiple monitor support                                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | External monitor support for mobile                                 | Not supported                                    |
|                                           | Display pivot for mobile                                            | Not supported                                    |
|                                           | Number of displays Supported with VDI, RDS Hosted Desktops and Apps | 4                                                |
|                                           | Maximum resolution                                                  | 3840x2160                                        |
|                                           | High DPI scaling                                                    | Supported only with VDI                          |
|                                           | DPI sync                                                            | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Exclusive mode                                                      | Not supported                                    |
|                                           | Multiple monitor selection                                          | Supported with VDI, RDS Hosted Desktops and Apps |
| Input Device (Keyboard/Mouse)             | Language localization (EN, FR, DE, JP, KO, ES, CH)                  | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Relative mouse                                                      | Supported only with VDI                          |
|                                           | External Mouse Support                                              | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Local buffer text input box                                         | Not supported                                    |
|                                           | Keyboard Mapping                                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | International Keyboard Support                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Input Method local/remote switching                                 | Not supported                                    |
|                                           | IME Sync                                                            | Supported with VDI, RDS Hosted Desktops and Apps |
| Clipboard Services                        | Clipboard Text                                                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                                           | Clipboard Graphics                                                  | Not supported                                    |

**Table 80. VMware Horizon feature matrix (continued)**

| Feature                      |                                                    | ThinOS 9.1.4097                                  |
|------------------------------|----------------------------------------------------|--------------------------------------------------|
|                              | Clipboard memory size configuration                | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Drag and Drop Text                                 | Not supported                                    |
|                              | Drag and Drop Image                                | Not supported                                    |
|                              | Drag and Drop File/Folder                          | Not supported                                    |
| Connection Management        | IPv6 only network support                          | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | PCoIP IP roaming                                   | Supported with VDI, RDS Hosted Desktops and Apps |
| Optimized Device Redirection | Serial (COM) Port Redirection                      | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Client Drive Redirection/File Transfer             | Not supported                                    |
|                              | Scanner (TWAIN/WIA) Redirection                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | x.509 Certificate (Smart Card/Derived Credentials) | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Gyro Sensor Redirection                            | Not supported                                    |
| Real-Time Audio-Video        | Audio in (input)                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Video in (input)                                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Multiple webcams                                   | Not supported                                    |
|                              | Multiple speakers                                  | Not supported                                    |
| USB Redirection              | USB redirection                                    | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Policy: ConnectUSBOnInsert                         | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Policy: ConnectUSBOnStartup                        | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Connect/Disconnect UI                              | Not supported                                    |
|                              | USB device filtering (client side)                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Isochronous Device Support                         | Supported only with VDI                          |
|                              | Split device support                               | Supported only with VDI                          |
|                              | Bloomberg Keyboard compatibility                   | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Smartphone sync                                    | Supported only with VDI                          |
| Unified Communications       | Skype for business                                 | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Zoom Cloud Meetings                                | Supported with VDI, RDS Hosted Desktops and Apps |
|                              | Cisco Jabber Softphone                             | Supported with VDI, RDS Hosted Desktops and Apps |



**Table 80. VMware Horizon feature matrix (continued)**

| Feature               |                              | ThinOS 9.1.4097                                  |
|-----------------------|------------------------------|--------------------------------------------------|
|                       | Cisco WebEx Teams            | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Cisco WebEx Meetings         | Not supported                                    |
|                       | Microsoft Teams RTAV         | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Microsoft Teams offload      | Supported with VDI, RDS Hosted Desktops and Apps |
| Multimedia Support    | Multimedia Redirection (MMR) | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | HTML5 Redirection            | Not supported                                    |
|                       | Directshow Redirection       | Not supported                                    |
|                       | URL content redirection      | Not supported                                    |
|                       | Browser content redirection  | Not supported                                    |
| Graphics              | vDGA                         | Supported only with VDI                          |
|                       | vSGA                         | Supported only with VDI                          |
|                       | NVIDIA GRID vGPU             | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Intel vDGA                   | Supported only with VDI                          |
|                       | AMD vGPU                     | Supported only with VDI                          |
| 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              | VMware Integrated Printing   | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Location Based Printing      | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Native Driver Support        | Not supported                                    |
| Security              | FIPS-140-2 Mode Support      | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Imprivata Integration        | Supported with VDI, RDS Hosted Desktops and Apps |
|                       | Opsswat agent                | Not supported                                    |
|                       | Opsswat on-demand agent      | Not supported                                    |
|                       | TLS 1.1/1.2                  | Supported with VDI, RDS Hosted Desktops and Apps |
| Session Collaboration | Session Collaboration        | Supported with VDI, RDS Hosted Desktops and Apps |

**Table 80. VMware Horizon feature matrix (continued)**

| Feature |                                               | ThinOS 9.1.4097                                  |
|---------|-----------------------------------------------|--------------------------------------------------|
|         | Read-only Collaboration                       | Supported with VDI, RDS Hosted Desktops and Apps |
| Update  | Update notifications                          | Not supported                                    |
|         | App Store update                              | Not supported                                    |
| Other   | Smart Policies from DEM                       | Supported with VDI, RDS Hosted Desktops and Apps |
|         | Access to Linux Desktop - Blast Protocol Only | Supported with VDI, RDS Hosted Desktops and Apps |
|         | Workspace ONE mode                            | Supported with VDI, RDS Hosted Desktops and Apps |
|         | Nested - basic connection                     | Supported with VDI, RDS Hosted Desktops and Apps |

For detailed information about the VMware Horizon features, see the Horizon documentation at [docs.vmware.com](https://docs.vmware.com).

## Windows Virtual Desktop and RDP feature comparison matrix

**Table 81. Windows Virtual Desktop and RDP feature comparison matrix**

| Category Supported | Features                                         | ThinOS 9.1.4097 |
|--------------------|--------------------------------------------------|-----------------|
| Service            | Direct connection to Desktop via RDP             | Supported       |
|                    | Microsoft Remote Desktop Services broker (Local) | Supported       |
|                    | Windows Virtual Desktop (Azure)                  | Supported       |
| Session            | Desktop                                          | Supported       |
|                    | Remote App (Integrated)                          | Not supported   |
|                    | Remote App (Immersive )                          | Supported       |
| Input              | Keyboard                                         | Supported       |
|                    | Mouse                                            | Supported       |
|                    | Single touch                                     | Supported       |
|                    | Multi-touch                                      | Not supported   |
| Audio Visual       | Audio in                                         | Supported       |
|                    | Audio out                                        | Supported       |
| Storage            | Folder/Drive Redirection                         | Supported       |
| Clipboard          | Clipboard (text)                                 | Supported       |
|                    | Clipboard (object)                               | Supported       |
|                    | Clipboard (file)                                 | Not supported   |
| Redirections       | Printer                                          | Supported       |
|                    | Serial Port                                      | Not supported   |
|                    | SmartCard                                        | Not supported   |
|                    | USB (General)                                    | Not supported   |
| Session Experience | Dynamic Resolution                               | Supported       |

**Table 81. Windows Virtual Desktop and RDP feature comparison matrix (continued)**

| Category Supported | Features                       | ThinOS 9.1.4097 |
|--------------------|--------------------------------|-----------------|
|                    | Start Command                  | Supported       |
|                    | Desktop Experience             | Not supported   |
|                    | Desktop Scale Factor           | Supported       |
|                    | Multi-Monitor (All)            | Supported       |
|                    | Restricted full screen session | Supported       |
|                    | Keyboard Layout Mapping        | Not supported   |
|                    | Time Zone Mapping              | Supported       |
|                    | RemoteFX                       | Not supported   |
|                    | Video/Audio/Online playback    | Supported       |
|                    | Compression                    | Supported       |
|                    | Optimize for low speed link    | Supported       |
| Graphics (CODECs)  | H.264 Support                  | Supported       |
|                    | H.264 AVC-444                  | Not supported   |
|                    | TSMC (MMR)                     | Not supported   |
|                    | VOR                            | Not supported   |
| Authentication     | TS Gateway Supported           | Supported       |
|                    | - TSGW II                      | Not supported   |
|                    | - TSGW III                     | Not supported   |
|                    | - TSGW WebSocket               | Not supported   |
|                    | - TSGW + UDP                   | Not supported   |
|                    | NLA                            | Supported       |
|                    | SmartCard                      | Not supported   |
|                    | Imprivata                      | Supported       |

## New and enhanced features

### Wireless chipset support and limitation for OptiPlex 3000 Thin Client

Intel WiFi 6E AX210 and Intel 9560 are the two wireless chipsets that are supported on OptiPlex 3000 Thin Client. All wireless and Bluetooth software features remain the same. ThinOS 9.1.4097 does not support WiFi 6/6E.

### VMware Horizon Blast updates

### Bloomberg keyboard STB 100 mapping

You can connect the keyboard using either single or dual USB cables. No setting changes or redirection is required. All the function keys work without any redirection. For steps to disable redirection, see the *Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Microsoft Teams optimization

VMware Horizon 2106 package for the client side includes Microsoft Teams media optimization by default. Media optimization for Microsoft Teams that is installed by default in Horizon Agent, is controlled by a group policy object (GPO). GPO is not enabled by default. You can enable the optimization by using a Group Policy Editor.

For the steps on enabling the optimization using a Group Policy Editor, see the *Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

 **NOTE:** Install the Horizon Agent before you install Microsoft Teams.

To check whether Microsoft Teams is launched in optimized mode, click the three dots next to your profile picture, and go to **About > Version**. A banner that says **VMware Media Optimized** is displayed, indicating that Microsoft Teams has launched in optimized mode. Alternatively, you can click the three dots next to your profile picture, and go to **Settings > Devices > Audio devices**. . Check whether the local headset names are displayed in the **Speakers** and **Microphone** drop-down lists, instead of **Virtual DevTap** or **VDI**.

## Microsoft Teams optimization feature matrix

**Table 82. Microsoft Teams optimization feature matrix**

| Scenario                                                     | ThinOS                                                                                      |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Long audio call                                              | Supported                                                                                   |
| Call—Make an audio call                                      | Supported                                                                                   |
| Call—Answer an audio call                                    | Supported                                                                                   |
| Call—Make a video call                                       | Supported                                                                                   |
| Call—Answer a video call                                     | Supported                                                                                   |
| Call—Turn the camera on or off                               | Supported                                                                                   |
| Call—Enter or exit full screen                               | Supported                                                                                   |
| Call—Hold or resume a call                                   | Supported                                                                                   |
| Call—End call                                                | Supported                                                                                   |
| Call—Mute or unmute audio                                    | Supported                                                                                   |
| Call—Transfer                                                | Not supported                                                                               |
| Call—Consult then transfer                                   | Not tested                                                                                  |
| Call—Keypad                                                  | Not tested                                                                                  |
| Call—Start or stop recording                                 | Not tested                                                                                  |
| Call—Turn off or turn on incoming video                      | Supported                                                                                   |
| Call—Group video call                                        | Supported                                                                                   |
| Call—Group audio call                                        | Supported                                                                                   |
| Call—Invite someone during a call                            | Supported                                                                                   |
| Meeting                                                      | Supported                                                                                   |
| Share screen—Desktop                                         | Supported                                                                                   |
| Share screen—PowerPoint                                      | Supported                                                                                   |
| Chat                                                         | Supported                                                                                   |
| Audio or video call in VDI server desktop                    | Supported                                                                                   |
| Audio or video call in published Microsoft Teams application | Not tested                                                                                  |
| Devices—Plug in or disconnect the headset                    | Supported—Dell Technologies recommends to not plug in or disconnect headsets during a call. |

**Table 82. Microsoft Teams optimization feature matrix (continued)**

| Scenario                                 | ThinOS                                                                                    |
|------------------------------------------|-------------------------------------------------------------------------------------------|
| Devices—Switch headset                   | Supported—Dell Technologies recommends to not switch headsets during a call.              |
| Devices—Plug in or disconnect the camera | Supported—Dell Technologies recommends to not plug in or disconnect camera during a call. |
| Devices—Switch camera                    | Not supported                                                                             |
| Headset buttons—Answer/Mute/End Call     | Not supported                                                                             |

## Microsoft Teams optimization limitations and known issues

- Depending on your network bandwidth latency, the audio quality may fluctuate. To avoid this issue, ensure that your network bandwidth is adequate for audio or video call. Dell Technologies recommends 200 Kbps or higher network speed for a single client.
- Audio is still played through the first headset when you switch to the second headset during the call. This issue is observed when you have installed the JVDI package on the thin client. Workaround is that if you are using Microsoft Teams (or Zoom), do not install the Cisco JVDI package. This issue is due to Cisco limitation.
- When using a headset, you cannot answer or end the call through headset buttons. This issue is due to a limitation of Microsoft Teams.
- Sharing screen when Microsoft Teams is published as an application is not supported. This issue is due to a limitation of VMware Horizon.
- There maybe inconsistency on how the video is displayed during video calls. The issue fixes by itself after 5 minutes.
- Audio may be inconsistent during video calls. Try the following:
  - Sometimes audio is distorted during a call. Workaround is to change the headset.
  - Sometimes there can be network issues. Ensure that your network bandwidth is adequate for audio and video calls. Dell Technologies recommends 200 Kbps or higher network speed for a single client.

## Teradici PCoIP update

Updated the Teradici PCoIP package version to 21.03.1\_10. No new features are added.

## Microsoft Windows Virtual Desktop update

The following peripherals are supported from Microsoft Windows Virtual Desktop version 1.3\_1196:

- Camera—Connect the camera to client, and then launch the RDP session. You must disable the Remote Gateway option for the camera to work.
- Printer—RDP session supports LPT, LPD and SMB printers.

 **NOTE:** RDP protocol supports standard printer.

For more information, see the *Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Unified Communications optimization packages update

- Updated Cisco Webex Meetings VDI to version 41.6.1.10.2.
- Updated Cisco Webex VDI to version 41.6.1.19187.1.
- Updated Cisco Jabber to version 14.0.1.305989.2.
- Updated Zoom to version 5.7.6.20822.1.

## Identity automation updates

Identity Automation QwickAccess package is updated to 2.0.0.3. The following are the enhancements:

- Identity Automation QuickAccess supports Citrix Broker agent and supports user binding card in same domain with Citrix Broker agent. Users in different domains are not supported and not recommended.
- API key is treated as password in Wyse Management Suite policy settings, Admin Policy Tool, and ThinOS local user interface. It is not displayed in plain text.
- Identity Automation QuickAccess is verified based on Identity server version 1.6.0.1.
- PIN reset is removed in this release.

## Imprivata PIE limitation

Imprivata PIE is not supported in this release.

## ThinOS updates

- From ThinOS 9.1.4097 onwards, you can enable or disable IPv6 from **Advanced > Network Configuration > Common Settings > Enable IPv6** in Wyse Management Suite policy settings or the Admin Policy Tool. IPv6 is enabled by default for both wired and wireless networks.
- The window that is displayed when you change a group in Wyse Management Suite is changed.
- The window that is displayed when you update packages and the operating system firmware is changed.
- The **HTTP/HTTPS** proxy default port is changed from 808 to 8080.

For more information about the updates, see the *Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Updates to Admin Policy Tool and Wyse Management Suite policy settings

- **Disabling Push Notification—Ignore MQTT** in **Services > WDA Settings** is changed to **Disabling Push Notification**.
- **VNCD Server**—Added input validation for the VNCD Server field in **Services > VNC Service**. You can only enter values in the format of IP addresses.
- **Disable Shutdown**—Added **Disable Shutdown** option in **Login Experience > Login Settings**. This option disables the **Shutdown** option in the ThinOS **Shutdown** window, and also disables the physical shutdown button on the thin client.
- **Login Expire Time**—Added **Login Expire Time** option in **Login Experience > Login Settings**. Using this option, you can set a countdown after you log in. After the countdown expires, to launch any new desktop or application, you must enter the user password. After you enter the password, the countdown starts again. Desktop or applications that you launch before the expiry of the countdown remains open and are not affected. To disable the countdown, set the value to **0**.  
 **NOTE:** Configuration of this setting is not supported in this release.
- **Reboot on monitor connection**—Changed the default value of **Reboot on monitor connection** option under **Enable ProveID Embedded Mode** in **Login Experience > 3rd Party Authentication > Imprivata** to disabled.
- **API Key**—Changed the **API Key** field option in **Login Experience > Login Settings > Identity Automation > Identity Automation** to password type to hide the input values.
- **Enable IPv6**—Added the option **Enable IPv6** in **Network Configuration > Common Settings** to enable or disable IPv6.
- **Scheduled Reboot and Shutdown Settings**—Added time format validation for the following fields under **System Settings > Scheduled Reboot Settings** and **Scheduled Shutdown Settings**:
  - **Scheduled Reboot Settings > Scheduled Reboot Time**
  - **Scheduled Reboot Settings > Reboot after Idle Time**
  - **Scheduled Shutdown Settings > Scheduled Shutdown Time**
  - **Scheduled Shutdown Settings > Shutdown after Idle Time** **NOTE:** If you change the time zone on the local client, the **Scheduled Reboot settings** and **Scheduled Shutdown settings** takes effect only after a reboot.
- **Granular Control of Peripherals**—Added **Granular Control of Peripherals** in **Privacy & Security > Account Privileges** to make the selected tabs visible in the **Peripherals** window. To see this option, you must set the privilege level as **Customize** and enable **Peripherals**.
- **DHCP**—Updated the **DHCP** option in **Privacy & Security > Account Privileges**. The setting is enabled by default. To see this option, you must set the privilege level as **Customize** and enable **Network Setup**.
- **Allow High Efficiency Video Decoding**—Added **Allow High Efficiency Video Decoding** option in **Session Settings > Blast Session Settings**.

**i** **NOTE:** OptiPlex 3000 Thin Client does not support this feature.

- **On Desktop**—Moved **On Desktop** option from **Session Settings > Citrix Session Settings** to **Session Settings > Global Session Settings**.
- **Business Hour Settings**—Added **Business Hour Settings** under **Services > WDA Settings**. Administrators can now enable or disable session reporting and enable configure devices to do session reporting outside of business hours. Administrators can also enable configure devices to apply configurations outside of business hours.

**i** **NOTE:** Configuration of this setting is not supported in this release.

For more information about the updates, see the *Dell Wyse ThinOS 9.1.4097, 9.1.4234, and later versions Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Tested environments matrix

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

**Table 83. Tested environment—General components**

| Component                                     | Version                      |
|-----------------------------------------------|------------------------------|
| Wyse Management Suite (cloud and on-premises) | 3.5/3.3.1                    |
| Citrix ADC (formerly NetScaler)               | 12.1/13.0                    |
| StoreFront                                    | 1912 LTSR and later versions |

**Table 84. Test environment—Citrix**

| Citrix Virtual Apps and Desktops                                                         | Windows 10 | Windows Server 2016 | Windows Server 2019 | APPs   |
|------------------------------------------------------------------------------------------|------------|---------------------|---------------------|--------|
| Citrix Virtual Apps and Desktops/Citrix Virtual Apps 7.15 LTSR Cumulative Update 5 (CU5) | Tested     | Tested              | Not tested          | Tested |
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)                                       | Tested     | Tested              | Tested              | Tested |
| Citrix Virtual Apps and Desktops 7 2103                                                  | Tested     | Tested              | Tested              | Tested |

**Table 85. Tested environment—VMware Horizon**

| VMware              | Windows 10 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | Windows Server 2016 APPs | Windows Server 2019 APPs |
|---------------------|------------|------------------------|---------------------|---------------------|--------------------------|--------------------------|
| VMware Horizon 7.12 | Tested     | Not tested             | Tested              | Tested              | Tested                   | Tested                   |
| VMware Horizon 2006 | Tested     | Not applicable         | Not tested          | Tested              | Not tested               | Tested                   |
| VMware Horizon 2103 | Tested     | Not applicable         | Tested              | Tested              | Tested                   | Tested                   |

**Table 86. Test environment—Microsoft RDP**

| Microsoft RDP                | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|------------------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| Remote Desktop Services 2016 | Tested     | Tested     | Not tested             | Not tested             | Tested              | Not tested          | Tested |
| Remote Desktop Services 2019 | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Tested              | Tested |

**Table 87. Test environment—WVD**

| Windows Virtual Desktop | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|-------------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| 2019 (MS-Prod)          | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |
| 2020 (ARMv2)            | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |

**Table 88. Tested environment—Skype for Business**

| Citrix VDI                                                                                        | Operating system    | RTME Client | RTME Agent | Skype for Business client | Skype for Business Server |
|---------------------------------------------------------------------------------------------------|---------------------|-------------|------------|---------------------------|---------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br><br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 2.9.300     | 2.9.300    | Skype for Business 2016   | Skype for Business 2015   |
|                                                                                                   | Windows server 2016 |             |            |                           |                           |
|                                                                                                   | Windows server 2019 |             |            |                           |                           |

**Table 89. Tested environment—Skype for Business**

| VMware VDI          | Operating system    | Skype for Business Client | Skype for Business Agent | Skype for Business client | Skype for Business Server |
|---------------------|---------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| VMware Horizon 7.12 | Windows 10          | 5.4, 8.2                  | 7.12, 8.2                | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2103 | Windows server 2016 | 5.4, 8.2                  | 7.12, 8.2                | Skype for Business 2016   | Skype for Business 2015   |
|                     | Windows server 2019 | Not tested                | Not tested               | Not tested                | Not tested                |

**Table 90. Tested environment—JVDI**

| Citrix VDI                                                                                        | Operating system    | JVDI   | JVDI agent | Jabber software |
|---------------------------------------------------------------------------------------------------|---------------------|--------|------------|-----------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br><br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 14.0.1 | 14.0.1     | 14.0.1          |
|                                                                                                   | Windows server 2016 |        |            |                 |
|                                                                                                   | Windows server 2019 |        |            |                 |

**Table 91. Tested environment—JVDI**

| VMware VDI          | Operating system    | JVDI       | JVDI agent | Jabber software |
|---------------------|---------------------|------------|------------|-----------------|
| VMware Horizon 7.12 | Windows 10          | 14.0.1     | 14.0.1     | 14.0.1          |
|                     | Windows server 2016 | 14.0.1     | 14.0.1     | 14.0.1          |
| VMware Horizon 2103 | Windows server 2019 | Not tested | Not tested | Not tested      |

**Table 92. Tested environment—Zoom**

| Citrix VDI                                                                                        | Operating system    | Zoom package | Zoom software |
|---------------------------------------------------------------------------------------------------|---------------------|--------------|---------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br><br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 5.7.6.20822  | 5.7.6         |
|                                                                                                   | Windows server 2016 |              |               |
|                                                                                                   | Windows server 2019 |              |               |



**Table 93. Tested environment—Zoom**

| VMware VDI          | Operating system    | Zoom package | Zoom software |
|---------------------|---------------------|--------------|---------------|
| VMware Horizon 7.12 | Windows 10          | 5.7.6.20822  | 5.7.6         |
| VMware Horizon 2103 | Windows server 2016 | 5.7.6.20822  | 5.7.6         |
|                     | Windows server 2019 | Not tested   | Not tested    |

**Table 94. Tested environment—Cisco Webex Teams**

| Citrix VDI                                                                                    | Operating system    | Webex VDI    | Webex Teams software |
|-----------------------------------------------------------------------------------------------|---------------------|--------------|----------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 41.6.1.19187 | 41.6.1.19162         |
|                                                                                               | Windows server 2016 |              |                      |
|                                                                                               | Windows server 2019 |              |                      |

**Table 95. Tested environment—Cisco Webex Teams**

| VMware VDI          | Operating system    | Webex Teams  | Webex Teams software |
|---------------------|---------------------|--------------|----------------------|
| VMware Horizon 7.12 | Windows 10          | 41.6.1.19187 | 41.6.0.19162         |
| VMware Horizon 2103 | Windows server 2016 | 41.6.1.19187 | 41.6.0.19162         |
|                     | Windows server 2019 | Not tested   | Not tested           |

**Table 96. Tested environment—Cisco Webex Meetings**

| Citrix VDI                                                                                    | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|-----------------------------------------------------------------------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2103 | Windows 10          | 41.6.1.10.2        | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.6 to 41.10. |
|                                                                                               | Windows server 2016 |                    |                                                                                                             |
|                                                                                               | Windows server 2019 |                    |                                                                                                             |

## Supported peripherals

 **NOTE:** The supported peripherals are not limited to the peripherals devices listed in this section.

**Table 97. Supported peripherals**

| Product category | Peripherals                                         |
|------------------|-----------------------------------------------------|
| Audio devices    | Dell Slim Soundbar - Ariana - SB521A                |
|                  | Dell Pro Stereo Headset - Cortez - WH3022.          |
|                  | Dell Pro Stereo Soundbar - AE515M - Nirvana M       |
|                  | Dell Stereo Soundbar - AC511M - Potential M         |
|                  | Jabra Engage 65 MS Wireless Headset - 9559-553-125  |
|                  | Jabra Evolve 65 MS Stereo - Headset - 6599-823-309  |
|                  | Dell Mobile Adapter Speakerphone - MH3021P - Apollo |
|                  | Dell Pro Stereo Headset UC350                       |
|                  | Jabra GN2000                                        |
|                  | Jabra PRO 9450                                      |
|                  | Jabra Speak 510 MS, Bluetooth                       |

**Table 97. Supported peripherals (continued)**

| Product category | Peripherals                                                                      |
|------------------|----------------------------------------------------------------------------------|
|                  | Jabra BIZ 2400 Duo USB MS                                                        |
|                  | Jabra Evolve 75                                                                  |
|                  | Jabra UC SUPREME MS Bluetooth ( link 360 )                                       |
|                  | Jabra EVOLVE UC VOICE 750                                                        |
|                  | Plantronics SAVI W740/Savi W745 (supportd USB only, does not support Bluetooth ) |
|                  | Plantronics Blackwire 5220 Series                                                |
|                  | Plantronics AB J7 PLT                                                            |
|                  | Plantronics Blackwire C5210                                                      |
|                  | Plantronics BLACKWIRE C710, Bluetooth                                            |
|                  | Plantronics Calisto P820-M                                                       |
|                  | Plantronics Voyager 6200 UC                                                      |
|                  | SENNHEISER SP 10 ML Speakerphone for Lync                                        |
|                  | SENNHEISER SC 660 USB ML                                                         |
|                  | SENNHEISER USB SC230                                                             |
|                  | SENNHEISER D 10 USB ML-US Wireless DECT Headset                                  |
|                  | SENNHEISER SC 40 USB MS                                                          |
|                  | SENNHEISER SP 10 ML Speakerphone for Lync                                        |
|                  | Sennheiser SDW 5 BS-EU                                                           |
|                  | Logitech S-150                                                                   |
|                  | POLYCOM Deskphone CX300                                                          |
|                  | PHILIPS - analog                                                                 |
|                  | Logitech h150 - analog                                                           |
|                  | LFH3610/00 SPEECHMIKE PREMIUM (only support redirect)                            |
|                  | Nuance PowerMic II (suggest to redirect whole device)                            |
| Camera           | Logitech BRIO 4K Ultra HD Webcam - 960-001105                                    |
|                  | Logitech C525 HD Webcam - 960-000715                                             |
|                  | Logitech C930e HD Webcam - 960-000971                                            |
|                  | Logitech C920 HD Pro Webcam                                                      |
|                  | Logitech HD Webcam C525                                                          |
|                  | Microsoft LifeCam HD-3000                                                        |
|                  | Logitech C930e HD Webcam                                                         |
|                  | Logitech C922 Pro Stream Webcam                                                  |
|                  | Logitech C910 HD Pro Webcam                                                      |
|                  | Logitech C925e Webcam                                                            |
|                  | Poly EagleEye Mini webcam                                                        |
|                  | Logitech BRIO 4K Webcam                                                          |
|                  | Jabra PanaCast 4K Webcam                                                         |

**Table 97. Supported peripherals (continued)**

| Product category | Peripherals                                           |
|------------------|-------------------------------------------------------|
| Displays         | Dell UltraSharp 24 Monitor - U2422H                   |
|                  | Dell 24 Monitor - P2422H                              |
|                  | Dell UltraSharp 24 USB-C HUB Monitor - U2422HE        |
|                  | Dell Collaboration 24 USB-C Hub Monitor - C2422HE     |
|                  | Dell 24 USB-C Hub Monitor - P2422HE                   |
|                  | Dell Collaboration 34 USB-C Hub Monitor - C3422WE     |
|                  | Dell UltraSharp 27 USB-C HUB Monitor - U2722DE        |
|                  | Dell 27 USB-C Hub Monitor - P2722HE                   |
|                  | Dell UltraSharp 27 Monitor - U2722D                   |
|                  | Dell Collaboration 27 USB-C Hub Monitor - C2722DE     |
|                  | Dell 27 Monitor - P2722H                              |
|                  | Dell 22 Monitor - P2222H                              |
|                  | Dell 24 Monitor - P2421                               |
|                  | Dell 24 Monitor - P2421D                              |
|                  | Dell UltraSharp 34 Curved USB-C HUB Monitor - U3421WE |
|                  | Dell 20 Monitor E2020H                                |
|                  | Dell 27 Monitor - P2720D                              |
|                  | Dell UltraSharp 25 USB-C Monitor - U2520D             |
|                  | Dell 24 Monitor E2420HS                               |
|                  | Dell 27 Monitor - P2720D - P2720DC                    |
|                  | Dell 23 Monitor - P2319H                              |
|                  | Dell 27 Monitor E2720HS - E2720H                      |
|                  | Dell 27 Monitor E2720H - E2720HS                      |
|                  | Dell 24 Touch Monitor - P2418HT                       |
|                  | Dell 19 Monitor E1920H                                |
|                  | Dell UltraSharp 32 4K USB-C Monitor - U3219Q          |
|                  | Dell 24 Monitor E2420H                                |
|                  | Dell U2718Q (3840x2160)                               |
|                  | Dell U2719D (1920x1080)                               |
|                  | Dell P2719H (1920*1080)                               |
|                  | Dell P2715Q (3840x2160)                               |
|                  | Dell S2719HS (1920x1080)                              |
|                  | Dell S2817Q (3840x2160)                               |
|                  | Dell U2713HM (2560x1440)                              |
|                  | Dell U2718Q (3840x2160)                               |
|                  | Dell P2418HZ                                          |
|                  | Dell U3219Q (3840x2160)                               |

**Table 97. Supported peripherals (continued)**

| Product category                   | Peripherals                                                                 |
|------------------------------------|-----------------------------------------------------------------------------|
|                                    | Dell U3419W (3440 x1440)                                                    |
|                                    | Dell P2415Q (3840X2160)                                                     |
| External Data Storage              | Dell USB Slim DVD +/- RW Drive - DW316 - Agate                              |
| Input devices (Keyboard and Mouse) | Dell Multi-Device Wireless Keyboard and Mouse Combo - KM7120W - Felix       |
|                                    | Dell Multi-Device Wireless Mouse - MS5320W - Comet                          |
|                                    | Dell Multimedia Keyboard - KB216_BLACK - Rusty                              |
|                                    | Dell Optical Mouse - MS116_BLACK - Sapphire                                 |
|                                    | Dell Wired Mouse with Fingerprint Reader - MS819 - Ultramarine              |
|                                    | Dell KB813 Smartcard Keyboard - KB813 - Cardinal                            |
|                                    | Dell Mobile Pro Wireless Mice - MS5120W_Black - Splinter                    |
|                                    | Dell Business Multimedia Keyboard - KB522 - Scarlet                         |
|                                    | Dell Mobile Wireless Mouse - MS3320W_Black - Dawson                         |
|                                    | Dell Premier Multi-Device Wireless Keyboard and Mouse - Acadia IO - KM7321W |
|                                    | Dell Pro Wireless Keyboard and Mouse - Tasman (previous Windsor) - KM5221W  |
|                                    | Dell Laser Wired Mouse - MS3220_Black - Morty                               |
|                                    | Dell Optical Wireless Mouse - WM122                                         |
|                                    | Dell Optical Wireless Mouse - WM123                                         |
|                                    | Dell Keyboard KB216p                                                        |
|                                    | DELL wireless Keyboard/mouse KM632                                          |
|                                    | DELL wireless Keyboard/mouse KM714                                          |
|                                    | Dell Keyboard KB212-B                                                       |
|                                    | Bloomberg Keyboard STB 100                                                  |
|                                    | Microsoft Arc Touch Mouse 1428                                              |
|                                    | Microsoft Ergonomic Keyboard                                                |
|                                    | Rapoo E6100, bluetooth                                                      |
| Other                              | Intuos Pro wacom                                                            |
| Printers                           | Dell B1165nfw Mono Multifunction Printer                                    |
|                                    | Dell B1265dnf Multifunction Laser Printer                                   |
|                                    | Dell B2360d Laser Printer                                                   |
|                                    | HP M403D                                                                    |
|                                    | Brother DCP-7190DW                                                          |
|                                    | Dell B2360dn Laser Printer                                                  |
|                                    | Lexmark X864de                                                              |
|                                    | HP LaserJet P2055d                                                          |
|                                    | HP Color LaserJet CM1312MFP                                                 |
|                                    |                                                                             |
| Smart card readers                 | OMNIKEY HID 3021                                                            |
|                                    | OMNIKEY OK CardMan3121                                                      |

**Table 97. Supported peripherals (continued)**

| Product category                            | Peripherals                                      |
|---------------------------------------------|--------------------------------------------------|
|                                             | HID OMNIKEY 5125                                 |
|                                             | HID OMNIKEY 5421                                 |
|                                             | SmartOS powered SCR335                           |
|                                             | SmartOS powered SCR3310                          |
|                                             | Cherry keyboard RS 6600 with smart card          |
|                                             | Cherry keyboard RS 6700 with smart card          |
|                                             | Cherry keyboard KC 1000 SC with smart card       |
|                                             | Dell keyboard KB813 (Smartcard reader)           |
|                                             | Dell Keyboard SK-3205 (Smartcard reader)         |
|                                             | IDBridge CT31 PIV                                |
|                                             | Gemalto IDBridge CT710                           |
|                                             | GemPC Twin                                       |
| Storage                                     | Sandisk cruzer 8 GB                              |
|                                             | SanDisk cruzer 16G                               |
|                                             | SanDisk USB3.1 and Type-C 16GB                   |
|                                             | Kingston DTM30 32GB                              |
|                                             | Kingston DT microDuo 3C 32GB                     |
|                                             | Kingston DataTraveler G3 8 GB                    |
|                                             | Bano type-c 16B                                  |
|                                             | SanDisk Ultra Fit 32G                            |
|                                             | Dell External Tray Load ODD (Agate) (DVD Writer) |
|                                             | Samsung portable DVD Writer SE-208               |
| Teradici remote cards Teradici remote cards | Teradici host card 2220                          |
|                                             | Teradici host card 2240                          |

## Supported smart cards

**Table 98. Supported smart cards**

| Smart Card information from the ThinOS event log | Driver           | Provider (CSP)                             | Card type                        |
|--------------------------------------------------|------------------|--------------------------------------------|----------------------------------|
| ActivIdentity V1                                 | ActivClient 7.1  | ActivClient Cryptographic Service Provider | Oberthur CosmopolIC 64k V5.2     |
| ActivIdentity V1                                 | ActivClient 7.1  | ActivClient Cryptographic Service Provider | Gemalto Cyberflex Access 64K V2c |
| ActivIdentity v2 card                            | ActiveClient 7.2 | ActivClient Cryptographic Service Provider | Gemalto TOPDLGX4                 |
| ActivIdentity v2 card                            | ActiveClient 7.2 | ActivClient Cryptographic Service Provider | G&D SCE 3.2                      |

**Table 98. Supported smart cards (continued)**

| Smart Card information from the ThinOS event log | Driver                             | Provider (CSP)                                   | Card type                                        |
|--------------------------------------------------|------------------------------------|--------------------------------------------------|--------------------------------------------------|
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider       | Oberthur IDOne 5.5                               |
| ActivIdentity v2 card                            | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider       | Oberthur Cosmo V8                                |
| ActivIdentity crescendo card                     | ActiveClient 7.2                   | ActivClient Cryptographic Service Provider       | Giesecke and Devrient SmartCafe Expert 7.0 (T=0) |
| ID Prime MD v 4.0.2                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 840                                   |
| ID Prime MD v 4.0.2 (Gemalto 840)                | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 840 B                                 |
| ID Prime MD v 4.1.0                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 3810 MIFARE 1K                        |
| ID Prime MD v 4.1.3 (Gemalto 3811)               | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 3811 Mifare-Desfire                   |
| ID Prime MD v 4.1.1                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 830-FIPS                              |
| ID Prime MD v 4.3.5                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 830-FIPS Rev B                        |
| ID Prime MD v 4.4.2                              | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDPrime MD 940                                   |
| Etoker Java (aladdin)                            | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | IDCore30B eToken 1.7.7                           |
| Etoker Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 510x                              |
| Etoker Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110                              |
| Etoker Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110 FIPS                         |
| Etoker Java (aladdin) (black USB drive)          | Safenet Authentication Client 10.8 | eToken Base Cryptographic Provider               | SafeNet eToken 5110 CC                           |
| SafeNet High Assurance Applets Card              | SafeNet High Assurance Client 2.12 | SafeNet Smart Card Key Storage Provider          | SC650 (SafeNet SC650 4.1t)                       |
| A.E.T. Europe B.V.                               | SafeSign-Identity-Client-3.0.76    | SafeSign Standard Cryptographic Service Provider | Giesecke & Devrient StarCos 3.0 T=0/1 0V300      |
| A.E.T. Europe B.V.                               | SafeSign-Identity-Client-3.0.76    | SafeSign Standard Cryptographic Service Provider | Giesecke & Devrient StarCos 3.2                  |
| PIV (Yubico) (black USB drive)                   | YubiKey PIV Manager                | Microsoft Base Smart Card Crypto Provider        | YubiKey 4.3.3                                    |
| PIV (Yubico Neo ) (black USB drive)              | Yubikey Manager v 1.1.4            | Microsoft Base Smart Card Crypto Provider        | YubiKey 4.3.3                                    |
| cv cryptovision gmbh (c) v1.0ns                  | cv_act_scinterface_6.1.6           | cv act sc/interface CSP                          | Giesecke & Devrient StarCos 3.2                  |
| N/A (Buypass BelDu)                              | Net iD 6.8.1.31, 2.0.44            | Net iD - CSP                                     | BelDu 6.0.4                                      |
| N/A (GEMALTO IDPrime SIS)                        | Net iD 6.8.1.31, 2.0.44            | Net iD - CSP                                     | IDPrime SIS 4.0.2                                |

**Table 98. Supported smart cards (continued)**

| Smart Card information from the ThinOS event log | Driver                  | Provider (CSP)         | Card type              |
|--------------------------------------------------|-------------------------|------------------------|------------------------|
| Rutoken ECP 2.0 (2100)                           | Rutoken Drivers 4.6.3.0 | Aktiv ruToken CSP v1.0 | Rutoken ECP 2.0 (2100) |
| Rutoken 2151                                     | Rutoken Drivers 4.6.3.0 | Aktiv ruToken CSP v1.0 | Rutoken (2151)         |

## Known issues

**Table 99. Known issues**

| Issue ID  | Description                                                                                                                                                                                     | Workaround                                                               |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| DTOS-3450 | WiFi6 is not supported on OptiPlex 3000 Thin Clients that run ThinOS 9.1.4097.                                                                                                                  | There is a no workaround in this release.                                |
| DTOS-4339 | Bluetooth headset that is connected to the thin client produces a static noise, and the audio is intermittent.                                                                                  | There is a no workaround in this release.                                |
| DTOS-4322 | When you push BIOS settings using Wyse Management Suite, if you are setting a new password, the password must be pushed first. You cannot push other setting changes along with a new password. | Workaround is to sync BIOS password in the Wyse Management Suite server. |
| DTOS-4280 | After you resume from S3 sleep state, Bluetooth headset that is connected to the thin client shows connected but does not play audio.                                                           | Reconnect the Bluetooth headset.                                         |
| DTOS-4251 | If you disconnect the USB Type-C cable, and reconnect it after 30s, the monitor shows a black screen.                                                                                           | Power off and power on the monitor.                                      |
| DTOS-4122 | Bluetooth mouse cursor does not move smoothly.                                                                                                                                                  | Do not connect Bluetooth mouse and Bluetooth headset together.           |
| DTOS-4383 | Mouse and keyboard do not work for 2 minutes, if you reboot the client with a 3D mouse connected.                                                                                               | There is a no workaround in this release.                                |

# Security package 20220330\_1.0.1.2 for ThinOS 9.1.6108

## Release summary

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. This package fixes the OpenSSL vulnerability issue CVE-2022-0778 by upgrading OpenSSL from 1.1.1l to 1.1.1n and patching OpenSSL 1.0.2t with CVE-2022-0778 patch. This security package is only applicable for ThinOS version 9.1.6108.

## Version

Security\_Package\_20220330\_1.0.1.2.pkg

## Release date

April 2022

## Supported platforms

- Wyse 3040 Thin Client
- Wyse 5070 Thin Client
- Wyse 5470 Thin Client
- Wyse 5470 All-in-One Thin Client
- OptiPlex 3000 Thin Client

## Important notes

- The security package is only applicable for ThinOS version 9.1.6108. Future ThinOS releases will contain this fix.
- After you install **Security\_Package\_20220330\_1.0.1.2.pkg**, do not uninstall it from ThinOS 9.1.6108. If you uninstall the package, the security fix gets removed.
- When you upgrade ThinOS 9.1.6108 that has **Security\_Package\_20220330\_1.0.1.2.pkg** installed, to the next version of ThinOS, the pkg will be removed by default. The security fix is included as part of the next ThinOS version.

## Tested BIOS details

Table 100. Tested BIOS details

| Platform name                  | BIOS version |
|--------------------------------|--------------|
| Wyse 3040 Thin Client          | 1.2.5        |
| Wyse 5070 Economy Thin Client  | 1.15.1       |
| Wyse 5070 Standard Thin Client | 1.15.1       |
| Wyse 5070 Extended Thin Client | 1.15.1       |



**Table 100. Tested BIOS details (continued)**

| Platform name                    | BIOS version |
|----------------------------------|--------------|
| Wyse 5470 All-in-One Thin Client | 1.13.0       |
| Wyse 5470 Mobile Thin Client     | 1.12.0       |
| OptiPlex 3000 Thin Client        | 1.0.2        |

If you are upgrading BIOS on the Wyse 5470 Thin Client, ensure that you have connected the device to the external power source using the power adapter. If you do not connect the power adapter, BIOS update fails. In this event, connect an external power source and reboot twice to install BIOS.

 **NOTE:** When you use the BIOS upgrade feature for the first time, the BIOS package downloads even if the existing BIOS version is the same version that is uploaded.

## Download the application package

### Steps

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. In the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** field, type the model number of your device.
3. Select the product from the searched results to load the product page.
4. On the product support page, click **Drivers & downloads**.
5. Select the operating system as **ThinOS**.
6. Locate the application package that you require.
7. Download the application package file.

## Install the application package using Wyse Management Suite

### Prerequisites

- Upgrade the ThinOS firmware to version 9.1.6108.
- Create a group in Wyse Management Suite with a group token.
- The thin client must be registered to Wyse Management Suite.
- Download the application package. See, [Download the application package](#).

### Steps

1. Go to the **Groups & Configs** page and select a group.
2. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**.  
The **Configuration Control | ThinOS window** is displayed.
3. In the left pane, click **Standard**.
4. From the **Standard** menu, expand **Firmware**, and click **Application Package Updates**.  
 **NOTE:** If you cannot locate the **Application Package Updates** option under the **Standard** tab, use the **Advanced** tab.
5. Click **Browse**, and select **Security\_Package\_20220330\_1.0.1.2.pkg**.
6. From the drop-down menu, select the uploaded application package.
7. Click **Save & Publish**.  
The thin client downloads the package to install and restarts. The security package is installed.

# Security package 20220330\_1.0.1.2

This package fixes the OpenSSL vulnerability issue CVE-2022-0778 by upgrading OpenSSL from 1.1.1l to 1.1.1n and patching OpenSSL 1.0.2t with CVE-2022-0778 patch.

## Tested environments matrix

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

**Table 101. Tested environment—General components**

| Component                                          | Version                      |
|----------------------------------------------------|------------------------------|
| Wyse Management Suite (cloud and on-premises)      | 3.6 241                      |
| Configuration UI package for Wyse Management Suite | 1.5 324                      |
| Imprivata OneSign                                  | 7.7.000.10                   |
| Citrix ADC (formerly NetScaler)                    | 12.1/13.0                    |
| StoreFront                                         | 1912 LTSR and later versions |

**Table 102. Test environment—Citrix**

| Citrix Virtual Apps and Desktops                   | Windows 10 | Windows Server 2016 | Windows Server 2019 | APPs   |
|----------------------------------------------------|------------|---------------------|---------------------|--------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Tested     | Tested              | Tested              | Tested |
| Citrix Virtual Apps and Desktops 7 2112            | Tested     | Tested              | Tested              | Tested |

**Table 103. Tested environment—VMware Horizon**

| VMware              | Windows 11 | Windows 10 | Windows Server 2016 | Windows Server 2019 | Windows Server 2016 APPs | Windows Server 2019 APPs | Ubuntu 20.04                                           |
|---------------------|------------|------------|---------------------|---------------------|--------------------------|--------------------------|--------------------------------------------------------|
| VMware Horizon 7.12 | Not tested | Tested     | Tested              | Not tested          | Tested                   | Not tested               | Not tested                                             |
| VMware Horizon 7.13 | Not tested | Tested     | Not tested          | Tested              | Not tested               | Not tested               | Not tested                                             |
| VMware Horizon 2106 | Not tested | Tested     | Tested              | Tested              | Tested                   | Tested                   | Not tested                                             |
| VMware Horizon 2111 | Tested     | Tested     | Tested              | Tested              | Tested                   | Tested                   | Tested—Only basic connection is tested on Ubuntu 20.04 |

**Table 104. Test environment—Microsoft RDP**

| Microsoft RDP                | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|------------------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| Remote Desktop Services 2016 | Tested     | Tested     | Not tested             | Not tested             | Tested              | Not tested          | Tested |
| Remote Desktop Services 2019 | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Tested              | Tested |

**Table 105. Test environment—AVD**

| Azure Virtual Desktop | Windows 7  | Windows 10 | Windows Server 2008 R2 | Windows Server 2012 R2 | Windows Server 2016 | Windows Server 2019 | APPs   |
|-----------------------|------------|------------|------------------------|------------------------|---------------------|---------------------|--------|
| 2019 (MS-Prod)        | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |
| 2020 (ARMv2)          | Not tested | Tested     | Not tested             | Not tested             | Not tested          | Not tested          | Tested |

**Table 106. Tested environment—Skype for Business**

| Citrix VDI                                         | Operating system    | RTME Client | RTME Agent | Skype for Business client | Skype for Business Server |
|----------------------------------------------------|---------------------|-------------|------------|---------------------------|---------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 2.9.300     | 2.9.300    | Skype for Business 2016   | Skype for Business 2015   |
|                                                    | Windows server 2016 |             |            |                           |                           |
| Citrix Virtual Apps and Desktops 7 2112            | Windows server 2019 |             |            |                           |                           |

**Table 107. Tested environment—Skype for Business**

| VMware VDI          | Operating system    | Skype for Business Client | Skype for Business Agent | Skype for Business client | Skype for Business Server |
|---------------------|---------------------|---------------------------|--------------------------|---------------------------|---------------------------|
| VMware Horizon 7.12 | Windows 10          | 5.4, 8.2, 8.4             | 7.12, 8.2, 8.4           | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2106 | Windows server 2016 | 5.4, 8.2, 8.4             | 7.12, 8.2, 8.4           | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2111 | Windows server 2019 | Not tested                | Not tested               | Not tested                | Not tested                |

**Table 108. Tested environment—JVDI**

| Citrix VDI                                         | Operating system    | JVDI            | JVDI agent | Jabber software |
|----------------------------------------------------|---------------------|-----------------|------------|-----------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 14.0.3.306553.1 | 14.0.3     | 14.0.3          |
|                                                    | Windows server 2016 |                 |            |                 |
| Citrix Virtual Apps and Desktops 7 2112            | Windows server 2019 |                 |            |                 |

**Table 109. Tested environment—JVDI**

| VMware VDI          | Operating system    | JVDI       | JVDI agent | Jabber software |
|---------------------|---------------------|------------|------------|-----------------|
| VMware Horizon 7.12 | Windows 10          | 14.0.3     | 14.0.3     | 14.0.3          |
|                     | Windows server 2016 | 14.0.3     | 14.0.3     | 14.0.3          |
| VMware Horizon 2106 | Windows server 2019 | Not tested | Not tested | Not tested      |
| VMware Horizon 2111 |                     |            |            |                 |

**Table 110. Tested environment—Zoom**

| Citrix VDI                                         | Operating system    | Zoom package | Zoom client for VDI software |
|----------------------------------------------------|---------------------|--------------|------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 5.8.4.21112  | 5.8.4 (21112)                |
|                                                    | Windows server 2016 |              |                              |

**Table 110. Tested environment—Zoom (continued)**

| Citrix VDI                              | Operating system    | Zoom package | Zoom client for VDI software |
|-----------------------------------------|---------------------|--------------|------------------------------|
| Citrix Virtual Apps and Desktops 7 2112 | Windows server 2019 |              |                              |

**Table 111. Tested environment—Zoom**

| VMware VDI          | Operating system    | Zoom package | Zoom software |
|---------------------|---------------------|--------------|---------------|
| VMware Horizon 7.12 | Windows 10          | 5.8.4.21112  | 5.8.4 (21112) |
| VMware Horizon 2103 | Windows server 2016 | 5.8.4.21112  | 5.8.4 (21112) |
| VMware Horizon 2106 | Windows server 2019 | Not tested   | Not tested    |

**Table 112. Tested environment—Cisco Webex VDI**

| Citrix VDI                                         | Operating system    | Webex VDI       | Webex Teams software |
|----------------------------------------------------|---------------------|-----------------|----------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 41.12.0.20899.1 | 41.12.0.20899        |
|                                                    | Windows server 2016 |                 |                      |
| Citrix Virtual Apps and Desktops 7 2112            | Windows server 2019 |                 |                      |

**Table 113. Tested environment—Cisco Webex VDI**

| VMware VDI          | Operating system    | Webex Teams   | Webex Teams software |
|---------------------|---------------------|---------------|----------------------|
| VMware Horizon 7.12 | Windows 10          | 41.12.0.20899 | 41.12.0.20899        |
| VMware Horizon 2106 | Windows server 2016 | 41.12.0.20899 | 41.12.0.20899        |
| VMware Horizon 2111 | Windows server 2019 | Not tested    | Not tested           |

**Table 114. Tested environment—Cisco Webex Meetings**

| Citrix VDI                                         | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|----------------------------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 41.12.6.12.1       | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.12 to 42.4. |
|                                                    | Windows server 2016 |                    |                                                                                                             |
| Citrix Virtual Apps and Desktops 7 2112            | Windows server 2019 |                    |                                                                                                             |

**Table 115. Tested environment—Cisco Webex Meetings**

| Citrix VDI          | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                                                                                                     |
|---------------------|---------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VMware Horizon 7.12 | Windows 10          | 41.12.6.12.1       | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.12 to 42.4. Webex Meeting does not work well with Horizon 2111. This is a Cisco limitation. |
| VMware Horizon 2106 | Windows server 2016 |                    |                                                                                                                                                                                             |
|                     | Windows server 2019 |                    |                                                                                                                                                                                             |

# Citrix Workspace app 2112, VMware Horizon 2111, Cisco WebEx Meetings VDI 41.12, Cisco WebEx VDI 41.12, and Zoom 5.8.4 application packages for ThinOS

## Release summary

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.

## Current versions

Citrix\_Workspace\_App\_21.12.0.18\_2.pkg

VMware\_Horizon\_2111.8.4.0.18957622\_3.pkg

Cisco\_WebEx\_Meetings\_VDI\_41.12.6.12\_1.pkg

Cisco\_WebEx\_VDI\_41.12.0.20899\_1.pkg (formerly Cisco WebEx Teams)

Zoom\_Citrix\_5.8.4.21112\_1.pkg

Zoom\_Horizon\_5.8.4.21112\_1.pkg

## Release date

January 2022

## Supported platforms

- Wyse 3040 Thin Client
- Wyse 5070 Thin Client
- Wyse 5470 Thin Client
- Wyse 5470 All-in-One Thin Client

## Important notes

- Upgrade the ThinOS firmware to 9.1.5067 before you install the application packages.
- Cisco WebEx Meetings VDI, Cisco WebEx VDI, and Zoom VDI are qualified for Citrix VDI on ThinOS 9.1.5067 with Citrix Workspace app package Citrix\_Workspace\_App\_21.12.0.18\_2.pkg.
- Cisco WebEx Meetings VDI, Cisco WebEx VDI, and Zoom VDI are qualified for VMware Blast VDI on ThinOS 9.1.5067 with VMware Horizon package VMware\_Horizon\_2111.8.4.0.18957622\_3.pkg.

# Installing the application package

## Download the application packages

### Steps

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. In the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** field, type the model number of your device.
3. Select the product from the searched results to load the product page.
4. On the product support page, click **Drivers & downloads**.
5. Select the operating system as **ThinOS**.
6. Locate the application packages that you require.
7. Download each application package file.

## Install the application package using Wyse Management Suite

### Prerequisites

- Upgrade the ThinOS firmware to 9.1.5067 before you install the application package.
- The thin client must be registered to Wyse Management Suite.
- Create a group in Wyse Management Suite with a group token.  
 **NOTE:** If you have an existing group with a valid group token, you can register the thin client to the same group.
- Ensure you have downloaded the application packages. See, [Download the application package](#).

### Steps

1. Go to the **Groups & Configs** page and select a group.
2. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**. The Configuration Control | ThinOS window is displayed.
3. In the left pane, click **Standard**.
4. From the **Standard** menu, expand **Firmware**, and click **Application Package Updates**.  
 **NOTE:** If you cannot locate the **Application Package Updates** option under the **Standard** tab, use the **Advanced** tab.
5. Click **Browse** and select the application package to upload.
6. From the drop-down menu, select the uploaded application package.
7. Click **Save & Publish**.  
The thin client downloads the package to install and restarts. The package version is upgraded.

## Compatibility

### Application package information

- Supported ThinOS application packages—The following ThinOS packages are qualified by Dell Technologies.
  - Citrix\_Workspace\_App\_21.12.0.18\_2.pkg
  - VMware\_Horizon\_2111.8.4.0.18957622\_3.pkg
  - Cisco\_WebEx\_Meetings\_VDI\_41.12.6.12\_1.pkg
  - Cisco\_WebEx\_VDI\_41.12.0.20899\_1.pkg (formerly Cisco WebEx Teams)
  - Zoom\_Citrix\_5.8.4.21112\_1.pkg
  - Zoom\_Horizon\_5.8.4.21112\_1.pkg
- Supported Firmware—ThinOS version 9.1.5067.

 **NOTE:** For information about other packages, see [ThinOS application package details](#) in the **ThinOS 9.1.5067 Release Notes**.

## Previous versions

- Citrix\_Workspace\_App\_21.9.0.25\_6.pkg
- VMware\_Horizon\_2106.8.3.0.18251983\_9.pkg
- Cisco\_WebEx\_Meetings\_VDI\_41.10.3.19\_2.pkg
- Cisco\_WebEx\_VDI\_41.10.0.20213\_4.pkg (formerly Cisco WebEx Teams)
- Zoom\_Citrix\_5.8.0.20927\_8.pkg
- Zoom\_Horizon\_5.8.0.20927\_8.pkg

## Citrix Workspace app feature matrix

**Table 116. Citrix Workspace app feature matrix**

| Feature             |                                              | ThinOS 9.1.5067 with CWA 2112 | Limitations                                                                                          |
|---------------------|----------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------|
| Citrix Workspace    | Citrix Virtual Apps                          | Supported                     | Citrix session prelaunch and session linger features are not supported. This is Linux binary design. |
|                     | Citrix Virtual Desktops                      | Supported                     | There are no limitations in this release.                                                            |
|                     | Citrix Content Collaboration (Citrix Files)  | N/A                           | N/A                                                                                                  |
|                     | Citrix Access Control Service                | N/A                           | N/A                                                                                                  |
|                     | Citrix Workspace Browser                     | N/A                           | N/A                                                                                                  |
|                     | SaaS/Webapps with SSO                        | Not supported                 | Not supported                                                                                        |
|                     | Citrix Mobile Apps                           | N/A                           | N/A                                                                                                  |
|                     | Intelligent Workspace features               | N/A                           | N/A                                                                                                  |
| Endpoint Management | Auto configure using DNS for Email Discovery | Supported                     | There are no limitations in this release.                                                            |
|                     | Centralized Management Settings              | Supported                     | There are no limitations in this release.                                                            |
|                     | App Store Updates/Citrix Auto updates        | N/A                           | N/A                                                                                                  |
| UI                  | Desktop Viewer/Toolbar                       | Supported                     | There are no limitations in this release.                                                            |
|                     | Multi-tasking                                | Supported                     | There are no limitations in this release.                                                            |
|                     | Follow Me Sessions (Workspace Control)       | Supported                     | There are no limitations in this release.                                                            |
| HDX Host Core       | Adaptive transport                           | Supported                     | There are no limitations in this release.                                                            |
|                     | Session reliability                          | Supported                     | There are no limitations in this release.                                                            |
|                     | Auto-client Reconnect                        | Supported                     | There are no limitations in this release.                                                            |

**Table 116. Citrix Workspace app feature matrix (continued)**

| Feature                 |                                    | ThinOS 9.1.5067 with CWA 2112 | Limitations                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Bi-directional Content redirection | N/A                           | N/A                                                                                                                                                                                                                                                                                                                                             |
|                         | URL redirection                    | N/A                           | URL redirection has limitations in Citrix Workspace app for Linux client. It requires launch client browser through Local app access policy (which is not supported in Linux client) to access the URL redirection blacklist URL. Citrix support recommends using Browser Content Redirection (BCR) in Linux client to replace URL redirection. |
|                         | File open in Citrix Workspace app  | N/A                           | Not supported. No local file explorer on ThinOS.                                                                                                                                                                                                                                                                                                |
|                         | Browser content redirection        | Supported                     | Browser Content Redirection (BCR) with CEF is enabled by default. ThinOS does not provide the configuration to change BCR with WebKitGKT+.                                                                                                                                                                                                      |
|                         | Multiport ICA                      | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                         | Multistream ICA                    | Not supported                 | Not supported                                                                                                                                                                                                                                                                                                                                   |
|                         | SDWAN support                      | Not supported                 | Not supported                                                                                                                                                                                                                                                                                                                                   |
| HDX IO/Devices/Printing | Local Printing                     | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                         | Generic USB Redirection            | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                         | Client drive mapping/File Transfer | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
| HDX Integration         | Local App Access                   | N/A                           | N/A                                                                                                                                                                                                                                                                                                                                             |
|                         | Multi-touch                        | N/A                           | N/A                                                                                                                                                                                                                                                                                                                                             |
|                         | Mobility pack                      | N/A                           | N/A                                                                                                                                                                                                                                                                                                                                             |
|                         | HDX Insight                        | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                         | HDX Insight with NSAP VC           | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                         | EUEM Experience Matrix             | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                         | Session Sharing                    | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
| HDX Multi-media         | Audio Playback                     | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |
|                         | Bi-directional Audio (VoIP)        | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                       |



**Table 116. Citrix Workspace app feature matrix (continued)**

| Feature |                                                       | ThinOS 9.1.5067 with CWA 2112 | Limitations                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|-------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | Webcam redirection                                    | Supported                     | Webcam redirection works for 32-bit applications. For example, Skype and GoToMeeting. You can use a 32-bit browser to verify webcam redirection online. For example, <a href="http://www.webcamtests.com">www.webcamtests.com</a> . This is Citrix binary design. Citrix Workspace app 2112 only supports built-in camera. External cameras does not work. The issue is also observed in Linux binary.                 |
|         | Video playback                                        | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                              |
|         | Flash redirection                                     | N/A                           | Citrix Linux binary supports only x86 client.                                                                                                                                                                                                                                                                                                                                                                          |
|         | Microsoft Teams Optimization                          | Supported                     | Supports Microsoft Teams optimization through HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. This is a Citrix binary design. For more information, see the Dell Wyse ThinOS Version 9.1.5067 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |
|         | Skype for business Optimization pack                  | Supported                     | Not supported through proxy server.                                                                                                                                                                                                                                                                                                                                                                                    |
|         | Cisco Jabber Unified Communications Optimization      | Supported                     | For information about limitations, see the Dell Wyse ThinOS Version 9.1.5067 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                 |
|         | Unified Communication Zoom Cloud Meeting Optimization | Supported                     | Support Zoom optimization via HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS Version 9.1.5067 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                 |

**Table 116. Citrix Workspace app feature matrix (continued)**

| Feature      |                                                                                                    | ThinOS 9.1.5067 with CWA 2112 | Limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | Unified Communication<br>Cisco Webex VDI<br>Optimization (tVDI)<br>(formerly Cisco WebEx<br>Teams) | Supported                     | Supports Cisco Webex VDI (formerly Cisco WebExTeams) optimization mode through HTTP proxy server which is configured in ThinOS Network Proxy by Admin Policy Tool or Wyse Management Suite. Supports Webex Meetings optimization mode through HTTP proxy server with anonymous, and username or password authentications. It does not support the proxy configured by DHCP Option 252. For more information, see the Dell Wyse ThinOS Version 9.1.5067 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |
|              | Unified Communication<br>Cisco Webex Meetings<br>Optimization (wVDI)                               | Supported                     | Dell Technologies recommends to wait for 10s to join a second meeting after you end the first meeting. Otherwise, VDI mode may not work. Supports Webex Meetings optimization mode through HTTP proxy server with anonymous, and username or password authentications. It does not support the proxy configured by DHCP Option 252. For more information, see the Dell Wyse ThinOS Version 9.1.5067 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                    |
|              | Windows Multimedia redirection                                                                     | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|              | UDP Audio                                                                                          | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| HDX Graphics | H.264-enhanced<br>SuperCodec                                                                       | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|              | Client hardware acceleration                                                                       | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|              | 3DPro Graphics                                                                                     | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|              | External Monitor Support                                                                           | Supported                     | For limitations, see the Dell Wyse ThinOS Version 9.1.5067 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                                                                                                                                                             |

**Table 116. Citrix Workspace app feature matrix (continued)**

| Feature        |                                                                  | ThinOS 9.1.5067 with CWA 2112            | Limitations                                                                                                            |
|----------------|------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                | True Multi Monitor                                               | Supported                                | There are no limitations in this release.                                                                              |
|                | Desktop Composition redirection                                  | N/A                                      | N/A                                                                                                                    |
|                | Location Based Services (Location available via API-description) | N/A                                      | N/A                                                                                                                    |
| Authentication | Federated Authentication (SAML/Azure AD)                         | Supported                                | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|                | RSA Soft Token                                                   | Supported                                | There are no limitations in this release.                                                                              |
|                | Challenge Response SMS (Radius)                                  | Supported                                | There are no limitations in this release.                                                                              |
|                | OKTA Multi factor authentication                                 | Limited supported (only supports Radius) | Does not support OKTA SAML authentication.                                                                             |
|                | DUO multi factor authentication                                  | Supported                                | There are no limitations in this release.                                                                              |
|                | Smart cards (CAC, PIV etc)                                       | Supported                                | There are no limitations in this release.                                                                              |
|                | User Cert Auth via NetScaler Gateway (via Browser Only)          | N/A                                      | N/A                                                                                                                    |
|                | Proximity/Contactless Card                                       | Supported                                | There are no limitations in this release.                                                                              |
|                | Credential insertion (For example, Fast Connect, Storebrowse)    | Supported                                | There are no limitations in this release.                                                                              |
|                | Pass Through Authentication                                      | Supported                                | There are no limitations in this release.                                                                              |
|                | Save credentials (on-premise and only SF)                        | N/A                                      | N/A                                                                                                                    |
|                | NetScaler nFactor Authentication                                 | Not supported                            | Not supported                                                                                                          |
|                | NetScaler Full VPN                                               | Not supported                            | Not supported                                                                                                          |
|                | Netscaler Native OTP                                             | Supported                                | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|                | Biometric Authentication such as Touch ID and Face ID            | Supported (only supports Touch ID)       | Only supports Touch ID.                                                                                                |
|                | Single Sign-On to Citrix Files App                               | N/A                                      | N/A                                                                                                                    |
|                | Single Sign on to Citrix Mobile apps                             | N/A                                      | N/A                                                                                                                    |

**Table 116. Citrix Workspace app feature matrix (continued)**

| Feature               |                                                          | ThinOS 9.1.5067 with CWA 2112 | Limitations                                                                                                            |
|-----------------------|----------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                       | Anonymous Store Access                                   | Supported                     | There are no limitations in this release.                                                                              |
|                       | Netscaler + RSA                                          | Not supported                 | Not supported                                                                                                          |
|                       | Netscaler + Client cert authentication                   | Not supported                 | Not supported                                                                                                          |
|                       | Citrix cloud + Azure Active Directory                    | Not supported                 | Not supported                                                                                                          |
|                       | Citrix cloud + Active Directory + Token                  | Not supported                 | Not supported                                                                                                          |
|                       | Citrix cloud + Active Directory                          | Supported                     | There are no limitations in this release.                                                                              |
|                       | Citrix cloud + Citrix Gateway                            | Not supported                 | Not supported                                                                                                          |
|                       | Citrix cloud + Okta                                      | Not supported                 | Not supported                                                                                                          |
|                       | Citrix cloud + SAML 2.0                                  | Not supported                 | Not supported                                                                                                          |
|                       | Netscaler load balance                                   | Not supported                 | Not supported                                                                                                          |
| Security              | TLS 1.2                                                  | Supported                     | There are no limitations in this release.                                                                              |
|                       | TLS 1.0/1.1                                              | Not supported                 | ThinOS 9.1 does not provide the configuration to change TLS.                                                           |
|                       | DTLS 1.0                                                 | Supported                     | There are no limitations in this release.                                                                              |
|                       | DTLS 1.2                                                 | Not supported                 | Not supported                                                                                                          |
|                       | SHA2 Cert                                                | Supported                     | There are no limitations in this release.                                                                              |
|                       | Smart Access                                             | Not supported                 | Not supported                                                                                                          |
|                       | Remote Access via Citrix Gateway                         | Supported                     | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|                       | Workspace for Web Access                                 | N/A                           | ThinOS does not provide local browser.                                                                                 |
|                       | IPV6                                                     | Not supported                 | Not supported—Can sign in but cannot connect to the session.                                                           |
| Keyboard Enhancements | Dynamic Keyboard Layout Synchronization with Windows VDA | Supported                     | There are no limitations in this release.                                                                              |
|                       | Unicode Keyboard Layout Mapping with Windows VDA         | Supported                     | There are no limitations in this release.                                                                              |
|                       | Client IME Enhancements with Windows VDA                 | N/A                           | N/A                                                                                                                    |
|                       | Language Bar Show/Hide with Windows VDA Applications     | N/A                           | N/A                                                                                                                    |

**Table 116. Citrix Workspace app feature matrix (continued)**

| Feature                                                                             |                                                                        | ThinOS 9.1.5067 with CWA 2112 | Limitations                                                        |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------|
|                                                                                     | Option Key mapping for server-side IME input mode on Windows VDA       | N/A                           | N/A                                                                |
|                                                                                     | Dynamic Keyboard Layout Synchronization with Linux VDA                 | Not supported                 | Not supported                                                      |
|                                                                                     | Client IME Enhancements with Linux VDA                                 | N/A                           | N/A                                                                |
|                                                                                     | Language Bar support for Linux VDA Applications                        | Not supported                 | Not supported                                                      |
|                                                                                     | Keyboard sync only when a session is launched—client Setting in ThinOS | Supported                     | There are no limitations in this release.                          |
|                                                                                     | Server default setting in ThinOS                                       | Supported                     | There are no limitations in this release.                          |
|                                                                                     | Specific keyboard in ThinOS                                            | Supported                     | There are no limitations in this release.                          |
| New features listed in Citrix Workspace app release notes but not in feature matrix | Request control in Microsoft Teams (CWA2112)                           | Not Supported                 | Not supported                                                      |
|                                                                                     | Support for cursor color inverting (CWA2112)                           | Supported                     | For limitations, see the Citrix Workspace app limitations section. |
|                                                                                     | Microsoft Teams enhancement to echo cancellation (CWA2111)             | Supported                     | There are no limitations in this release.                          |
|                                                                                     | Enhancement on smart card support (CWA2112)                            | Supported                     | For limitations, see the Citrix Workspace app limitations section. |
|                                                                                     | Webcam redirection for 64-bit (Technical Preview) (CWA2111)            | Not supported                 | Not supported                                                      |
|                                                                                     | Support for custom web stores (Technical Preview) (CWA2111)            | Not supported                 | Not supported                                                      |
|                                                                                     | Workspace with intelligence (Technical Preview) (CWA2111)              | Not supported                 | Not supported                                                      |
|                                                                                     | Session reliability enhancement (CWA2109)                              | Supported                     | There are no limitations in this release                           |
|                                                                                     | Enhancement to logging (CWA2109)                                       | Supported                     | There are no limitations in this release                           |
|                                                                                     | Adaptive audio (CWA2109, CWA2112)                                      | Supported                     | There are no limitations in this release                           |
|                                                                                     | Storebrowse enhancement for service continuity(CWA2109)                | Not supported                 | Not supported                                                      |

**Table 116. Citrix Workspace app feature matrix (continued)**

| Feature                  |                                                                             | ThinOS 9.1.5067 with CWA 2112 | Limitations                               |
|--------------------------|-----------------------------------------------------------------------------|-------------------------------|-------------------------------------------|
|                          | Global App Config Service (Public Technical Preview) (CWA2109)              | Not supported                 | Not supported                             |
|                          | EDT MTU discovery (CWA2109)                                                 | Not supported                 | Not supported                             |
|                          | Creating custom user-agent strings in network request (CWA2109)             | Not supported                 | Not supported                             |
|                          | Feature flag management (CWA2109)                                           | Not supported                 | Not supported                             |
|                          | Battery status indicator (CWA2106, CWA 2111)                                | Supported                     | There are no limitations in this release. |
|                          | Service continuity (CWA2109)                                                | Not supported                 | Not supported                             |
|                          | User Interface enhancement (CWA2106)                                        | Not supported                 | Not supported                             |
|                          | Pinning multi-monitor screen layout (CWA2103)                               | Not supported                 | Not supported                             |
|                          | App Protection (CWA2101, CWA2106, CWA 2108 )                                | Not supported                 | Not supported                             |
|                          | Authentication enhancement is available only in cloud deployments (CWA2012) | Not supported                 | Not supported                             |
|                          | Multiple audio (CWA2012, CWA2010, and CWA2112)                              | Not supported                 | Not supported                             |
|                          | Citrix logging (CWA2009)                                                    | Supported                     | There are no limitations in this release. |
|                          | Cryptographic update (CWA2006)                                              | Not supported                 | Not supported                             |
|                          | Transparent user interface (TUI) (CWA1912 and CWA1910)                      | Not supported                 | Not supported                             |
|                          | GStreamer 1.x supportexperimental feature(CWA1912)                          | Supported                     | There are no limitations in this release. |
|                          | App indicator icon (CWA1910)                                                | Not supported                 | Not supported                             |
|                          | Latest webkit support (CWA1908 and CWA1906)                                 | Supported                     | There are no limitations in this release. |
|                          | Bloomberg audio redirection (CWA1903)                                       | Supported                     | There are no limitations in this release. |
|                          | Bloomberg v4 keyboard selective redirection support(CWA1808)                | Supported                     | There are no limitations in this release. |
| ThinOS VDI configuration | Broker Setting                                                              | Supported                     | There are no limitations in this release. |

**Table 116. Citrix Workspace app feature matrix (continued)**

| Feature |                         | ThinOS 9.1.5067 with CWA 2112 | Limitations                               |
|---------|-------------------------|-------------------------------|-------------------------------------------|
|         | PNA button menu         | Supported                     | There are no limitations in this release. |
|         | Sign on window function | Supported                     | There are no limitations in this release. |
|         | Workspace mode          | Supported                     | There are no limitations in this release. |
|         | Admin policy tool       | Supported                     | There are no limitations in this release. |

## New and enhanced features

### Citrix Workspace app updates

Citrix Workspace app package is updated to version 21.12.0.18.2. This package is intended for users who want to install the Citrix Workspace app version 2112 on ThinOS.

### Invert cursor color

From Citrix Workspace app 2112 and ThinOS 9.1.5067, the cursor color can be inverted based on the background color of a text. As a result, you can easily locate the position of the cursor in between texts. By default, this feature is disabled. To enable cursor color inverting feature, do the following:

#### Steps

1. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced > VDI Configuration Editor > Citrix Configuration Editor**.
2. In the Citrix INI Settings, click **Add Row**.
3. From the **File** drop-down list, select **wfclient.ini**.
4. From the **Operation** drop-down list, select **Add or Update**.
5. In the **Section** field, enter **Thinwire3.0**.
6. In the **Key** field, enter **InvertCursorEnabled**.
7. In the **Value** field, enter **True**.
8. Sign out or restart the device for the settings to take effect.

**NOTE:** If you have enabled the cursor color inverting feature, the **Cursor Pattern** setting from **Advanced > Session Settings > Citrix Session Settings** in the Admin Policy Tool or Wyse Management Suite policy settings is deprecated.

### Limitations for inverting cursor color

Sometimes the cursor color inverting feature does not work after you upgrade or downgrade the Citrix Workspace app package. Workaround is to remove the cursor setting from **Advanced > VDI Configuration Editor > Citrix Configuration Editor** and then configure the cursor pattern setting from **Advanced > Session Settings > Citrix Session Settings** in Admin Policy Tool or Wyse Management Suite policy settings. This issue is planned to be resolved in a future release.

### Adaptive audio enhancement

From Citrix Workspace app 2112 and ThinOS 9.1.5067, Adaptive audio works while using User Datagram Protocol (UDP) audio delivery. Adaptive audio is enabled by default. This feature requires VDA version 2112 or later versions. For more information, see the *Citrix Virtual Apps and Desktops* product documentation at [www.docs.citrix.com](http://www.docs.citrix.com).

## UDP audio through Citrix Gateway

From Citrix Workspace app 2112 and ThinOS 9.1.5067, Citrix Workspace app supports Datagram Transport Layer Security (DTLS) protocol for UDP audio. As a result, you can access the UDP audio through Citrix Gateway. By default, this feature is disabled.

### Enable UDP audio through Citrix Gateway feature

#### Prerequisites

Ensure that UDP audio is enabled in ThinOS. To configure the settings, do the following:

1. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced > Session Settings > Citrix Session Settings**.
2. Select the **Enable UDP audio** check box.
3. Select **Audio quality** as **Medium**. Ensure that Citrix Audio quality policy is High or Medium in Citrix Studio.
4. Sign off from the session and the broker for the changes to take effect.

#### Steps

1. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced > VDI Configuration Editor > Citrix Configuration Editor**.
2. In the Citrix INI Settings, click **Add Row**.
3. From the **File** drop-down list, select **module.ini**.
4. From the **Operation** drop-down list, select **Add or Update**.
5. In the **Section** field, enter **WFClient**.
6. In the **Key** field, enter **EnableUDPTThroughGateway**.
7. In the **Value** field, enter **True**.
8. Sign out or restart the device for the settings to take effect.

### Disable UDP audio through Citrix Gateway feature

#### Steps

1. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced > Session Settings > Citrix Session Settings**.
2. Clear the **Enable UDP audio** check box.
3. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced > VDI Configuration Editor > Citrix Configuration Editor**.
4. Remove the **EnableUDPTThroughGateway** setting.
5. Sign out or restart the device for the settings to take effect.

## Smart card reader enhancement

From Citrix Workspace app 2112 and ThinOS 9.1.5067, Citrix Workspace app supports plug and play functionality for smart card reader. When you insert a smart card, the smart card reader detects the smart card in the server and the client. You can plug and play multiple cards simultaneously, and all these cards are detected. This feature is enabled by default.

### Disable smart card plug and play

#### Steps

1. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced > VDI Configuration Editor > Citrix Configuration Editor**.
2. In the Citrix INI Settings, click **Add Row**.
3. From the **File** drop-down list, select **module.ini**.
4. From the **Operation** drop-down list, select **Add or Update**.



5. In the **Section** field, enter **SmartCard**.
6. In the **Key** field, enter **DriverName**.
7. In the **Value** field, enter **VDSCARD.DLL**.
8. Sign out or restart the device for the settings to take effect.

## Smart card reader limitations

This feature is sometimes disabled after you upgrade or downgrade the Citrix Workspace app package. **DriverName** in smartcard settings under **module.ini** is changed from **VDSCARDV2.DLL** to **VDSCARD.DLL**. This issue is planned to be resolved in a future release.

As a workaround, do the following:

1. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced > VDI Configuration Editor > Citrix Configuration Editor**.
2. In the Citrix INI Settings, click **Add Row**.
3. From the **File** drop-down list, select **module.ini**.
4. From the **Operation** drop-down list, select **Add or Update**.
5. In the **Section** field, enter **SmartCard**.
6. In the **Key** field, enter **DriverName**.
7. In the **Value** field, enter **VDSCARDV2.DLL**.
8. Sign out or restart the device for the settings to take effect.

## Battery status indicator enhancement

From Citrix Workspace app 2112 and ThinOS 9.1.5067, the battery status indicator is displayed in the notification area for server VDAs. This feature is enabled by default.

## Microsoft Teams update

From Citrix Workspace app 2112 and ThinOS 9.1.5067, Microsoft Teams optimization supports echo cancellation. The echo cancellation option for Microsoft Teams is disabled by default.

## Enable echo cancellation for Microsoft Teams

### Steps

1. On Admin Policy Tool or Wyse Management Suite policy settings, go to **Advanced > VDI Configuration Editor > Citrix Configuration Editor**.
2. In the Citrix JSON Settings, click **Add Row**.
3. From the **File** drop-down list, select **hdx\_rtc\_engine/config.json**.
4. From the **Operation** drop-down list, select **Add or Update**.
5. In the **Key** field, enter **EnableAEC**.
6. In the **Value** field, enter **1**.
7. In the Citrix JSON Settings, click **Add Row** to add the second setting.
8. From the **File** drop-down list, select **hdx\_rtc\_engine/config.json**.
9. From the **Operation** drop-down list, select **Add or Update**.
10. In the **Key** field, enter **EnableACC**.
11. In the **Value** field, enter **1**.
12. In the Citrix JSON Settings, click **Add Row** to add the third setting.
13. From the **File** drop-down list, select **hdx\_rtc\_engine/config.json**.
14. From the **Operation** drop-down list, select **Add or Update**.
15. In the **Key** field, enter **EnableNS**.
16. In the **Value** field, enter **1**.

17. Sign out or restart the device for the settings to take effect.

## Citrix Workspace app limitations

- In Citrix Workspace app 2112, 32-bit apps with HDX webcam redirection are only supported using inbuilt camera. Only the default video resolution is qualified yet by Dell Technologies. External camera does not work with 32-bit apps using HDX webcam redirection. The issue is also observed in Linux binary.
- The following new features from Citrix Workspace app 2111 and Citrix Workspace app 2112 are not supported:
  - Multiple audio devices
  - Request control in Microsoft Teams
  - Webcam redirection for 64-bit (Technical Preview)
  - Custom web stores (Technical Preview)
  - Workspace with intelligence (Technical Preview)

## VMware Horizon updates

VMware Horizon package is updated to version 2111.8.4.0.18957622.3.

### VMware Horizon limitations:

- The following new features of VMware Horizon client for Linux 2111 are not supported on ThinOS:
  - Client settings that take effect in individual desktops is not supported.
  - Configuration option for Blast decoder cache is not supported.
- VMware Horizon blast does not support serial port in this package release due to a known issue.

## Cisco WebEx Meetings VDI updates

- Cisco WebEx Meetings VDI application package is updated to version 41.12.6.12.1.
- From this release, registration and invitations in Webex Meetings and Webex Events can be managed by cohosts. Cohosts can import or invite attendees and event panelist. Cohosts can also approve or reject registrants.
- Fixed the issue where the audio can still be heard after ending a call from the taskbar.
- Supports optimization mode through HTTP proxy server with username and password authentication.

## Cisco WebEx Meetings VDI feature matrix

**Table 117. Cisco WebEx Meetings VDI feature matrix**

| Scenarios                     | ThinOS 9.1.5067 |
|-------------------------------|-----------------|
| Join meeting                  | Supported       |
| Audio call                    | Supported       |
| Video call                    | Supported       |
| Start video                   | Supported       |
| Stop video                    | Supported       |
| Switch camera during meetings | Supported       |
| Adjust volume                 | Supported       |
| Testing microphone            | Supported       |
| Testing speaker               | Supported       |
| End meeting                   | Supported       |
| Leave meeting                 | Supported       |
| Change microphone device      | Supported       |

**Table 117. Cisco WebEx Meetings VDI feature matrix (continued)**

| <b>Scenarios</b>                                                                                                                                                                                                       | <b>ThinOS 9.1.5067</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Change speaker device                                                                                                                                                                                                  | Supported              |
| Mute by myself                                                                                                                                                                                                         | Supported              |
| Unmute                                                                                                                                                                                                                 | Supported              |
| Lock meeting                                                                                                                                                                                                           | Supported              |
| Return meeting                                                                                                                                                                                                         | Supported              |
| Hotplug the headset                                                                                                                                                                                                    | Supported              |
| Plug out headset                                                                                                                                                                                                       | Supported              |
| Plug out headset and plug in new headset device                                                                                                                                                                        | Supported              |
| Disconnect network                                                                                                                                                                                                     | Not tested             |
| Disconnect desktop                                                                                                                                                                                                     | Supported              |
| Polls                                                                                                                                                                                                                  | Supported              |
| Q & A—Participants ask Questions to Host                                                                                                                                                                               | Supported              |
| Chat—to everyone                                                                                                                                                                                                       | Supported              |
| Chat—to specified participants                                                                                                                                                                                         | Supported              |
| Screen sharing—If 1 monitor connected                                                                                                                                                                                  | Supported              |
| Screen sharing—If multiple monitors connected                                                                                                                                                                          | Supported              |
| Screen sharing—Whiteboard                                                                                                                                                                                              | Supported              |
| Screen sharing—Share one of the applications                                                                                                                                                                           | Supported              |
| Screen sharing—Switch share content                                                                                                                                                                                    | Supported              |
| Screen sharing—Annotates                                                                                                                                                                                               | Supported              |
| Screen sharing—Pause or Resume                                                                                                                                                                                         | Supported              |
| Screen sharing—View—full screen                                                                                                                                                                                        | Supported              |
| Screen sharing—View—Zoom in, out, or to                                                                                                                                                                                | Supported              |
| Screen sharing—Start or stop video during screen sharing                                                                                                                                                               | Supported              |
| Record meeting—Start, Pause, or Stop recording                                                                                                                                                                         | Supported              |
| Breakout sessions                                                                                                                                                                                                      | Supported              |
| Support—Request Desktop Control                                                                                                                                                                                        | Not supported          |
| Support—Request Application Control                                                                                                                                                                                    | Not supported          |
| Stop screen sharing                                                                                                                                                                                                    | Supported              |
| Make Host or Cohost other Participants                                                                                                                                                                                 | Supported              |
| Participant                                                                                                                                                                                                            | Supported              |
| Close Participant                                                                                                                                                                                                      | Supported              |
| Invite and Remind                                                                                                                                                                                                      | Supported              |
| Layout Grid, Stack, Side by Side, or Full-screen view, Names in Video—Automatically Hide names when not Speaking, Show all names, Hide all names, Show participants without video, and Increase or Decrease Video size | Supported              |
| Virtual Background or Blur image                                                                                                                                                                                       | Not supported          |

## Cisco WebEx Meetings VDI limitation

Cisco WebEx Meeting 41.12 is not optimized for Horizon 2111 and it is a Cisco WebEx limitation. Optimization may work in rare occasions.

## Cisco WebEx VDI updates

- Cisco WebEx VDI application package is updated to version 41.12.0.20899.1.
- Supports EPOS headset—Dell Technologies has tested only the models EPOS IMPACT MB Pro 2 UC ML and EPOS ADAPT 660.
- If you move around while on a Webex call, the network is changed automatically without any call quality effect or interruption to the call.
- End-to-end encrypted meetings can now be scheduled from the Webex scheduler. You can use the Webex app to join or start an end-to-end encrypted Webex meeting. In the Meeting info and during the meeting, an indicator is displayed to notify the participants that the meeting is encrypted.
- Supports optimization mode through HTTP proxy server with username and password authentication.

## Cisco WebEx VDI feature matrix

**Table 118. Cisco WebEx VDI feature matrix**

| Scenarios                                       | ThinOS 9.1.5067 |
|-------------------------------------------------|-----------------|
| Join meeting                                    | Supported       |
| Audio call                                      | Supported       |
| Video call                                      | Supported       |
| Start video                                     | Supported       |
| Stop video                                      | Supported       |
| Switch camera during meetings                   | Supported       |
| Adjust volume                                   | Supported       |
| Testing microphone                              | Supported       |
| Testing speaker                                 | Supported       |
| End meeting                                     | Supported       |
| Leave meeting                                   | Supported       |
| Change microphone device                        | Supported       |
| Change speaker device                           | Supported       |
| Mute by myself                                  | Supported       |
| Unmute                                          | Supported       |
| Hotplug the headset                             | Supported       |
| Plug out headset                                | Supported       |
| Plug out headset and plug in new headset device | Supported       |
| Disconnect network                              | Not tested      |
| Disconnect desktop                              | Supported       |
| Music mode                                      | Supported       |
| Polls                                           | Supported       |
| Chat—to everyone                                | Supported       |

**Table 118. Cisco WebEx VDI feature matrix (continued)**

| Scenarios                                                                          | ThinOS 9.1.5067 |
|------------------------------------------------------------------------------------|-----------------|
| Chat—to specified participants                                                     | Supported       |
| Screen sharing—If 1 monitor connected                                              | Supported       |
| Screen sharing—If multiple monitors connected                                      | Supported       |
| Screen sharing—Whiteboard                                                          | Supported       |
| Screen sharing—Pause or Resume                                                     | Supported       |
| Screen sharing—View—full screen                                                    | Supported       |
| Screen sharing—View—Zoom in, out, or to                                            | Supported       |
| Screen sharing—Start or stop video during screen sharing                           | Supported       |
| Screen sharing—Annotates                                                           | Supported       |
| Record meeting—Start, Pause, or Stop recording                                     | Supported       |
| Support—Request Desktop Control                                                    | Not supported   |
| Support—Request Application Control                                                | Not supported   |
| Stop screen sharing                                                                | Supported       |
| Participant                                                                        | Supported       |
| Close Participant                                                                  | Supported       |
| Invite to Meeting only and invite through Meeting link                             | Supported       |
| Layout Grid, Stack, Side by Side, or Full-screen view and Automatically hide names | Supported       |
| Virtual Background or Blur image                                                   | Not supported   |

## Zoom application package updates

- Zoom Citrix application package is updated to version 5.8.4.21112.1.
- Zoom Horizon application package is updated to version 5.8.4.21112.1.
- Virtual background support is added from this release.

## Zoom application package feature matrix

**Table 119. Zoom application package feature matrix**

| Scenarios                     | ThinOS 9.1.5067 |
|-------------------------------|-----------------|
| Join meeting                  | Supported       |
| Audio call                    | Supported       |
| Video call                    | Supported       |
| Start video                   | Supported       |
| Stop video                    | Supported       |
| Switch camera during meetings | Supported       |
| Adjust volume                 | Supported       |
| Testing microphone            | Supported       |
| Testing speaker               | Supported       |
| End meeting                   | Supported       |

**Table 119. Zoom application package feature matrix (continued)**

| Scenarios                                                                          | ThinOS 9.1.5067 |
|------------------------------------------------------------------------------------|-----------------|
| Leave meeting                                                                      | Supported       |
| Change microphone device                                                           | Supported       |
| Change speaker device                                                              | Supported       |
| Mute by self                                                                       | Supported       |
| Unmute                                                                             | Supported       |
| Hotplug the headset                                                                | Supported       |
| Plug out headset                                                                   | Supported       |
| Plug out headset and plug in new headset device                                    | Supported       |
| Disconnect network                                                                 | Not tested      |
| Disconnect desktop                                                                 | Supported       |
| Music mode                                                                         | Supported       |
| Polls                                                                              | Supported       |
| Chat—to everyone                                                                   | Supported       |
| Chat—to specified participants                                                     | Supported       |
| Screen sharing—If 1 monitor connected                                              | Supported       |
| Screen sharing—If multiple monitors connected                                      | Supported       |
| Screen sharing—Whiteboard                                                          | Supported       |
| Screen sharing—Pause or Resume                                                     | Supported       |
| Screen sharing—View—full screen                                                    | Supported       |
| Screen sharing—View—Zoom in, out or to                                             | Supported       |
| Screen sharing—Start or stop video while screen sharing                            | Supported       |
| Screen sharing—Annotates                                                           | Supported       |
| Record meeting—Start, Pause, or Stop recording                                     | Supported       |
| Support—Request Desktop Control                                                    | Not supported   |
| Support—Request Application Control                                                | Not supported   |
| Stop screen sharing                                                                | Supported       |
| Participant                                                                        | Supported       |
| Close Participant                                                                  | Supported       |
| Invite to Meeting only and invite through Meeting link                             | Supported       |
| Layout Grid, Stack, Side by Side, or Full-screen view and Automatically hide names | Supported       |
| Virtual Background or Blur image                                                   | Not supported   |

## Zoom application package limitations

- Zoom application package version 5.8.4 supports HID button for only answering a call. HID button cannot be used to end a call.
- Zoom application performance is low on clients or VDI with 2 cores. Use a client or VDI with 4 cores to avoid performance issues.

# Tested environments matrix

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

**Table 120. Tested environment—General components**

| Component                                     | Version                      |
|-----------------------------------------------|------------------------------|
| Wyse Management Suite (cloud and on-premises) | 3.5                          |
| Imprivata OneSign                             | 7.6                          |
| Citrix ADC (formerly NetScaler)               | 12.1/13.0                    |
| StoreFront                                    | 1912 LTSR and later versions |

**Table 121. Test environment—Citrix**

| Citrix Virtual Apps and Desktops                   | Windows 10 | Windows Server 2016 | Windows Server 2019 | APPs   |
|----------------------------------------------------|------------|---------------------|---------------------|--------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Tested     | Tested              | Tested              | Tested |
| Citrix Virtual Apps and Desktops 7 2112            | Tested     | Tested              | Tested              | Tested |

**Table 122. Tested environment—VMware Horizon**

| VMware Horizon      | Windows 10 | Windows Server 2016 | Windows Server 2019 | APPs   |
|---------------------|------------|---------------------|---------------------|--------|
| VMware Horizon 2111 | Tested     | Tested              | Tested              | Tested |

**Table 123. Tested environment—Skype for Business**

| Citrix VDI                                         | Operating system    | RTME Client | RTME Agent | Skype for Business client | Skype for Business Server |
|----------------------------------------------------|---------------------|-------------|------------|---------------------------|---------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 2.9.400     | 2.9.400    | Skype for Business 2016   | Skype for Business 2015   |
|                                                    | Windows server 2016 |             |            |                           |                           |
| Citrix Virtual Apps and Desktops 7 2112            | Windows server 2019 |             |            |                           |                           |

**Table 124. Tested environment—Skype for Business**

| VMware VDI          | Operating system    | Skype for Business client | Skype for Business Server |
|---------------------|---------------------|---------------------------|---------------------------|
| VMware Horizon 7.12 | Windows 10          | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2106 | Windows server 2016 | Skype for Business 2016   | Skype for Business 2015   |
| VMware Horizon 2111 | Windows server 2019 | Not tested                | Not tested                |

**Table 125. Tested environment—JVDI**

| Citrix VDI                                         | Operating system    | JVDI   | JVDI agent | Jabber software |
|----------------------------------------------------|---------------------|--------|------------|-----------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 14.0.2 | 14.0.2     | 14.0.2          |
|                                                    | Windows server 2016 |        |            |                 |
| Citrix Virtual Apps and Desktops 7 2112            | Windows server 2019 |        |            |                 |

**Table 126. Tested environment—JVDI**

| VMware VDI          | Operating system    | JVDI       | JVDI agent | Jabber software |
|---------------------|---------------------|------------|------------|-----------------|
| VMware Horizon 7.12 | Windows 10          | 14.0.2     | 14.0.2     | 14.0.2          |
|                     | Windows server 2016 | 14.0.2     | 14.0.2     | 14.0.2          |
| VMware Horizon 2106 | Windows server 2019 | Not tested | Not tested | Not tested      |
| VMware Horizon 2111 |                     |            |            |                 |

**Table 127. Tested environment—Zoom**

| Citrix VDI                                                                                    | Operating system    | Zoom package  | Zoom software |
|-----------------------------------------------------------------------------------------------|---------------------|---------------|---------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2112 | Windows 10          | 5.8.4.21112_1 | 5.8.4.21112   |
|                                                                                               | Windows server 2016 |               |               |
|                                                                                               | Windows server 2019 |               |               |

**Table 128. Tested environment—Zoom**

| VMware VDI          | Operating system    | Zoom package  | Zoom software |
|---------------------|---------------------|---------------|---------------|
| VMware Horizon 7.12 | Windows 10          | 5.8.4.21112_1 | 5.8.4.21112   |
| VMware Horizon 2106 | Windows server 2016 | 5.8.4.21112_1 | 5.8.4.21112   |
| VMware Horizon 2111 | Windows server 2019 | Not tested    | Not tested    |

**Table 129. Tested environment—Cisco Webex Teams**

| Citrix VDI                                                                                    | Operating system    | Webex VDI       | Webex Teams software |
|-----------------------------------------------------------------------------------------------|---------------------|-----------------|----------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2112 | Windows 10          | 41.12.0.20899_1 | 41.12.0.20899        |
|                                                                                               | Windows server 2016 |                 |                      |
|                                                                                               | Windows server 2019 |                 |                      |

**Table 130. Tested environment—Cisco Webex Teams**

| VMware VDI          | Operating system    | Webex Teams     | Webex Teams software |
|---------------------|---------------------|-----------------|----------------------|
| VMware Horizon 7.12 | Windows 10          | 41.12.0.20899_1 | 41.12.0.20899        |
| VMware Horizon 2106 | Windows server 2016 | 41.12.0.20899_1 | 41.12.0.20899        |
| VMware Horizon 2111 | Windows server 2019 | Not tested      | Not tested           |

**Table 131. Tested environment—Cisco Webex Meetings**

| Citrix VDI                                                                                    | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|-----------------------------------------------------------------------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3)<br>Citrix Virtual Apps and Desktops 7 2112 | Windows 10          | 41.12.6.12_1       | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.12 to 42.4. |
|                                                                                               | Windows server 2016 |                    |                                                                                                             |
|                                                                                               | Windows server 2019 |                    |                                                                                                             |

**Table 132. Tested environment—Cisco Webex Meetings**

| VMware VDI          | Operating system    | Webex Meetings VDI | Webex Meetings software                            |
|---------------------|---------------------|--------------------|----------------------------------------------------|
| VMware Horizon 7.12 | Windows 10          | 41.12.6.12_1       | The supported compatible version of Webex Meetings |
| VMware Horizon 2106 | Windows server 2016 |                    |                                                    |



**Table 132. Tested environment—Cisco Webex Meetings (continued)**

| VMware VDI | Operating system    | Webex Meetings VDI | Webex Meetings software                                  |
|------------|---------------------|--------------------|----------------------------------------------------------|
|            | Windows server 2019 |                    | app on the hosted virtual desktop is from 41.12 to 42.4. |

## Known issues

**Table 133. Known issues**

| Issue ID  | Description                                                                                                                                                                                                                                                                                                                                                                             | Workaround                                                                                                                                                                                                  |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-6296 | Serial redirection does not work in VMware Horizon Blast                                                                                                                                                                                                                                                                                                                                | There is no workaround in this release.                                                                                                                                                                     |
| DTOS-6386 | During a Citrix session, if you enable multiple audio and open the <b>Recording</b> tab from the <b>Sound</b> window, the session gets disconnected. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                                                                                                         | Do not open <b>Sound &gt; Recording</b> . You cannot switch the recording device in Windows Sound settings.                                                                                                 |
| DTOS-6426 | There is no audio on the videos played using Multimedia redirection. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                                                                                                                                                                                         | Go to <b>Peripherals &gt; Audio</b> on the client and click <b>OK</b> . The audio will resume playing.                                                                                                      |
| DTOS-6757 | A green shadow is visible on the session window when a video is played locally using VLC player. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                                                                                                                                                             | Close and reopen the video.                                                                                                                                                                                 |
| DTOS-6645 | Sometimes, during an ICA session launch or disconnection, an error message is displayed due to a missing <b>./ICAClient/ appsrv.ini</b> file. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                                                                                                                | Uninstall and reinstall the Citrix Workspace app package.                                                                                                                                                   |
| DTOS-6026 | If you connect a second camera to the client during an RTME video call, the thin client restarts. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                                                                                                                                                            | There is no workaround in this release.                                                                                                                                                                     |
| DTOS-6363 | Smartcard is not detected after you disconnect a broker session that was logged in using a smartcard. The issue occurs when thin client resumes from sleep mode. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                                                                                             | Workaround is to force restart the thin client.                                                                                                                                                             |
| DTOS-5639 | CPU utilization reaches 100% during a WebEx Teams VDI call. This issue is observed on Wyse 5470 thin clients.                                                                                                                                                                                                                                                                           | There is no workaround in this release.                                                                                                                                                                     |
| DTOS-6741 | The default audio input and output device does not change when you change the default audio device from the application in a session. The default device that is selected on the client is used for audio input and output. The issue occurs when multiple audio is enabled. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112. | Disable multiple audio.                                                                                                                                                                                     |
| DTOS-6341 | <b>DriverName</b> in smartcard settings is changed from <b>VDSCARDV2.DLL</b> to <b>VDSCARD.DLL</b> when you connect to Wyse Management Suite or when you remove the smartcard settings from VDI settings. This issue is observed on Wyse 5470 All-in-One devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                               | Either reset the client to factory settings or manually configure <b>VDSCARDV2.DLL/VDSCARD.DLL</b> in Admin policy Tool/Wyse Management Suite policy settings.                                              |
| DTOS-6028 | Inverting the cursor color in Citrix does not work. This issue is observed on devices that run ThinOS version 9.1.5067 with Citrix Workspace app version 2112.                                                                                                                                                                                                                          | Remove the cursor setting from <b>Advanced &gt; VDI Configuration Editor &gt; Citrix Configuration Editor</b> and then configure the cursor pattern setting from <b>Advanced &gt; Session Settings &gt;</b> |

**Table 133. Known issues (continued)**

| Issue ID  | Description                                                                                                                                                                          | Workaround                                                                                         |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|           |                                                                                                                                                                                      | <b>Citrix Session Settings</b> in Admin Policy Tool or Wyse Management Suite policy settings.      |
| DTOS-6775 | If you enable multiple audio and play online videos or sounds, always the inbuilt audio device of the thin client is used. The issue is observed in Windows server 2016 or 2019 VDA. | Disable multiple audio. The audio will resume playing from the audio device that the user selects. |

# Cisco WebEx Meetings VDI 41.10, Cisco WebEx VDI 41.10, Citrix Workspace app 2109, and HID fingerprint reader 210217\_11 packages for ThinOS

## Release summary

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

Citrix\_Workspace\_App\_21.9.0.25\_1 .pkg

Cisco\_WebEx\_Meetings\_VDI\_41.10.3.19\_1.pkg

Cisco\_WebEx\_VDI\_41.10.0.20213\_1.pkg (formerly Cisco WebEx Teams)

HID\_Fingerprint\_Reader\_210217\_11.pkg

### Release date

November 2021

## Supported platforms

- Wyse 3040 Thin Client
- Wyse 5070 Thin Client
- Wyse 5470 Thin Client
- Wyse 5470 All-in-One Thin Client

## Important notes

- Upgrade the ThinOS firmware to 9.1.4234 before you install the application packages.
  -  **NOTE:** Citrix session gets disconnected if **Adaptive Audio** is enabled when you connect to a VDI desktop that runs on Citrix VDA 2109. You must disable **Adaptive Audio** function to connect to Citrix VDA 2109 desktop. This issue is also observed in the Citrix Workspace app Linux binary. For more information, see [Citrix Workspace app updates](#).
- Cisco WebEx Meetings VDI and Cisco WebEx VDI are qualified for Citrix VDI on ThinOS 9.1.4234 with Citrix Workspace app package 21.9.0.25.1.
- Cisco WebEx Meetings VDI and Cisco WebEx VDI are qualified for VMware Blast VDI on ThinOS 9.1.4234 with VMware Horizon package 2106.8.3.0.18251983\_5.

# Installing the application package

## Download the application packages

### Steps

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. In the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** field, type the model number of your device.
3. Select the product from the searched results to load the product page.
4. On the product support page, click **Drivers & downloads**.
5. Select the operating system as **ThinOS**.
6. Locate the application packages that you require.
7. Download each application package file.

## Install the application package using Wyse Management Suite

### Prerequisites

- Upgrade the ThinOS firmware to 9.1.4234 before you install the application package.
- The thin client must be registered to Wyse Management Suite.
- Create a group in Wyse Management Suite with a group token.  
 **NOTE:** If you have an existing group with a valid group token, you can register the thin client to the same group.
- Ensure you have downloaded the application packages. See, [Download the application package](#).

### Steps

1. Go to the **Groups & Configs** page and select a group.
2. From the **Edit Policies** drop-down menu, click **ThinOS 9.x**. The Configuration Control | ThinOS window is displayed.
3. In the left pane, click **Standard**.
4. From the **Standard** menu, expand **Firmware**, and click **Application Package Updates**.  
 **NOTE:** If you cannot locate the **Application Package Updates** option under the **Standard** tab, use the **Advanced** tab.
5. Click **Browse** and select the application package to upload.
6. From the drop-down menu, select the uploaded application package.
7. Click **Save & Publish**.  
The thin client downloads the package to install and restarts. The package version is upgraded.

## Compatibility

### Application package information

- Supported ThinOS application packages—The following ThinOS packages are qualified by Dell Technologies.
  - Citrix\_Workspace\_App\_21.9.0.25\_1.pkg
  - Cisco\_WebEx\_Meetings\_VDI\_41.10.3.19\_1.pkg
  - Cisco\_WebEx\_VDI\_41.10.0.20213\_1.pkg (formerly Cisco WebEx Teams)
  - HID\_Fingerprint\_Reader\_210217\_11.pkg
- Supported Firmware—ThinOS version 9.1.4234.  
 **NOTE:** For information about other packages, see [ThinOS application package details](#) in the **ThinOS 9.1.4234 Release Notes**.

## Previous versions

- Citrix\_Workspace\_App\_21.6.0.28\_10.pkg
- Cisco\_WebEx\_Meetings\_VDI\_41.6.1.10\_2.pkg
- Cisco\_WebEx\_VDI\_41.6.1.19187\_1.pkg (formerly Cisco WebEx Teams)
- HID\_Fingerprint\_Reader\_210217\_10.pkg

## Citrix Workspace app feature matrix

**Table 134. Citrix Workspace app feature matrix**

| Feature             |                                              | ThinOS 9.1.4234 with CWA 2109 | Limitations                                                                                                                                                                                                                 |
|---------------------|----------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Citrix Workspace    | Citrix Virtual Apps                          | Supported                     | Citrix session prelaunch and session linger features are not supported. This is Linux binary design.                                                                                                                        |
|                     | Citrix Virtual Desktops                      | Supported                     | Citrix session gets disconnected if <b>Adaptive Audio</b> is enabled when you connect to a VDI desktop that runs on Citrix VDA 2109. You must disable <b>Adaptive Audio</b> function to connect to Citrix VDA 2109 desktop. |
|                     | Citrix Content Collaboration (Citrix Files)  | N/A                           | N/A                                                                                                                                                                                                                         |
|                     | Citrix Access Control Service                | N/A                           | N/A                                                                                                                                                                                                                         |
|                     | Citrix Workspace Browser                     | N/A                           | N/A                                                                                                                                                                                                                         |
|                     | SaaS/Webapps with SSO                        | Not supported                 | Not supported                                                                                                                                                                                                               |
|                     | Citrix Mobile Apps                           | N/A                           | N/A                                                                                                                                                                                                                         |
|                     | Intelligent Workspace features               | N/A                           | N/A                                                                                                                                                                                                                         |
| Endpoint Management | Auto configure using DNS for Email Discovery | Supported                     | There are no limitations in this release.                                                                                                                                                                                   |
|                     | Centralized Management Settings              | Supported                     | There are no limitations in this release.                                                                                                                                                                                   |
|                     | App Store Updates/Citrix Auto updates        | N/A                           | N/A                                                                                                                                                                                                                         |
| UI                  | Desktop Viewer/Toolbar                       | Supported                     | There are no limitations in this release.                                                                                                                                                                                   |
|                     | Multi-tasking                                | Supported                     | There are no limitations in this release.                                                                                                                                                                                   |
|                     | Follow Me Sessions (Workspace Control)       | Supported                     | There are no limitations in this release.                                                                                                                                                                                   |
| HDX Host Core       | Adaptive transport                           | Supported                     | There are no limitations in this release.                                                                                                                                                                                   |
|                     | Session reliability                          | Supported                     | There are no limitations in this release.                                                                                                                                                                                   |

**Table 134. Citrix Workspace app feature matrix (continued)**

| Feature                 |                                    | ThinOS 9.1.4234 with CWA 2109 | Limitations                                                                                                                                                                                                                                                       |
|-------------------------|------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Auto-client Reconnect              | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Bi-directional Content redirection | N/A                           | N/A                                                                                                                                                                                                                                                               |
|                         | URL redirection                    | N/A                           | N/A                                                                                                                                                                                                                                                               |
|                         | File open in Citrix Workspace app  | N/A                           | N/A                                                                                                                                                                                                                                                               |
|                         | Browser content redirection        | Limited support               | Browser Content Redirection (BCR) with CEF is enabled by default. ThinOS does not provide the configuration to change BCR with WebKitGKT+.                                                                                                                        |
|                         | Multiport ICA                      | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Multistream ICA                    | Not supported                 | Not supported                                                                                                                                                                                                                                                     |
|                         | SDWAN support                      | Not supported                 | Not supported                                                                                                                                                                                                                                                     |
| HDX IO/Devices/Printing | Local Printing                     | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Generic USB Redirection            | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Client drive mapping/File Transfer | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
| HDX Integration         | Local App Access                   | N/A                           | N/A                                                                                                                                                                                                                                                               |
|                         | Multi-touch                        | N/A                           | N/A                                                                                                                                                                                                                                                               |
|                         | Mobility pack                      | N/A                           | N/A                                                                                                                                                                                                                                                               |
|                         | HDX Insight                        | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | HDX Insight with NSAP VC           | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | EUEM Experience Matrix             | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Session Sharing                    | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
| HDX Multi-media         | Audio Playback                     | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Bi-directional Audio (VoIP)        | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                         |
|                         | Webcam redirection                 | Supported                     | Webcam redirection works for 32-bit applications. For example, Skype and GoToMeeting. You can use a 32-bit browser to verify webcam redirection online. For example, <a href="http://www.webcamtests.com">www.webcamtests.com</a> . This is Citrix binary design. |

**Table 134. Citrix Workspace app feature matrix (continued)**

| Feature |                                                           | ThinOS 9.1.4234 with CWA 2109 | Limitations                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|-----------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | Video playback                                            | Supported                     | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                           |
|         | Flash redirection                                         | N/A                           | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         | Microsoft Teams Optimization                              | Supported                     | Supports Microsoft Teams optimization through HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. This is a Citrix binary design. For more information, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .              |
|         | Skype for business Optimization pack                      | Supported                     | Not supported through proxy server.                                                                                                                                                                                                                                                                                                                                                                                                 |
|         | Cisco Jabber Unified Communications Optimization          | Supported                     | For information about limitations, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                                                                                                                                                                                                                              |
|         | Unified Communication Zoom Cloud Meeting Optimization     | Supported                     | Support Zoom optimization via HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> .                                                              |
|         | Unified Communication Cisco Webex Teams Offloading (tVDI) | Supported                     | Supports Webex Teams optimization mode through HTTP proxy server which is configured in ThinOS Network Proxy by APT/ Wyse Management Suite. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |

**Table 134. Citrix Workspace app feature matrix (continued)**

| Feature        |                                                                    | ThinOS 9.1.4234 with CWA 2109            | Limitations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|--------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Unified Communication<br>Cisco Webex Meetings<br>Offloading (wVDI) | Supported                                | Dell Technologies recommends to wait for 10s to join a second meeting after you end the first meeting. Otherwise, VDI mode may not work. Supports Webex Meetings optimization mode through HTTP proxy server with anonymous authentication. It does not support the proxy configured by DHCP Option 252 or the proxy server configured with non-anonymous authentication. For more information, see the Dell Wyse ThinOS Version 9.1.4234 Administrator's Guide at <a href="http://www.dell.com/support">www.dell.com/support</a> . |
|                | Windows Multimedia redirection                                     | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | UDP Audio                                                          | Supported (not with NetScaler Gateway)   | Limited support—Not supported with Citrix ADC (formerly NetScaler) due to Citrix's limitation.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| HDX Graphics   | H.264-enhanced SuperCodec                                          | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | Client hardware acceleration                                       | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | 3DPro Graphics                                                     | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | External Monitor Support                                           | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | True Multi Monitor                                                 | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | Desktop Composition redirection                                    | N/A                                      | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                | Location Based Services (Location available via API-description)   | N/A                                      | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Authentication | Federated Authentication (SAML/Azure AD)                           | Supported                                | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO.                                                                                                                                                                                                                                                                                                                                                                                                              |
|                | RSA Soft Token                                                     | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | Challenge Response SMS (Radius)                                    | Supported                                | There are no limitations in this release.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | OKTA Multi factor authentication                                   | Limited supported (only supports Radius) | Does not support OKTA SAML authentication.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



**Table 134. Citrix Workspace app feature matrix (continued)**

| Feature  |                                                               | ThinOS 9.1.4234 with CWA 2109      | Limitations                                                                                                            |
|----------|---------------------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|          | DUO multi factor authentication                               | Supported                          | There are no limitations in this release.                                                                              |
|          | Smart cards (CAC, PIV etc)                                    | Supported                          | There are no limitations in this release.                                                                              |
|          | User Cert Auth via NetScaler Gateway (via Browser Only)       | N/A                                | N/A                                                                                                                    |
|          | Proximity/Contactless Card                                    | Supported                          | There are no limitations in this release.                                                                              |
|          | Credential insertion (For example, Fast Connect, Storebrowse) | Supported                          | There are no limitations in this release.                                                                              |
|          | Pass Through Authentication                                   | Supported                          | There are no limitations in this release.                                                                              |
|          | Save credentials (on-premise and only SF)                     | N/A                                | N/A                                                                                                                    |
|          | NetScaler nFactor Authentication                              | Not supported                      | Not supported                                                                                                          |
|          | NetScaler Full VPN                                            | Not supported                      | Not supported                                                                                                          |
|          | Netscaler Native OTP                                          | Supported                          | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|          | Biometric Authentication such as Touch ID and Face ID         | Supported (only supports Touch ID) | Only supports Touch ID.                                                                                                |
|          | Single Sign-On to Citrix Files App                            | N/A                                | N/A                                                                                                                    |
|          | Single Sign on to Citrix Mobile apps                          | N/A                                | N/A                                                                                                                    |
|          | Anonymous Store Access                                        | Supported                          | There are no limitations in this release.                                                                              |
|          | Netscaler + RSA                                               | Not supported                      | Not supported                                                                                                          |
|          | Netsclaer + Client cert authentication                        | Not supported                      | Not supported                                                                                                          |
|          | Citrix cloud + Azure Active Directory                         | Not supported                      | Not supported                                                                                                          |
|          | Citrix cloud + Active Directory + Token                       | Not supported                      | Not supported                                                                                                          |
|          | Citrix cloud + Citrix Gateway                                 | Not supported                      | Not supported                                                                                                          |
|          | Citrix cloud + Okta                                           | Not supported                      | Not supported                                                                                                          |
|          | Citrix cloud + SAML 2.0                                       | Not supported                      | Not supported                                                                                                          |
|          | Netscaler load balance                                        | Not supported                      | Not supported                                                                                                          |
| Security | TLS 1.2                                                       | Supported                          | There are no limitations in this release.                                                                              |

**Table 134. Citrix Workspace app feature matrix (continued)**

| Feature                                                                             |                                                                        | ThinOS 9.1.4234 with CWA 2109 | Limitations                                                                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | TLS 1.0/1.1                                                            | Not supported                 | Not supported                                                                                                          |
|                                                                                     | DTLS 1.0                                                               | Supported                     | There are no limitations in this release.                                                                              |
|                                                                                     | DTLS 1.2                                                               | Not supported                 | Not supported                                                                                                          |
|                                                                                     | SHA2 Cert                                                              | Supported                     | There are no limitations in this release.                                                                              |
|                                                                                     | Smart Access                                                           | Not supported                 | Not supported                                                                                                          |
|                                                                                     | Remote Access via Citrix Gateway                                       | Supported                     | Does not support lock terminal when logging on Netscaler with web-based authentication such as OTP and Azure SAML SSO. |
|                                                                                     | Workspace for Web Access                                               | N/A                           | N/A                                                                                                                    |
|                                                                                     | IPV6                                                                   | Not supported                 | Not supported                                                                                                          |
| Keyboard Enhancements                                                               | Dynamic Keyboard Layout Synchronization with Windows VDA               | Supported                     | There are no limitations in this release.                                                                              |
|                                                                                     | Unicode Keyboard Layout Mapping with Windows VDA                       | Supported                     | There are no limitations in this release.                                                                              |
|                                                                                     | Client IME Enhancements with Windows VDA                               | N/A                           | N/A                                                                                                                    |
|                                                                                     | Language Bar Show/Hide with Windows VDA Applications                   | N/A                           | N/A                                                                                                                    |
|                                                                                     | Option Key mapping for server-side IME input mode on Windows VDA       | N/A                           | N/A                                                                                                                    |
|                                                                                     | Dynamic Keyboard Layout Synchronization with Linux VDA                 | Not supported                 | Not supported                                                                                                          |
|                                                                                     | Client IME Enhancements with Linux VDA                                 | N/A                           | N/A                                                                                                                    |
|                                                                                     | Language Bar support for Linux VDA Applications                        | Not supported                 | Not supported                                                                                                          |
|                                                                                     | Keyboard sync only when a session is launched—client Setting in ThinOS | Supported                     | There are no limitations in this release.                                                                              |
|                                                                                     | Server default setting in ThinOS                                       | Supported                     | There are no limitations in this release.                                                                              |
|                                                                                     | Specific keyboard in ThinOS                                            | Supported                     | There are no limitations in this release.                                                                              |
|                                                                                     |                                                                        |                               |                                                                                                                        |
| New features listed in Citrix Workspace App release notes but not in feature matrix | Session reliability enhancement (CWA2109)                              | Supported                     | There are no limitations in this release                                                                               |
|                                                                                     | Enhancement to logging (CWA2109)                                       | Not Supported                 | Not supported                                                                                                          |
|                                                                                     | Adaptive audio (CWA2109)                                               | Not Supported                 | Not supported                                                                                                          |

**Table 134. Citrix Workspace app feature matrix (continued)**

| Feature                  |                                                                             | ThinOS 9.1.4234 with CWA 2109 | Limitations                                 |
|--------------------------|-----------------------------------------------------------------------------|-------------------------------|---------------------------------------------|
|                          | Storebrowse enhancement for service continuity(CWA2109)                     | Not Supported                 | Not supported                               |
|                          | Global App Config Service (Public Technical Preview) (CWA2109)              | Not Supported                 | Not supported                               |
|                          | EDT MTU discovery (CWA2109)                                                 | To be verified                | This feature is not verified yet in ThinOS. |
|                          | Creating custom user-agent strings in network request (CWA2109)             | Not Supported                 | Not supported                               |
|                          | Feature flag management (CWA2109)                                           | Not Supported                 | Not supported                               |
|                          | Battery status indicator (CWA2106)                                          | Supported                     | There are no limitations in this release.   |
|                          | Service continuity (Technical Preview) (CWA2104, CWA2106)                   | Not supported                 | Not supported                               |
|                          | Pinning multi-monitor screen layout (CWA2103)                               | Not supported                 | Not supported                               |
|                          | App Protection (CWA2101, CWA2106 )                                          | Not supported                 | Not supported                               |
|                          | Authentication enhancement is available only in cloud deployments (CWA2012) | Not supported                 | Not supported                               |
|                          | Multiple audio (CWA2012 and CWA2010)                                        | Not supported                 | Not supported                               |
|                          | Citrix logging (CWA2009)                                                    | Supported                     | There are no limitations in this release.   |
|                          | Cryptographic update (CWA2006)                                              | Not supported                 | Not supported                               |
|                          | Transparent user interface (TUI) (CWA1912 and CWA1910)                      | Not supported                 | Not supported                               |
|                          | GStreamer 1.x supportexperimental feature(CWA1912)                          | Supported                     | There are no limitations in this release.   |
|                          | App indicator icon (CWA1910)                                                | Not supported                 | Not supported                               |
|                          | Latest webkit support (CWA1908 and CWA1906)                                 | Supported                     | There are no limitations in this release.   |
|                          | Bloomberg audio redirection (CWA1903)                                       | Supported                     | There are no limitations in this release.   |
|                          | Bloomberg v4 keyboard selective redirection support(CWA1808)                | Supported                     | There are no limitations in this release.   |
| ThinOS VDI configuration | Broker Setting                                                              | Supported                     | There are no limitations in this release.   |

**Table 134. Citrix Workspace app feature matrix (continued)**

| Feature |                         | ThinOS 9.1.4234 with CWA 2109 | Limitations                               |
|---------|-------------------------|-------------------------------|-------------------------------------------|
|         | PNA button menu         | Supported                     | There are no limitations in this release. |
|         | Sign on window function | Supported                     | There are no limitations in this release. |
|         | Workspace mode          | Supported                     | There are no limitations in this release. |
|         | Admin policy tool       | Supported                     | There are no limitations in this release. |

## New and enhanced features

### Citrix Workspace app updates

- Citrix Workspace app package version is updated to 21.9.0.25.1. This package is intended for users who want to install the Citrix Workspace app version 2109 on ThinOS.
  - HDX RealTime Media Engine (RTME) within the Citrix Workspace app 2109 package is updated to version 2.9.400.
  - Session reliability enhancement—The screen changes when session reliability begins. The session window is disabled and a countdown timer with the time until the next reconnection attempt is displayed.
-  **NOTE:** This feature is only supported on Citrix Virtual Desktops. For more information, see the Citrix documentation at [docs.citrix.com](https://docs.citrix.com).
- Update the HID fingerprint reader to fix the issue where the ICA session does not launch after you upgrade **Citrix Workspace app version 2106** to **version 2109** or if you uninstall and reinstall **Citrix Workspace app version 2109**. See, [HID fingerprint reader updates](#).

#### Citrix Workspace app limitations and known issues

- **Keyboard Layout Mode = Server Default** in CWA2109 is not working. This issue is also observed in the Citrix Workspace app Linux binary.
- Battery status does not appear on a desktop session that is launched from Wyse 5470 Thin Client. This issue is also observed in the Citrix Workspace app Linux binary.
- Citrix session gets disconnected if **Adaptive Audio** is enabled when you connect to a VDI desktop that runs on Citrix VDA 2109. You must disable Adaptive Audio function to connect to Citrix VDA 2109 desktop.
  - If you are using Desktop Delivery Controller (DDC) version 2109, you can find the **Adaptive Audio** policy, and disable it using the policy settings.
  - If you are using DDC version 1912, change the registry value of **REG\_DWORD EnableAdaptiveAudio** to **0** in the following registry paths:
    - Desktop VDA (Windows 10)—**HKLM\Software\Citrix\Audio**
    - Server VDA (Server 2016\2019)—**HKLM\Software\WOW6432Node\Citrix\Audio**
- Users are not able to share screen while using Microsoft Teams in Citrix VDA 2109 with Citrix Workspace app 2106 for Linux.
- The following new features from Citrix Workspace app 2108 and Citrix Workspace app 2109 are not supported:
  - Enhancement to logging—ThinOS does not provide the collectlog.py tool that lets you collect the log files from different folders.
  - Service continuity
  - Support for Service continuity with Citrix Workspace Web Extension for Google Chrome
  - Storebrowse enhancement for service continuity
  - Global App Config Service (Public Technical Preview)
  - Creating custom user-agent strings in network request
  - Feature flag management
  - App protection—App protection component is not installed during Citrix Workspace app package installation in ThinOS. Hence, the App protection feature is not supported in ThinOS. If you continue to enable App protection for Citrix delivery group, you cannot see the published resources in thin client. This limitation is a known issue in ThinOS. In Citrix Workspace app for Linux, the published resources can be seen, however, if you try to launch protected resources, the client displays a warning message.

- Adaptive audio—Citrix session gets disconnected if **Adaptive Audio** is enabled when you connect to a VDI desktop that runs on Citrix VDA 2109. You must disable **Adaptive Audio** function to connect to Citrix VDA 2109 desktop.
- EDT MTU discovery feature is not qualified by Dell Technologies—MTU Discovery is enabled by default. For more information, see the Citrix documentation at [docs.citrix.com](https://docs.citrix.com).

## Cisco WebEx Meetings VDI updates

- Cisco WebEx Meetings VDI package version is updated to 41.10.3.19.1.
- Supports video optimization with WebEx Meetings VDI from this release.

## Cisco WebEx Meetings optimization for VMware Horizon feature matrix

**Table 135. Cisco Webex Meetings optimization feature matrix**

| Scenarios                                         | ThinOS 9.1.4234 |
|---------------------------------------------------|-----------------|
| Join meeting                                      | Supported       |
| Audio call                                        | Supported       |
| Video call                                        | Supported       |
| Start video                                       | Supported       |
| Stop video                                        | Supported       |
| Switch camera during meetings                     | Supported       |
| Adjust volume                                     | Supported       |
| Testing microphone                                | Supported       |
| Testing speaker                                   | Supported       |
| End meeting                                       | Supported       |
| Leave meeting                                     | Supported       |
| Change microphone device                          | Supported       |
| Change speaker device                             | Supported       |
| Mute by self                                      | Supported       |
| Unmute                                            | Supported       |
| Lock meeting                                      | Supported       |
| Return meeting                                    | Supported       |
| Hotplug headset                                   | Supported       |
| Plug out headset                                  | Supported       |
| Plug out headset and plug in a new headset device | Supported       |
| Disconnect network                                | Not tested      |
| Disconnect desktop                                | Supported       |
| Music mode                                        | Supported       |
| Polls                                             | Supported       |
| Chat—To everyone                                  | Supported       |
| Chat—To specified participants                    | Supported       |
| Share screen—If 1 monitor is connected            | Supported       |
| Share screen—If multiple monitors are connected   | Supported       |

**Table 135. Cisco Webex Meetings optimization feature matrix (continued)**

| Scenarios                                            | ThinOS 9.1.4234 |
|------------------------------------------------------|-----------------|
| Share screen—Whiteboard                              | Supported       |
| Share screen—Share one of the applications           | Supported       |
| Share screen—Switch share content                    | Supported       |
| Share screen—Annotate                                | Supported       |
| Share screen—Pause or Resume                         | Supported       |
| Share screen—View—Full screen                        | Supported       |
| Share screen—View—Zoom in, out, or to                | Supported       |
| Share screen—Start or Stop video during share screen | Supported       |
| Record meeting—Start, Pause, or Stop recording       | Supported       |
| Support—Request Desktop Control                      | Not supported   |
| Support—Request Application Control                  | Not supported   |
| Stop share screen                                    | Supported       |
| Participant                                          | Supported       |
| Close Participant                                    | Supported       |

## Cisco WebEx Meetings optimization for VMware Horizon limitations

- If you hot-plug the thin client, the thin client may stop responding during meetings.
- If you use the integrated microphone on the Wyse 5470 and Wyse 5470 All-in-One thin clients, there can be echo.
- The EagleEye mini camera does not work in WebEx Meetings.

## HID fingerprint reader updates

HID Fingerprint Reader package is updated to 210217.11. This package resolves the issue where the ICA session does not launch after you upgrade **Citrix Workspace app version 2106** to **version 2109** or if you uninstall and reinstall **Citrix Workspace app version 2109**.

**NOTE:** Dell Technologies recommends that you disable **Enable HID Fingerprint Reader** before you upgrade the HID fingerprint reader package, and then enable it again after you upgrade the package. The HID fingerprint reader does not work in the ICA session without first disabling the **Enable HID Fingerprint Reader** option before you upgrade HID fingerprint reader package.

If the HID fingerprint reader does not work in the ICA session, disable **Enable HID Fingerprint Reader** from **Advanced > Session Settings > Global Session Settings** in the **Admin Policy Tool** or **Wyse Management Suite** policy settings, and save the setting changes. Enable the **Enable HID Fingerprint Reader** option again, before you log in to the Citrix server.

## Cisco WebEx VDI update

Cisco WebEx VDI package version is updated to 41.10.0.20213.1.

# Tested environments matrix

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

**Table 136. Tested environment—General components**

| Component                                     | Version                      |
|-----------------------------------------------|------------------------------|
| Wyse Management Suite (cloud and on-premises) | 3.5                          |
| Imprivata OneSign                             | 7.1.005.42                   |
| Citrix ADC (formerly NetScaler)               | 12.1/13.0                    |
| StoreFront                                    | 1912 LTSR and later versions |

**Table 137. Test environment—Citrix**

| Citrix Virtual Apps and Desktops                   | Windows 10 | Windows Server 2016 | Windows Server 2019 | APPs   |
|----------------------------------------------------|------------|---------------------|---------------------|--------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Tested     | Tested              | Tested              | Tested |
| Citrix Virtual Apps and Desktops 7 2109            | Tested     | Tested              | Tested              | Tested |

**Table 138. Tested environment—Skype for Business**

| Citrix VDI                                         | Operating system    | RTME Client | RTME Agent | Skype for Business client | Skype for Business Server |
|----------------------------------------------------|---------------------|-------------|------------|---------------------------|---------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 2.9.400     | 2.9.400    | Skype for Business 2016   | Skype for Business 2015   |
|                                                    | Windows server 2016 |             |            |                           |                           |
| Citrix Virtual Apps and Desktops 7 2109            | Windows server 2019 |             |            |                           |                           |

**Table 139. Tested environment—JVDI**

| Citrix VDI                                         | Operating system    | JVDI   | JVDI agent | Jabber software |
|----------------------------------------------------|---------------------|--------|------------|-----------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 14.0.1 | 14.0.1     | 14.0.1          |
|                                                    | Windows server 2016 |        |            |                 |
| Citrix Virtual Apps and Desktops 7 2109            | Windows server 2019 |        |            |                 |

**Table 140. Tested environment—Zoom**

| Citrix VDI                                         | Operating system    | Zoom package | Zoom software |
|----------------------------------------------------|---------------------|--------------|---------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 5.7.6.20822  | 5.7.6.20822   |
|                                                    | Windows server 2016 |              |               |
| Citrix Virtual Apps and Desktops 7 2109            | Windows server 2019 |              |               |

**Table 141. Tested environment—Cisco Webex Teams**

| Citrix VDI                                         | Operating system    | Webex VDI       | Webex Teams software |
|----------------------------------------------------|---------------------|-----------------|----------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 41.10.0.20213.1 | 41.10.0.20213        |
|                                                    | Windows server 2016 |                 |                      |

**Table 141. Tested environment—Cisco Webex Teams (continued)**

| Citrix VDI                              | Operating system    | Webex VDI | Webex Teams software |
|-----------------------------------------|---------------------|-----------|----------------------|
| Citrix Virtual Apps and Desktops 7 2109 | Windows server 2019 |           |                      |

**Table 142. Tested environment—Cisco Webex Teams**

| VMware VDI          | Operating system    | Webex Teams     | Webex Teams software |
|---------------------|---------------------|-----------------|----------------------|
| VMware Horizon 7.12 | Windows 10          | 41.10.0.20213.1 | 41.10.0.20213        |
| VMware Horizon 2103 | Windows server 2016 | 41.10.0.20213.1 | 41.10.0.20213        |
| VMware Horizon 2106 | Windows server 2019 | Not tested      | Not tested           |

**Table 143. Tested environment—Cisco Webex Meetings**

| Citrix VDI                                         | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|----------------------------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| Citrix Virtual Apps and Desktops 7 1912 LTSR (CU3) | Windows 10          | 41.10.3.19.1       | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.10 to 42.2. |
|                                                    | Windows server 2016 |                    |                                                                                                             |
| Citrix Virtual Apps and Desktops 7 2109            | Windows server 2019 |                    |                                                                                                             |

**Table 144. Tested environment—Cisco Webex Meetings**

| VMware VDI          | Operating system    | Webex Meetings VDI | Webex Meetings software                                                                                     |
|---------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------------------------|
| VMware Horizon 7.12 | Windows 10          | 41.10.3.19.1       | The supported compatible version of Webex Meetings app on the hosted virtual desktop is from 41.10 to 42.2. |
| VMware Horizon 2103 | Windows server 2016 |                    |                                                                                                             |
| VMware Horizon 2106 | Windows server 2019 |                    |                                                                                                             |

## Known issues

**Table 145. Known issues**

| Issue ID  | Description                                                                                                                                                                                                                                                  | Workaround                                   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| DTOS-5132 | Published apps in <b>Auto Connect List</b> under <b>Broker Connections</b> do not connect when they are in log off status. The issue is observed on devices with Citrix Workspace app version 21.9.0.25.1.                                                   | Connect the apps by clicking them manually.  |
| DTOS-5197 | Sometimes the microphone does not work or there is echo from the audio during a video call on Skype for Business (no RTME). The issue is observed on Wyse 5070 Extended and Wyse 5470 All-in-One thin clients with Citrix Workspace app version 21.9.0.25.1. | Configure to RTME or only audio call.        |
| DTOS-5198 | When you log in to the Citrix Broker agent after connecting the VPN without adding a DNS address, an incorrect prompt message is displayed. The issue is observed on devices with Citrix Workspace app version 21.9.0.25.1.                                  | There is no workaround in this release.      |
| DTOS-5217 | Camera is occupied by an unknown procedure after launching a session desktop. Other apps cannot use the camera unless you sign off and sign in to the desktop again. The issue is observed on devices with Citrix Workspace app version 21.9.0.25.1.         | Disconnect or sign out and relaunch session. |
| DTOS-5153 | Noise is observed when recording voice with analog or USB headset in VDI session on Wyse 5070 thin client. The issue is observed on Wyse 5070 Extended with Citrix Workspace app version 21.9.0.25.1.                                                        | There is no workaround in this release.      |



**Table 145. Known issues (continued)**

| Issue ID  | Description                                                                                                                                                                                                                             | Workaround                                                                                                                                                                                                                                                                                                                                           |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTOS-5108 | Graphics issue is observed during Webex Meeting calls and also while sharing screen. The issue is observed on Wyse 5070 Standard with Citrix Workspace app version 21.9.0.25.1.                                                         | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-5194 | Background noise is observed even after selecting <b>Noise Removal</b> option during WebEx Teams call. The issue is observed on Wyse 5070 Standard and Wyse 5470 All-in-One thin clients with Citrix Workspace app version 21.9.0.25.1. | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-5205 | Webex Meetings call does not end even after ending the Webex meetings process from Task Manager. The issue is observed on Wyse 5470 All-in-One with Citrix Workspace app version 21.9.0.25.1.                                           | Log in to the session again, after closing the WebEx VDI through task manager.                                                                                                                                                                                                                                                                       |
| DTOS-5196 | After closing Webex teams apps in task manager, the audio from meeting is still audible. The issue is observed on devices with Citrix Workspace app version 21.9.0.25.1.                                                                | Log in to the session again, after closing the WebEx VDI through task manager.                                                                                                                                                                                                                                                                       |
| DTOS-5166 | If you disconnect the headset from the thin client, the audio from Microsoft Teams echoes. The issue is observed on Wyse 5070 and Wyse 5470 All-in-One thin clients with Citrix Workspace app version 21.9.0.25.1.                      | Do not disconnect or hotplug headsets. You must keep the headset connected.                                                                                                                                                                                                                                                                          |
| DTOS-5224 | Video distortion and lag in the video movement when Microsoft Teams window is dragged. The issue is observed on devices with Citrix Workspace app version 21.9.0.25.1.                                                                  | This issue is only observed when the Microsoft teams window is dragged. There is no workaround in this release.                                                                                                                                                                                                                                      |
| DTOS-5225 | Unable to generate Attendee history report in Cisco Webex Meetings. The issue is observed on Wyse 5470 All-in-One with VMware Horizon 2106.8.3.0.18251983_5.                                                                            | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-5227 | Unable to check Highlights, Attendance, and Registration Reports in Event content. The issue is observed on Wyse 5470 All-in-One with VMware Horizon 2106.8.3.0.18251983_5.                                                             | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-5235 | ICA session does not launch after you upgrade <b>Citrix Workspace app version 2106</b> to <b>version 2109</b> or if you uninstall and reinstall <b>Citrix Workspace app version 2109</b> .                                              | Upgrade to the latest Citrix Workspace app and HID fingerprint packages. <b>Citrix_Workspace_App_21.9.0.25_1.pkg</b> and <b>HID_Fingerprint_Reader_210217_11.pkg</b> .                                                                                                                                                                               |
| DTOS-4677 | EagleEye mini Camera does not work in Cisco Webex Meetings optimized mode.                                                                                                                                                              | There is no workaround in this release.                                                                                                                                                                                                                                                                                                              |
| DTOS-4355 | The Horizon Blast session stops responding during Cisco WebEx Meetings call.                                                                                                                                                            | Relaunch Horizon Blast session.                                                                                                                                                                                                                                                                                                                      |
| DTOS-5334 | HID fingerprint reader does not work after you upgrade the HID package.                                                                                                                                                                 | Disable the <b>Enable HID Fingerprint Reader</b> option from <b>Advanced &gt; Session Settings &gt; Global Session Settings</b> in the <b>Admin Policy Tool</b> or <b>Wyse Management Suite</b> policy settings, and save the setting changes. Enable the <b>Enable HID Fingerprint Reader</b> option again, before you log in to the Citrix server. |

## Resources and support

### Accessing documents using the product search

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. In the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** search box, type the product name.  
For example, **Wyse 3040 thin client** or **Wyse ThinOS**.

A list of matching products is displayed.

3. Select your product.
4. Click **Documentation**.

### Accessing documents using product selector

You can also access documents by selecting your product.

1. Go to [www.dell.com/support](http://www.dell.com/support).
2. Click **Browse all products**.
3. Click **Thin Clients**.
4. Click the desired category, either **Wyse Hardware** or **Wyse Software**.
5. Click the desired product.
6. Click **Documentation**.

# Contacting Dell

## Prerequisites

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

## About this task

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

## Steps

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