Dell Wyse ThinOS

Version 9.0 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.

Contents

Release summary

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

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

Version

ThinOS 9.0.1136

Release date

March 2020

Importance

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

Firmware upgrade

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

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

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

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

Other documents you may need

In addition to this Release Notes, you can access the following guides available at www.dell.com/support/manuals.

- The *Dell Wyse ThinOS Version 9.0 Administrator's Guide* provides information about using the ThinOS desktop, configuring the Broker agent connections, and troubleshooting your thin client.
- The *Dell Wyse ThinOS Version 9.0 Migration Guide* provides information about downloading the ThinOS 9.0 firmware from the Dell support site, and how to upgrade from ThinOS 8.6 firmware to ThinOS 9.0.
- The *Dell Wyse Management Suite 2.0 Administrator's Guide* provides information about configuration, and maintenance of the ThinOS 9.0-based thin clients by using the Wyse Management Suite console.

Compatibility

Supported platforms

Table 1. Supported platforms

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

Supported packages

Table 2. Supported packages

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

BIOS details

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

Table 3. BIOS details

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

ThinOS 9.0 feature matrix

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

Table 4. ThinOS 9.0 feature matrix—Local settings

ThinOS functional area		Description	Supported	Additional information
System Management	Firmware and application packages	Enables you to install the ThinOS firmware and application packages. • Firmware signature • Operating system firmware update • Packages update • Packages compatibility • BIOS update • MIX update	Limited support	BIOS update is not supported.
	Dell BIOS	Enables you to configure the Dell BIOS settings through Wyse Management Suite and Admin Policy Tool.	No	Not available
	Admin Policy Tool	Enables IT administrators to manage device configurations.	Limited support	For more information about the supported features, see the Admin Policy Tool feature matrix.
	Wyse Device Agent (WDA) settings	Enables you to set the Wyse Management Suite information.	Yes	Not available
	Wyse Management Suite	Enables you to manage ThinOS 9.0-based thin clients using Wyse Management Suite v2.0.	Yes	Not available
System components	First Boot Wizard	Enables you to configure the thin client settings before you enter the ThinOS system desktop. You can configure the following options using the First Boot Wizard application: • Select a language. • Select a keyboard layout. • Select a time zone. • Connect to a wired or wireless network. • Import the Wyse Management Suite configurations or import configurations from a USB drive. • Select a Broker agent.	Yes	Not available
	Printer	Enables you to configure the printer that is connected to the thin client. • Connect a USB printer to the thin client. • Connect a Serial printer to the thin client. • Connect a Parallel printer to the thin client. • Set the printer as COM, LPT, LPD, or SMB printer.	Yes	If you want to use a mapped printer in the session, use a printer that supports the PostScript printing language.
	Lock terminal	Enables you to lock the thin client using any of the following methods:	Yes	Not available

Table 4. ThinOS 9.0 feature matrix—Local settings(continued)

ThinOS functional area		Description	Supported	Additional information
		• Unplug a signed-on smart card from the thin client. • Use the Lock Terminal option from the shortcut menu. • Use the Lock Terminal option from the shutdown dialog box. • Use a screensaver.		
	Sign off and shut down	Enables you to sign out from the current account or shut down the system voluntarily. Use the shutdown dialog box to perform the following tasks: • Sign out from your current user account. • Reboot the system. • Shut down the system. • Enter into sleep mode. • Lock the terminal. • Reset the system to factory default settings.	Yes	Not available
	Classic desktop mode	Enables you to use the classic desktop with a horizontal taskbar at the bottom of the screen. The following are the desktop components: • Shortcut Menu • Left Menu • System Tray • Start Menu • Connection Manager	Yes	Not available
	Network setup—General settings	Enables you to configure the following network settings: • Default gateway for a dual network connection. • Domain Name System (DNS) and Windows Internet Name Service (WINS). • Transmission Control Protocol (TCP) timeout.	Limited support	WINS is not supported.
	Network setup—DHCP settings	Enables you to configure the Dynamic Host Configuration Protocol (DHCP) options to get the DHCP Scope settings from the server. • DHCP Option ID for Citrix Server—181 • DHCP Option ID for Domain List—182 • DHCP Option ID for Group Registration Key—199 • DHCP Option ID for Wyse Management Suite server—165 • DHCP Option ID for Message Queuing Telemetry Transport (MQTT) server—166 • DHCP Option ID for CA validation—167 • DHCP Option ID for negative input • DHCP Vendor ID • DHCP UserClass ID	Supported	Not available
	Network setup—Ethernet settings	Enables you to configure the following Ethernet connection settings:	Limited support	• Dual IPv6 is not supported.

Table 4. ThinOS 9.0 feature matrix—Local settings(continued)

ThinOS functional area	Description	Supported	Additional information
	• Ethernet port selection for dual Network Interface Controller (NIC). • Ethernet speed selection. • IPv4 and IPv6 properties. • IEEE802.1x authentication.		• SFP is limited support. The thin client cannot fetch the IP address, mostly when you are using a dual network connection. • The EEE802.1x wired authentication may fail after one minute if using EAP-LEAP.
Network setup—WLAN settings	Enables you to configure the following wireless connection settings: • Wireless scan • Wireless profile (Security/Authentication) • Add or remove a wireless profile. • Disable wireless • Wireless IP configuration	Yes	Not available
Network setup—Proxy settings	Enables you to configure the proxy network settings. HTTP, HTTPS, and SOCKS5 protocols are supported.	Yes	Not available
Virtual Private Network (VPN)—OpenConnect	Enables you to configure a virtual private network.	Yes	Not available
Wireless connection	• Marvell Wireless Chipset 8897 • Intel Wireless Chipset 9560 • IEEE 802.11 a/b/g/n/ac • Dual Band 2.4G and 5G • Available Bandwidths and Channels in Chipset Spec • Securities and authentications—WPA/WPA2, TLS/PEAP/LEAP/FAST/MSCHAPV2/GTC • Wireless Scanning functionality • Wireless connectivity—WLAN information, WiFi performance, roaming, Dual-network, Bluetooth, compatibility with routers, APs, and controllers.	Limited support	• WEP is not supported. • 802.11r/k is supported on Wyse 5070, Wyse 5470, Wyse 5470 All-in-One clients with Intel Wireless Chipset 9560.
Bluetooth	Enables you to connect to Bluetooth v3.0 and v4.0 devices.	Limited support	Bluetooth mouse and keyboard with Bluetooth v3.0 are supported.
Audio, USB audio, and DisplayPort audio	Enables you to use USB audio and DP audio.	Yes	DP audio limitations on the Wyse 3040 Thin Client are as follows: • Audio latency is 1.5 seconds.

Table 4. ThinOS 9.0 feature matrix—Local settings(continued)

ThinOS functional area		Description	Supported	Additional information
				• DP audio is disabled by default. • Works only with screen resolution less than or equal to 1920 x 1080. • DP audio is supported only on DisplayPort 1.
	System Preference	Enables you to configure the following system settings: • Screen saver • Locale • Terminal name • Time and date • Custom information • Power and Sleep	Yes	Not available
	Display setup	Enables you to configure the following display settings: • Display resolution • Display rotation • Mirror mode • Span mode • Main screen alignment • Identify screens • Single screen and multiple screens configuration	Yes	Not available
	On-Screen Display (OSD)—Applicable only for Wyse 5470 All-in-One Thin Client	Enables you to configure the following OSD settings: • Adjust brightness • Turn off and turn on the screen. • Turn off the screen and wake up the screen using a USB mouse or a USB keyboard.	Yes	Not available
	Peripheral settings	Enables you to configure the following peripherals settings: • Mouse settings • Keyboard settings • Audio settings • Serial settings • Camera settings • Bluetooth settings	Yes	Touch screen that needs calibration is not supported.
	Touch screen—Applicable only for Wyse 5470 Thin Client	Enables you to use the touch screen gestures on the Wyse 5470 Thin Client.	Yes	Not available
	Touchpad—Applicable only for Wyse 5470 Thin Client	Enables you to use the touchpad gestures on the Wyse 5470 Thin Client.	Yes	Not available

Table 4. ThinOS 9.0 feature matrix—Local settings(continued)

ThinOS functional area		Description	Supported	Additional information
	Function keys	Enables you to use the Function key combinations in both local and Citrix sessions.	Limited support	Fn key combination does not work in Citrix sessions.
	Close lid function—Applicable only for Wyse 5470 Thin Client	Enables you to turn off or turn on the displays when the lid is closed.	Yes	Not available
	Power management—Applicable only for Wyse 5470 Thin Client	Enables you to use the following power-saving options—with or without AC power supply: · Adjust the screen brightness. · Automatically shut down or enter sleep mode	Yes	Not available
	Battery indicator—Applicable only for Wyse 5470 Thin Client	Enables you to use the battery indicator to check the battery status of the Wyse 5470 Thin Client.	Yes	Not available
	Reset to factory default settings	Enables you to reset the thin client to factory default settings.	Yes	Not available
	System Tools—Certificates and packages	Enables you to configure the following options: · Import a certificate. · Delete a certificate. · Simple Certificate Enrollment Protocol (SCEP)—Request a certificate and automatically enroll using a password. · Admin Policy Tool to configure SCEP · View packages list · Delete one or more packages.	Yes	Not available
	Troubleshooting	Enables you to use the following options to troubleshoot your thin client: · Performance Monitor · Export system settings · Export screenshots · Export system logs · Network capture · Wireless capture · Capture USB packets. · Network ping and Trace route · Telnet	Limited support	Extract and restore CMOS are not supported.
	Session properties	Enables you to configure the session settings using Connect Manager or session menu.	Yes	Not available
	USB devices	Enables you to use the following options: · Connect to USB 2.0 and USB 3.0 ports. · USB mapping · USB redirection	Yes	Not available
	Dell Docking Station WD19	Enables you to access all peripherals—mouse, keyboard, stereo speakers, external hard drive, and large-screen displays—without having to plug each one into the thin client.	Limited support	· Audio jack does not work. · Wake on LAN/USB using the Dell Docking Station WD19 is not supported.

Table 4. ThinOS 9.0 feature matrix—Local settings(continued)

ThinOS functional area		Description	Supported	Additional information
	Secure Digital (SD) card—Applicable only for Wyse 5470 Thin Client	Enables you to import and export files.	Yes	Not available
System Security	Trusted Platform Module (TPM)	Enables you to enable disk encryption with TPM.	Yes	Not available
	Smart card	Enables you to use a smart card to authenticate the user.	Limited support	When you launch a disconnected Citrix Windows 2012/2016 session, the session stops responding.
	Authentication settings	Enables you to configure the following authentication settings: • OneSign configuration using IP • OneSign configuration using FQDN • HealthCast configuration	Limited support	HealthCast is not supported.
	Secure Boot	Option to enable Secure Boot on the thin client.	No	Not available
ThinOS VDI configuration	Broker agent settings	Enables you to configure the Citrix Broker agent settings.	Yes	Not available
	General settings	Enables you to configure the following general options: • Sign-off automatically • Shut down the system automatically. • Restart the system automatically. • Set default login credentials	Yes	Not available
	Global Connection Settings	Enables you to configure the settings common to all sessions and all ICA sessions in the **Global Connection Settings** window.	Yes	Not available
	PNA button menu	Enables you to use the following options from the PNA button menu: • Refresh • Reconnect • Log off • Disconnect • Manage security questions (Enable SSPR).	Yes	Not available
	Sign-on window	Enables you to use the login options available on the sign-on window. You can use a smart card, Imprivata, and other two-factor authentication methods to log in to the Citrix session.	Yes	Not available

New and enhanced features

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

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

Enhanced User Interface

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

- Desktop menu
- Taskbar
- Connection and application shortcuts
- Broker agent login window

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

Support for Wyse Management Suite 2.0

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

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

Admin Policy Tool

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

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

Configure the Admin Policy Tool

Steps

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

Admin Policy Tool feature list

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

Table 5. Admin Policy Tool

Feature	Sub-Feature	ThinOS 9.0	Additional information
Region & Language Settings	Region & Language	Supported	Not available
Privacy & Security	SCEP	Supported	Not available
Privacy & Security	Device Security	Supported	You must restart the client for all changes to take effect.
Privacy & Security	Account Privileges	Supported	ThinOS 9.0 only supports the privilege control of desktop left and right-click menu.
Privacy & Security	Certificates	Supported	Not available
Broker & Session	Global Session Settings	Supported	Not available
Broker & Session	Citrix Broker Settings	Supported	Not available
Broker & Session	Citrix Session Settings	Supported	Not available
Login Experience	3rd Party Authentication	Supported	You must restart the client for the OneSign server changes to take effect.
Login Experience	Smart card Settings	Supported	You must restart the client for all changes to take effect.
Login Experience	Login Settings	Supported	Not available
Login Experience	Session Settings	Supported	Not available
Personalization	Shortcut Keys	Supported	If you configure fast disconnect and fast connect settings, you must restart the client for changes to take effect.
Personalization	Device Info	Supported	Not available
Personalization	Desktop	Supported	You must restart the client for all changes to take effect. Desktop Background Image can be configured only using Wyse Management Suite.
Personalization	Screen Saver	Supported	Not available
Peripheral Management	RFIdeas Reader	Supported	Not available
Peripheral Management	Printers	Supported	Not available
Peripheral Management	Audio	Supported	You must restart the client for all changes to take effect.
Peripheral Management	Touch	Supported	Not available
Peripheral Management	Serial Port	Supported	You must restart the client for all changes to take effect.
Peripheral Management	USB Redirection	Supported	Not available
Peripheral Management	Monitor	Supported	Not available
Peripheral Management	Mouse	Supported	Not available
Peripheral Management	Keyboard	Supported	Not available
Firmware	Application Package Settings	Not supported	Not available

Table 5. Admin Policy Tool(continued)

Feature	Sub-Feature	ThinOS 9.0	Additional information
Firmware	OS Firmware Properties Settings	Not supported	Not available
System Settings	Power and Sleep Settings	Supported	Not available
System Settings	Scheduled Reboot Settings	Supported	Not available
System Settings	Scheduled Shutdown Settings	Supported	Not available
System Settings	Device Settings	Supported	Not available
Network Configuration	Ethernet	Supported	Not available
Network Configuration	DHCP Properties	Supported	Not available
Network Configuration	DNS Properties	Supported	Not available
Network Configuration	VPN	Supported	Not available
Network Configuration	Bluetooth	Supported	You must restart the client for all changes to take effect.
Network Configuration	Proxy	Supported	Not available
Network Configuration	Wireless	Supported	Not available
Services	VNC	Supported	Not available
Services	WMS Properties	Supported	Not available
Services	Troubleshooting Properties	Supported	Not available

Cisco Jabber Softphone for VDI v12.8

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

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

Citrix Workspace app v1912

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

For more information about the Citrix Workspace app, see the *Citrix documentation* at www.citrix.com.

Citrix Workspace app feature matrix

Table 6. Citrix Workspace app feature matrix

Feature*		ThinOS 9.0
Citrix Workspace	Citrix Virtual Apps	Supported
	Citrix Virtual Desktops (including Windows and Linux desktop)	Supported
Endpoint Management	Auto configure using DNS for Email Discovery	Supported
	Centralized Management Settings	Supported

Table 6. Citrix Workspace app feature matrix(continued)

Feature*		ThinOS 9.0
UI	Desktop Viewer/Toolbar	Supported
	Multi-tasking	Supported
	Follow Me Sessions (Workspace Control)	Supported
HDX Host Core	Adaptive transport	Supported
	Session reliability	Supported
	Auto-client Reconnect	Supported
	Browser content redirection	Supported
	Multiport ICA	Supported
HDX IO/Devices/Printing	Local Printing	Supported
	Generic USB Redirection	Supported
	Client drive mapping / File Transfer	Supported
HDX Integration	HDX Insight	Supported
	EUEM Experience Matrix	Supported
	Session Sharing	Supported
HDX Multimedia	Audio Playback	Supported
	Bi-directional Audio (VoIP)	Supported
	Web-cam redirection	Limited support[1]
	Video playback	Supported
	Skype for business Optimization pack	Supported
	Cisco Jabber Unified Communications Optimization	Supported
	Windows Multimedia redirection	Supported
	UDP Audio	Supported
HDX Graphics	H.264-enhanced SuperCodec	Supported
	Adaptive Display V2	Supported
	Client hardware acceleration	Supported
	3DPro Graphics	Supported
	External Monitor Support	Supported
	True Multi Monitor	Supported
Authentication	Federated Authentication (SAML/Azure AD)	Supported
	RSA Soft Token/RSA Hard Token	Supported
	Challenge Response SMS (Radius)	Supported
	OKTA Multi factor authentication	Supported
	DUO multi factor authentication	Supported
	Smart Card (CAC, PIV)	Supported
	Proximity/Contactless Card	Supported
	Credential insertion (E.g.. Fast Connect, Storebrowse)	Supported

Table 6. Citrix Workspace app feature matrix(continued)

Feature*		ThinOS 9.0
	Pass Through Authentication	Supported
	NetScaler Native OTP	Supported
	Anonymous Store Access	Supported
	Biometric Authentication (Touch ID, Face ID..)	Limited supported. Only supports Touch ID.
Security	TLS 1.2	Supported
	DTLS 1.0	Supported
	SHA2 Cert	Supported
	Remote Access via Citrix Gateway	Supported
	IPV6	Not supported[2]
Keyboard enhancements	Unicode Keyboard Layout Mapping with Windows VDA	Supported

*For definitions of each feature, see the *Citrix Workspace app feature list* at docs.citrix.com.

[1]HDX RealTime Webcam Video Compression does not work except for Microsoft Skype for Business Optimization pack and Cisco Jabber Unified Communications Optimization.

[2]ICA session is not launched if you enable only IPv6 client network.

Workspace mode

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

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

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

Table 7. Workspace Mode

Item	Workspace Mode
How to enable	Select the **Workspace Mode** check box on the **Broker Setup** tab.
Desktop elements	Displays the ThinOS full taskbar and the Workspace desktop.
Access all published desktops	Click the Desktops icon on the purple ribbon to access all the published desktops.
Access all published apps	Click the **APPS** icon on the purple ribbon to access all the published desktops.
Access favorites	Click the **Favorites** icon on the purple ribbon.
Access Connection Manager	Click the button menu on the upper-right corner of the screen, and then click **Connection Manager**.
Refresh Citrix application	Click the button menu on the upper-right corner of the screen, and then click **Refresh**.
Reconnect a session	Click the button menu on the upper-right corner of the screen, and then click **Connection Center** > **Reconnect**.
Disconnect from the session	Click the button menu on the upper-right corner of the screen, and then click **Connection Center** > **Disconnect**.
Log off all the connected ICA sessions	Click the button menu on the upper-right corner of the screen, and then click **Connection Center** > **Logoff**.

Table 7. Workspace Mode(continued)

Item	Workspace Mode
Switch accounts	Click the button menu on the upper-right corner of the screen, and switch accounts based on your requirement. This is applicable only when you use multilogon or join multiple farms.
Sign out of the Broker agent	Click the button menu on the upper-right corner of the screen, and then click **Sign out**.
Use search bar	Use the search bar on the upper-right of the screen to search for your workspace item. You can open applications directly from the search results.
Access Desktop Viewer or Toolbar	Click the **Desktop Viewer/Toolbar** button on the top center of the Citrix session screen. You can switch between **Windowed Mode** and **Full-Screen Mode** in a Citrix session.

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

Desktop Viewer or Toolbar

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

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

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

For more information about the Desktop Viewer or Toolbar, see the *Citrix documentation* at www.citrix.com.

Citrix ADC Native OTP

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

For more information about Native OTP support for authentication, see the *NetScaler Gateway12.0 documentation* at docs.citrix.com.

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

Federated Authentication (SAML/Azure AD)

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

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

For more information, about integrating Citrix ADC with Azure Active Directory, see the *Integrating NetScaler with Microsoft Azure AD documentation* at docs.citrix.com.

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

Browser Content Redirection

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

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

For more information about Browser Content Redirection, see the *Browser Content Redirection* article at docs.citrix.com.

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

Citrix HDX Adaptive transport (EDT)

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

For more information about Citrix HDX Adaptive transport, see the *Citrix documentation* at docs.citrix.com.

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

HDX Adaptive Display V2

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

For more information about HDX Adaptive Display V2, see the *Citrix documentation* at docs.citrix.com.

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

Autoconfiguration of email-based account discovery using DNS

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

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

Citrix two-factor authentication

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

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

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

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

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

Keyboard enhancements on Windows VDA

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

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

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

ThinOS local enhancements

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

Comparison between ThinOS 8.6 and ThinOS 9.0

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

Table 8. First Boot Wizard

Component	ThinOS 8.6	ThinOS 9.0
First Boot Wizard	• A First Boot Wizard application runs the first time when you start a thin client with ThinOS. • Use this application to perform tasks, such as, configuring system preferences, setting up the Internet connectivity, loading USB configurations, configuring management software, and configuring Broker agent connections.	• New and enhanced User Interface. • Use this application to perform tasks, such as, selecting a language, selecting a keyboard layout, setting the time zone, selecting the network connection, importing the Wyse Management Suite configurations, and selecting the VDI Broker agent.

Table 9. System Information

Component	ThinOS 8.6	ThinOS 9.0
System Information > **General tab**	Displays the **Status** tab.	The **Status** tab is removed, and the following fields are added to the **General** tab: • **CPU Speed** • **CPU Utilization** • **System Up Time** • **Memory Size** • **Memory Usage**
System Information > **WLAN tab**	IPv6 information is not displayed.	• In and Out Packets are removed. • Link Quality is removed.
System Information > **ENET tab**	• ENET name option is not available. • IPv6 information is not displayed.	• ENET name option is added to display the selected ENET port. • IPv6 information is displayed.
System Information > **About tab**	Displays information about the ThinOS operating system.	• Unrelated fields are removed. For example, Imprivata version, HealthCast version. • Wyse Management Suite status is displayed.

Table 10. Network setup

Component	ThinOS 8.6	ThinOS 9.0
Network Setup > **General tab**	Radio buttons to select the type of network interface.	Select the type of network interface from a drop-down list.
Network Setup > **Options tab**	Displays all the supported DHCP option tags.	• DHCP option tags related to Citrix and Wyse Management Suite are displayed. • DHCP option tags related to FTP and Wyse Device Manager are removed.

Table 10. Network setup(continued)

Component	ThinOS 8.6	ThinOS 9.0
		• The User Class option for DHCP Standard is changed to RFC 3004. You must go to user class settings in DHCP and add the user class length in head.
Network Setup > **WLAN tab**	**Up** and **Down** buttons for Wireless SSID selection. The first SSID is connected, and only eight SSIDs can be added.	• Use the **Connect** button to connect the selected SSID. • No limit on the maximum number of wireless SSIDs.

Network Setup > **ENET tab**	• Check boxes to select IPv4 address, IPv6 address, and IEEE802.1x authentication.
	• Option to configure advanced IPv6 settings.
		• Move sliders to either left or right to enable or disable the following options:
		  ○ IPv4
		  ○ IPv6
		  ○ IEEE802.1x authentication
		• The **Advanced** button for IPv6 is removed.
		• The **Wait DHCP** option for IPv6 is removed.

Wireless Profile Properties	• WPA and WPA2 are separate options in the **Security Type** drop-down list. • WEP is supported. • **Hide domain**, **Enable Single Sign-On**, and **Domain** are not supported in EAP-GTC.	• WPA and WPA2 option are combined in the **Security Type** drop-down list. • WEP security type is removed. • **Enable Single Sign-On**, and **Domain** are supported in EAP-GTC.
Wireless Scan	• Use the **Wireless Scan** window to scan the Wi-Fi networks available in your area. However, you cannot sort the scan results by SSID name, State or Security Type. • Use the **Refresh** button to refresh the wireless network scan.	• You can sort the scan results by SSID name, State or Security Type. • The **Refresh** button is removed. •

Table 11. Remote Connections

Component	ThinOS 8.6	ThinOS 9.0
Remote Connections > **General Options**	Enables you to clear any locally saved Citrix connections.	The **Clear locally saved connections** option is removed.
Remote Connections > **Broker Setup** > **Select Broker Type**	Enables you to select any of the following Broker agents from the list: • Citrix Xen • VMware View • Microsoft—RDP or RDS • Dell vWorkspace • Amazon Workspaces • Teradici Cloud Access	Only the Citrix Broker agent is available for selection. Other broker agents, such as VMware View, Microsoft RDP/RDS, Amazon Workspace, Teradici Cloud Access, and Dell vWorkspace are not supported in ThinOS 9.0
Remote Connections > **Broker Setup** > **Select Broker Type** > **Citrix**	A check box to select the StoreFront style.	The **StoreFront Style** check box is changed to the **Workspace Mode** check box.
Remote Connections > **Broker Setup** > **Select Broker Type** > **Citrix**	Enables you to launch a Citrix session in the StoreFront style.	The **StoreFront Style** check box is removed.

Table 11. Remote Connections(continued)

Component	ThinOS 8.6	ThinOS 9.0
Remote Connections > **Broker Setup** > **Select Broker Type** > **Citrix**	Enables you to enter the IP address of the Account self-service server.	The Account Self-Service Server function is removed.
Remote Connections > **Broker Setup** > **Select Broker Type** > **Citrix**	Enables you to set the Broker agent settings as default settings for XenApp and XenDesktop.	Options to set default settings for XenApp and XenDesktop is removed.
Remote Connections > **Broker Setup** > **Select Broker Type** > **Citrix**	Enables you to configure the ICA connection protocol.	The ability to configure a direct ICA connection is removed.
Remote Connections > **Broker Setup** > **Auto Connect List**	Enables you to specify either the connection name or the application name in the **Auto Connect List**.	The **Auto Connect List** allows you to specify only the connection name.
Remote Connections > **Visual Experience**	Enables you to switch between Classic Desktop and Zero Launchpad.	The **Zero Launchpad** button and the **Visual Experience** tab are removed. The change is because ThinOS 9.0 does not support zero desktop and zero toolbars.
Connection Manager > **New**	Enables you to create a Citrix ICA connection from Connection Manager.	The ability to connect a new ICA connection using the Connection Manager is removed.
PNAmenu	Enables you to configure session properties and applications in a Citrix session.	The **Applications** button and the **Properties** button are removed from the PNAmenu in the system tray.
Using multiple audio devices in a Citrix session.	Enables you to connect multiple audio devices and select a specific device for a specific application.	The ability to use multiple audio devices in a Citrix (ICA) desktop is removed.

Table 12. System Preferences

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

Table 13. Display Setup

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

Table 14. Peripheral settings

Component	ThinOS 8.6	ThinOS 9.0
Peripherals > **Keyboard** > **Character Set**	Enables you to select a character set for the keyboard.	The **Character Set** list is removed. The change is because ThinOS 9.0 supports Unicode characters.
Peripherals > **Mouse tab**	A check box to increase the size of the local mouse pointer by two times.	The **Enable big mouse pointer** check box is replaced with the **Pointer Size** drop-down list.

Table 14. Peripheral settings(continued)

Component	ThinOS 8.6	ThinOS 9.0
Peripherals > **Audio tab**	Enables you to configure the audio settings.	• New user interface. • Newly connected audio device is set as the default option. However, this setting is not applicable when you connect a camera. • HD audio is set as the default option when you disconnect an active audio device from the thin client.
Peripherals > **Audio** > **Local Recorder**	Enables you to save a sample audio file from the local recorder to the USB drive is removed.	• The **Info** option that is associated with the local recorder is removed. • The ability to save a sample audio file from the local recorder to the USB drive is removed.
Peripherals > **Audio** > **Boost**	Enables you to boost volume on connected devices.	The **Boost** option is removed.
Peripherals > **Audio** > **Enable headset popup**	Enables you to view the **Headset popup** dialog box when you connect an analog headset to the front headset jack.	The **Enable headset popup** option is removed.
Peripherals > **Audio** > **Enable DP audio**	Enables you to use the DP audio and select the DP audio port.	**Enable DP audio** and **DP audio port** options are removed.
Peripherals > **Serial** > **Stop**	Enables you to select stop bits.	The stop bit **1.5** is removed.
Peripherals > **Camera tab**	Displays the **Optimize** option and the **Video Control** settings.	The **Optimize** option and the **Video Control** settings are removed.

Table 15. Printer setup

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

Table 16. System Tools

Component	ThinOS 8.6	ThinOS 9.0
System Tools > **Global INI** and **User INI** tabs.	Enables you to view the wnos.ini information.	**Global INI** and **User INI** tabs are removed. The change is because ThinOS 9.0 does not support the use of INI parameters to configure the thin client. All settings must be configured using Wyse Management Suite.
System Tools > **Packages**	Displays all the supported ThinOS packages.	The Flash Redirection (FR) package and the RTME package are removed. HDX RealTime Media Engine and Citrix Workspace app are integrated as a single

Table 16. System Tools(continued)

Component	ThinOS 8.6	ThinOS 9.0
		component on the client-side (Citrix package).
System Tools > **Certificates**	Enables you to view and import ThinOS certificates.	The **Enable FIPS** check box is added to enable the Federal Information Processing Standard (FIPS) Publication 140-2 authentication compliance.

Table 17. Miscellaneous

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

Known issues

Table 18. Known issues

Issue ID	Description	Workaround
THINOSX-4119	Session audio may be stop working when using an analog headset on Wyse 3040 thin clients.	There is no workaround in this release.
THINOSX-3921	A delay or lag may be noticed when using a Bluetooth mouse.	There is no workaround in this release.
THINOSX-5214	Bluetooth devices randomly stop functioning after exiting sleep mode.	There is no workaround in this release.
THINOSX-5415	Smartcards with multiple certificates may not function with Single Sign-On.	Use a single certificate.
THINOSX-5399	Wireless warning messages may be incorrectly displayed when using EAP-PEAP without a root certificate.	Check the event log.
THINOSX-4265	Random wireless disconnects are observed on Wyse 3040 thin clients with 802.11r/k enabled.	Disable 802.11r/k in Access Point.
THINOSX-3602	The Fatal Citrix gateway protocol error message may be observed during wireless roaming.	Reconnect the session.
THINOSX-5411	Cisco JVDI video graphic is not closed after you end the call.	There is no workaround in this release.
THINOSX-5410	Cisco JVDI call buttons display may be black or unclear.	There is no workaround in this release.
THINOSX-4926	When using the Citrix browser content redirection (BCR), the mouse right-click function may not work.	There is no workaround in this release.
THINOSX-5216	Citrix multimedia keys (fn+F10/F11/F12) may not function in a Windows 10 session.	This is a Citrix known issue.
THINOSX-5509	The **el.select.placeholder** option may be displayed in the Display Resolution list.	Click to expand the **Display Resolution** drop-down list and select your resolution.
THINOSX-4874	Multiple seamless applications may fail to reconnect under certain conditions.	There is no workaround in this release.
THINOSX-2322	Published Applications or Desktops may flicker when you move or drag objects on the desktop.	This is a Citrix known issue.
THINOSX-3305	Maximize session from the taskbar does not function when using seamless applications.	There is no workaround in this release.
THINOSX-3906	G key reset and V key video reset functions are not supported.	There is no workaround in this release.
THINOSX-4255	Issues may be observed when you try to wake displays from hibernation on Wyse 3040 thin clients.	There is no workaround in this release.
THINOSX-3238	Performance is slow when moving session objects on a Wyse 3040 thin client that is connected to a display with 4K resolution.	There is no workaround in this release.
THINOSX-5494	On Wyse 5070 Extended thin client, the session desktop supports up to four displays with 4K resolution.	There is no workaround in this release.

Table 18. Known issues(continued)

Issue ID	Description	Workaround
THINOSX-5555	Wired EAP-LEAP authentication may fail after one minute.	Use other EAP types such as EAP-PEAP, EAP-FAST, and EAP-TLS.
THINOSX-5527	PEAP-GTC and FAST-GTC do no prompt for credentials after entering an incorrect value.	Connect the network cable again.
THINOSX-4491	SFP module may not function after you resume from sleep mode. You cannot use the Wake-on-LAN feature.	Restart the thin client or wake up the device using the integrated RJ45.
THINOSX-4407	IPv4 session connections may fail if both IPv4 and IPv6 are enabled.	Enable both IPv4 and IPv6 on the ThinOS client.
THINOSX-5065	On some devices, it may take several minutes to display the subsequent pages after the Welcome screen is displayed during the initial boot.	Wait for the next page to be displayed as this process may take several minutes.
THINOSX-5518	Changing client time may take up to one minute to synchronize to the ThinOS desktop.	There is no workaround in this release.
THINOSX-3641	Extract and Restore CMOS options in the Troubleshooting window cannot be used.	There is no workaround in this release.
THINOSX-3475	Incorrect values are displayed in the Inbound and Outbound packet information on the System Information wireless tab.	There is no workaround in this release.
THINOSX-5454	Desktop settings may require a client reboot to activate.	There is no workaround in this release.
THINOSX-5308	The power button is disabled when using the First Boot Wizard.	There is no workaround in this release.
THINOSX-5143	On Wyse 5070 extended client, video issue is observed when you use 5120 x 1440 resolution.	There is no workaround in this release.
THINOSX-3742	The analog audio jacks on the Dell Docking Station WD19 may not function under certain conditions.	Use a USB headset.
THINOSX-3914	Wake-On-LAN or USB may not function when you use the Dell Docking Station WD19.	Wake up the device using the integrated USB or RJ45.
THINOSX-4389	Some configuration menu objects are displayed only in English and not in other languages.	There is no workaround in this release.
THINOSX-5616	If the privilege level is set to **None**, you cannot disable the system settings.	There is no workaround in this release.
THINOSX-5689	Sometimes you cannot sign on to the Citrix broker again after re-plugging the smart card. This issue is observed when you sign off the broker by plugging out the smart card, and sign on again by re-plugging the smart card.	Press the Esc key to reinitialize the Citrix broker and enter PIN to sign on again.
L10N-19900	All the browse buttons in the Admin Policy tool that is used to upload file to the device are not working.	There is no workaround in this release.

Important notes

- It is recommended that you configure the Wyse Management Suite settings before you check in the thin client to the Wyse Management Suite server. This is because, the device gets full configurations from the Wyse Management Suite when it is checked in to the Wyse Management Suite server.
- When the device is checked in to Wyse Management Suite, all configurations are pushed from the Wyse Management Suite server to the client and the local settings are discarded.
- When the device is not checked in to Wyse Management Suite, the Admin Policy Tool settings are pushed to the client side.
- When you change any device settings on the ThinOS User Interface (UI), the modified settings are automatically synced to Admin Policy Tool.
- You can configure both Wyse Management Suite and Admin Policy Tool to manage any device settings. After the device reboot or recheck in to Wyse Management Suite, the device settings from Wyse Management Suite take priority and override the Admin Policy Tool settings
- You cannot downgrade the ThinOS firmware from 9.0 to 8.6 using Wyse Management Suite. You must use the Dell Wyse USB Imaging Tool to install the ThinOS 8.6 image.
- It is not recommended to configure resource files such as packages and firmware in **Select group**. The **Select group** feature is used to set different broker settings for different login user groups.
- If you are using the **Device Security White List Policy** setting, you must first specify **Hub** in the **Class** field by adding a row. If you do not add **Hub** to White list, all USB devices are inaccessible when connected to the thin client.
- When you set the **White List** or the **Black List** in the **Device Security** policy, it is not recommended to set **Vendor and Product ID** and **Class** simultaneously in the same row. However, if you configure both options simultaneously in the same row, the device first checks the **Vendor and Product ID** followed by the **Class** list.
- When you use the **Device Security** policy to define the class name of the White and Black list, it is recommended to use any of the supported class names—Interface_Descriptions, Audio, CDC_control, HID, Physical, Image, Printer, MASS_STORAGE, Hub, CDC_Data, Smart_Card, Content_Security, Video, Personal_Healthcare, Audio_Video, Billboard, Type-C, Diagnostic_Device, Wireless, Miscellaneous, Application, and VendorSpecific.
- When you configure the Bluetooth, Wallpaper, Audio, Serial port, and Device Security settings using the Admin Policy Tool, ensure that you restart the thin client for settings to take effect.
- If you want to redirect your iPhone devices, ensure that you clear both **Exclude disk devices** and **Exclude audio devices** check boxes in the **Global Connection Settings** window.
- If you want to redirect or map your Android smartphones in a desktop session, ensure that you select the **Use USB for Transferring images** option on your smartphone. Do not select the **Use USB for Transferring media files** option.
- If you want to use a mapped printer in the ICA session, ensure that your printer supports the Post-Script format.
- If both IPv4 and IPv6 are enabled in the remote session, ensure that you enable both IPv4 and IPv6 options on your thin client.

Tested environments matrix

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

Table 19. Tested environment - General components

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

Table 20. Test environment

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

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

Table 21. Tested environment - RTME

Citrix Virtual Apps and Desktops	Operating system	RTME client	RTME agent	Skype for Business client	Skype for Business Server
Citrix Virtual Apps and Desktops/ Citrix Virtual Apps 7.15 LTSR Cumulative Update 5 (CU5) Citrix Virtual Apps and Desktops 7 1811 and later	Windows 7	2. 8	2.8, 2.4	Skype for Business 2016	Skype for Business 2015
	Windows 10	2. 8	2.8, 2.4	Skype for Business 2016	Skype for Business 2015
	Windows Server 2016	2. 8	2.8, 2.4	Skype for Business 2016	Skype for Business 2015
	Windows Server 2019 (Only for 1811 and later versions)	2. 8	2.8, 2.4	Skype for Business 2016	Skype for Business 2015

Table 22. Tested environment - JVDI

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

Tested peripheral devices

This section lists the tested peripheral devices.

- **Audio**

    - Dell Pro Stereo Headset – UC150 – Skype for Business
    - Dell Pro Stereo Headset - Skype for Business - UC350

- o Dell Professional Sound bar (AE515M)
- o Dell USB Sound Bar (AC511M)
- o Jabra PRO 935 USB MS Lync Headset
- o Dell 2.0 Speaker System - AE215
- o Dell Wireless 2.1 Speaker System - AE415
- o Jabra Evolve 65 MS Stereo - Headset
- o Jabra Engage 65 Stereo Headset
- o Plantronics Savi W440M-400 Series convertible wireless headset - DECT 6.0
- o Plantronics Voyager Focus UC B825-M headset for Microsoft Lync
- o Plantronics USB Headset-C320-M
- o Sennheiser USB Headset-SC60
- o Dell USB Headset-Jabra UC350
- o Dell Analog Headset-Jabra UC350
- o Boat Analog Headset-Boat Mobile Headset
- o Jabra Pro 9450—Audio does not work if you hot plug the headset. If the audio device is not working, you must restart the thin client.
- o Jabra Speak 510 MS Bluetooth
- o Jabra BIZ 2400 Duo USB MS
- o Jabra UC SUPREME MS /LINK 360 Bluetooth
- o Jabra GN2000
- o Plantronics BLACKWIRE C710 Bluetooth
- o Plantronics BLACKWIRE C5210
- o Plantronics SAVI W740/Savi W745—Bluetooth does not work.
- o Plantronics SAVI W740 3IN1 Convertible, UC, DECT 6.0 NA—Bluetooth does not work.
- o Plantronics Calisto P240 D1K3 USB handset
- o Plantronics Calisto P820-M
- o Plantronics AB J7 PLT
- o Sennheiser USB SC 230
- o Sennheiser SP 10 ML Speaker phone for Lync
- o Sennheiser SC 660 USB ML
- o Sennheiser D 10 USB ML-US Wireless DECT Headset
- o Sennheiser SC 40 USB MS
- o POLYCOM Desk phone CX300
- o Dell USB Sound bar AC511
- o Logitech h150 Analog Headset
- o Philips Analog Headset
- · **Bluetooth**
  - o Logitech Bluetooth Keyboard -K380/K480
  - o HP Bluetooth Keyboard -HP Slim Keyboard
  - o Logitech Bluetooth Mouse -M336/M337/M535
  - o Plantronics Bluetooth Headset Speaker 620
  - o Plantronics Bluetooth Headset-PLT Focus
  - o Dell Bluetooth Headset-Jabra
  - o HP Bluetooth Headset 600
- · **Keyboard and Mouse**
  - o Dell Smart card Keyboard - KB813
  - o Dell Laser Scroll USB 6-Buttons Silver and Black Mouse
  - o Dell USB Wired Keyboard - KB216
  - o Dell USB Wired Optical Mouse - MS116
  - o Dell Premier Wireless Mouse - WM527
  - o Dell Wireless Keyboard and Mouse - KM636
  - o Dell Wireless Keyboard and Mouse - WM326
  - o Dell Keyboard KB212-B
  - o Dell Keyboard KB216p
  - o Dell Mouse MS111-P
  - o Dell Mouse MS116-P

- Dell Keyboard SK-3205 (Smart card reader)
- Dell Optical Wireless Mouse – WM122
- Dell Optical Wireless Mouse – WM123
- Microsoft Arc Touch Mouse 1428
- Rapoo E6100, Bluetooth
- Cherry RS 6700 USB (Smart card reader)
- SpaceNavigator 3D Space Mouse
- SpaceMouse Pro

- **Camera**

  - Logitech HD Web cam-C525
  - Logitech HD Web cam-C922 Pro stream
  - Logitech HD Web cam-C920 Pro stream
  - Logitech C920 HD Pro webcam
  - Logitech C922 Pro Stream webcam
  - Logitech C925e webcam
  - Microsoft LifeCam HD-3000
  - Logitech webcam C930e

- **Printer**

  - Dell Color Multifunction Printer - E525w
  - Dell Color Printer- C2660dn
  - Dell Multifunction Printer - E515dn wired
  - Dell B1265dnf Multifunction Laser Printer—PostScript is not supported; Redirection only.
  - Dell B2360d Laser Printer
  - Dell B2360dn Laser Printer
  - HP LaserJet P2055d

- **Adapters and cables**

  - Dell Adapter DisplayPort to DVI (Single Link)
  - Dell Adapter - DisplayPort to HDMI 2.0 (4K)
  - Dell Adapter - DisplayPort to VGA
  - C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter
  - Dell Adapter - USB-C to DisplayPort
  - Dell Adapter - USB-C to HDMI
  - Dell Adapter - USB-C to VGA
  - Trend net USB to Serial Converter
  - Dell Adapter - HDMI to DVI RS-232
  - Dell Adapter - HDMI to VGA
  - Dell USB-C Mobile Adapter - Slayer 3
  - StarTech.com 1-Port USB to RS232 DB9 Serial Adapter Cable and Serial adapter with USB 2.0-RS-232

- **CD-ROM**

  - Samsung Portable DVD Writer SE-208
  - Dell DW316
  - Lomega USB CD-ROM-DVDRW8X-U

- **USB**

  - SanDisk USB Drive-Cruzer Blade
  - SanDisk C-Type USB Drive-USB 3.0
  - EVO plus micro-SDHC
  - Kingston USB Drive-DT50
  - USB Card Reader-HDW-IMP-80-RFID
  - TouchChip USB Finger-print-HDW-IMP-1C-STM32
  - SanDisk USB 3.0 16 GB
  - SanDisk Cruzer 16 GB
  - SanDisk Cruzer 8 GB
  - SanDisk USB 3.1 and Type-C 16 GB
  - Kingston DT micro-Duo 3C 32 GB

- ○ Kingston DataTraveler G3 8 GB
- ○ Bano type-c 16 GB
- ○ Dell Portable SSD, USB-C 250 GB
- · **Monitor**
  - ○ Dell E1916H
  - ○ Dell P1917S
  - ○ Dell E1920H
  - ○ Dell E2016H
  - ○ Dell E2016Hv (China only)
  - ○ Dell P2017H
  - ○ Dell P2018H
  - ○ Dell E2020H
  - ○ Dell E2218HN
  - ○ Dell P2217
  - ○ Dell P2217H
  - ○ Dell P2219H
  - ○ Dell P2219HC
  - ○ Dell E2220H
  - ○ Dell E2318H
  - ○ Dell P2317H
  - ○ Dell E2417H
  - ○ Dell P2415Q
  - ○ Dell P2417H
  - ○ Dell 24-inch Monitor - P2418D
  - ○ Dell P2418HZ
  - ○ Dell P2419H
  - ○ Dell P2419HC
  - ○ Dell P2421D
  - ○ Dell E2420H
  - ○ Dell P2719H
  - ○ Dell P2719HC
  - ○ Dell P2720D
  - ○ Dell E2720H
  - ○ Dell P3418HW
  - ○ Dell MR2416
  - ○ Dell U2415
  - ○ Dell U2419H
  - ○ Dell U2419HC
  - ○ Dell U2518D
  - ○ Dell U2520D
  - ○ Dell U2720Q
  - ○ Dell U2718Q (4K)
  - ○ Dell U2719D
  - ○ Dell U2719DC
  - ○ Dell UltraSharp 27 USB-C HUB monitor - U2721DE
  - ○ Dell E2216H
  - ○ Dell E2216Hv (China only)
  - ○ Dell E2318HN
  - ○ Dell E2420HS
  - ○ Dell E2720HS
  - ○ Dell P2016
  - ○ Dell P2319H
  - ○ Dell P2421DC
  - ○ Dell P2720DC
  - ○ Dell P4317Q
  - ○ Dell U2421HE

- ○ Dell U4320Q
- ○ Dell P2715Q (3840 x 2160)
- ○ Dell U3219Q (3840 x 2160)
- ○ Dell U2713HMt (2560 x 1440)
- ○ Dell U2718Qb (3840 x 2160)
- ○ Dell S2719HS (1920 x 1080)
- ○ Dell S2817Q (3840 x 2160)
- ○ Dell S2719DC
- ○ Dell U4919DW (5120 x1440)—On Wyse 5070 Extended thin client, the display is blurred.
- ○ Dell P2418HT Touchscreen (1920 x 1080)
- **Dock**
  - ○ Dell WD19 Dock (Type-C)
  - ○ Dell Thunderbolt Dock - WD19TB
- **Speech Microphone**
  - ○ LFH3610/00 SPEECHMIKE PREMIUM
  - ○ Olympus DirectRec DR-1200
- **Adapters and cables**
  - ○ Dell Adapter - DisplayPort to DVI (Single Link)
  - ○ Dell Adapter - DisplayPort to HDMI 2.0 (4K)
  - ○ Dell Adapter - DisplayPort to VGA
  - ○ C2G - USB 2.0 A (Male) to DB9 (Serial) (Male) Adapter
  - ○ Dell Adapter - USB-C to DisplayPort
  - ○ Dell Adapter - USB-C to HDMI
  - ○ Dell Adapter - USB-C to VGA
  - ○ Trendnet USB to Serial Converter
  - ○ Dell Adapter - HDMI to DVI
  - ○ Dell Adapter - HDMI to VGA
  - ○ Dell Adapter - USB 3.0 to Ethernet PXE Boot
  - ○ StarTech.com 1-Port USB/DB9 Serial Adapter Cable with USB 2.0
  - ○ Dell Type-C-VGA convertor
  - ○ Dell Type-C-DP convertor
  - ○ Dell Type-C-HDMI convertor
  - ○ Dell DP-HDMI convertor
  - ○ USB-to-Serial converter
- **Network**—Add on 1000 Base-T SFP transceiver (RJ-45)
- **Storage**
  - ○ Dell Portable SSD, USB-C 250 GB
  - ○ Dell External Tray Load ODD (DVD Writer)
- **Smart card readers**
  - ○ Cherry keyboard RS 6700 with smart card
  - ○ Cherry keyboard RS 6600 with smart card
  - ○ Dell keyboard KB813
  - ○ Dell keyboard KB813t
  - ○ Dell Keyboard SK-3205
  - ○ Gemalto IDBridge CT710
  - ○ GemPC Twin
  - ○ Cherry ST-1144
  - ○ Identiv SCR3500 A
  - ○ Cherry KC 1000 SC (TAA)
  - ○ Sun microsystem SRC 3110
  - ○ IDBridge CT31 PIV

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

- **Proximity card readers**

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

Tested smart cards

Table 23. Tested smart cards

Smart Card information from the ThinOS event log	Driver	Provider (CSP)	Card type
ActivIdentity V1	ActivClient 7.1	ActivClient Cryptographic Service Provider	Oberthur CosmopolC 64k V5.2
ActivIdentity V1 (IDClassic 230)	ActivClient 7.1	ActivClient Cryptographic Service Provider	Gemalto Cyberflex Access 64K V2c
ActivIdentity v2 card	ActiveClient 7.2	ActivClient Cryptographic Service Provider	Gemalto TOP DL 144K FIPS
ActivIdentity v2 card	ActiveClient 7.2	ActivClient Cryptographic Service Provider	Giesecke and Devrient SmartCafe Expert v3.2 144K DI
ActivIdentity v2 card	ActiveClient 7.2	ActivClient Cryptographic Service Provider	Oberthur ID-One Cosmo v5.5 128K
ActivIdentity crescendo card	ActiveClient 7.2	ActivClient Cryptographic Service Provider	Giesecke and Devrient SmartCafe Expert v7.0 144K DI
ID Prime MD v 4.0.2 (Gemalto 840)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 840
ID Prime MD v 4.0.2 (Gemalto 840)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 840 B
ID Prime MD v 4.1.0 (Gemalto 3810)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 3810 MIFARE 1K
ID Prime MD v 4.1.3 (Gemalto 3811)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 3811 Mifare-Desfire
ID Prime MD v 4.1.1 (Gemalto 830)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 830-FIPS
ID Prime MD v 4.3.5 (Gemalto 830)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	IDPrime MD 830-FIPS Rev B
Etoken Java (aladdin) (black USB drive)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 510x
Etoken Java (aladdin) (black USB drive)	SafeNet Authentication Client 8.2.133	eToken Base Cryptographic Provider	SafeNet eToken 5110
Etoken Java (aladdin) (black USB drive)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	SafeNet eToken 5110 FIPS
Etoken Java (aladdin) (black USB drive)	SafeNet Authentication Client 10.7.167.0	eToken Base Cryptographic Provider	SafeNet eToken 5110 CC
SafeNet High Assurance Applets Card	SafeNet High Assurance Client 2.12	SafeNet Smart Card Key Storage Provider	SC650 (SafeNet SC650 4.1t)
A.E.T. Europe B.V.	SafeSign-Identity-Client-3.0.76	SafeSign Standard Cryptographic Service Provider	G&D STARCOS 3.0 T=0/1 0V300
A.E.T. Europe B.V.	SafeSign-Identity-Client-3.0.76	SafeSign Standard Cryptographic Service Provider	Giesecke & Devrient StarCos 3.2

Table 23. Tested smart cards(continued)

Smart Card information from the ThinOS event log	Driver	Provider (CSP)	Card type
PIV (Yubico) (black USB drive)	YubiKey PIV Manager	Microsoft Base Smart Card Crypto Provider	YubiKey 4.3.3
PIV (Yubico Neo) (black USB drive)	Yubikey Manager v 1.1.4	Microsoft Base Smart Card Crypto Provider	YubiKey 4.3.3
cv cryptovision gmbh (c) v1.0ns	cv_act_scinterface_6.1.6	cv act sc/interface CSP	G&D STARCOS 3.2
N/A (Buypass BelDu)	Net iD 6.8.1.31, 2.0.44	Net iD - CSP	BelDu 6.0.4
N/A (GEMALTO IDPrime SIS)	Net iD 6.8.1.31, 2.0.44	Net iD - CSP	IDPrime SIS 4.0.2
Rutoken ECP 2.0 (2100)	Rutoken Drivers 4.6.3.0	Aktiv ruToken CSP v1.0	Rutoken ECP 2.0 (2100)
Rutoken 2151	Rutoken Drivers 4.6.3.0	Aktiv ruToken CSP v1.0	Rutoken (2151)

Resources and support

Accessing documents using the product search

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

   A list of matching products is displayed.
3. Select your product and click the search icon or press Enter.
4. Click **Manuals & documents**.

Accessing documents using product selector

You can also access documents by selecting your product.

1. Go to www.dell.com/support.
2. Click **Browse all products**.
3. Click **Thin Clients**.
4. Click the desired category, either **Wyse Hardware** or **Wyse Software**.
5. Click the desired product.
6. Click **Manuals & documents**.

Contacting Dell

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for technical support or customer service issues, see www.dell.com/contactdell.

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