

# Dell Hybrid Client

## Version 1.x Release Notes



## Notes, cautions, and warnings

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

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

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

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# Overview

Dell Hybrid Client is a desktop solution that follows the Software-as-a-Service (SaaS) model of software delivery. It provides a hybrid operating environment that enables you to access virtual, cloud, or local applications and resources seamlessly. It encompasses the cloud and storage aggregation for maintaining security and simplicity.

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

## Version matrix

The following version matrix lists the platforms that are supported in each Dell Hybrid Client release:

**Table 1. Version matrix**

Release version	Release date	Supported platforms	Release Notes
1.5	April 2021	Latitude 3320 device	<a href="#">Dell Hybrid Client Version 1.5</a>
	March 2021	<ul style="list-style-type: none"> <li>● Wyse 5070 device</li> <li>● Wyse 5070 Extended device</li> <li>● OptiPlex 7070 Ultra device</li> <li>● OptiPlex 7090 Ultra device</li> <li>● OptiPlex 3090 Ultra device</li> </ul>	<a href="#">Dell Hybrid Client Version 1.5</a>
1.1	December 2020	<ul style="list-style-type: none"> <li>● Wyse 5070 device</li> <li>● Wyse 5070 Extended device</li> <li>● OptiPlex 7070 Ultra device</li> </ul>	<a href="#">Dell Hybrid Client Version 1.1</a>
1.0	September 2020	<ul style="list-style-type: none"> <li>● Wyse 5070 device</li> <li>● Wyse 5070 Extended device</li> <li>● OptiPlex 7070 Ultra device</li> </ul>	<a href="#">Dell Hybrid Client Version 1.0</a>

# Dell Hybrid Client 1.5

## Release summary

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

## Version

Dell Hybrid Client version 1.5.750

Ubuntu version 20.04 LTS 64-bit

Wyse Management Suite Pro version 3.2.780

## Release date

March 2021

## Compatibility

### Supported platforms

**Table 2. Supported platforms and configurations**

Platform	Configuration		
	Processor	Memory/RAM	Storage
Wyse 5070	Intel Celeron Dual Core	8 GB and higher capacity	32 GB or higher capacity SSD/eMMC
	Intel Pentium Quad Core		
Wyse 5070 Extended	Intel Pentium Quad Core		
OptiPlex 7070 Ultra	8th Generation Intel Core i3/i5/i7		128 GB and higher capacity SSD/HDD
OptiPlex 3090 Ultra	11 th Generation Intel Core i3/i5		32 GB and higher capacity SSD/eMMC
OptiPlex 7090 Ultra	11 th Generation Intel Core i3/i5/i7		128 GB or higher capacity SSD/HDD
Latitude 3320	11 th Generation Intel Core i5/i7		

**NOTE:** For information about supported platforms for Dell Hybrid Client conversions, see the *Dell Hybrid Client 1.x Conversion and Upgrade Guide* at [www.dell.com/support](http://www.dell.com/support). For information about how to install the Dell Hybrid Client, see the *Dell Hybrid Client 1.x Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).



## Supported browsers

Table 3. Supported browsers

Browsers	Version
Google Chrome	88.0.4324
Mozilla Firefox	85.0.1

## Supported VDI clients and local applications

Table 4. Supported VDI clients and local applications

VDI Client Description	Version
Dell RDP	8.1.08-06
Citrix Workspace App	2101
VMware Horizon Client	2012
Zoom Client	5.5.27011
VLC Media Player	3.0.9.2

## Supported cloud platforms

- Office 365 applications with Azure Active Directory sync with On-Premise Active Directory User.
- Google Workspace (formerly Gsuite) applications with On-Premise users sync with Google Cloud Platform using Active Directory Federation Services (ADFS) enablement.

## Build information

- **Dell Hybrid Client bundle**
  - File name—DellHybridClient\_1.5\_750.tar.gz
  - Version—1.5
  - Build—750
  - Size—876,950,770 bytes
- **Dell Hybrid Client for Wyse 5070 and OptiPlex 7070 devices**
  - File name—DHCSservicePack\_1.5.1.tar.gz
  - Build—1.5-01
  - Size—78,245,069 bytes

## Conversion images

- **ISO conversion image for Dell Hybrid Client image upgrade add-on:**
  - File name—DHCIImageUpgradeAddon.tar.gz
  - Size—76,193,792 bytes
- **ISO conversion image for OS upgrade package for Dell Client Agent Enabler:**
  - File name—os-upgrade\_1.1-16\_amd64.deb
  - Size—9,968 bytes
- **ISO conversion image for OptiPlex 3090 Ultra and OptiPlex 7090 Ultra devices:**
  - File name—DellHybridClient\_1.5\_750\_3090\_7090.iso
  - Size—8,064,782,336 bytes
- **ISO conversion image for Wyse 7070 devices:**
  - File name—DellHybridClient\_1.5\_750\_7070.iso
  - Size—8,001,179,648 bytes

- **ISO conversion image for Wyse 5070 devices:**
  - File name—DellHybridClient\_1.5\_750\_5070.iso
  - Size—8,033,769,472 bytes
- **ISO conversion image for Latitude 3320 devices**
  - File name—DellHybridClient\_1.5\_750\_L3320.iso
  - Size—8,055,957,504 bytes
- **Merlin conversion image for Wyse 5070 devices:**
  - File name—DHC1.5.750\_Wyse\_5070\_Conversion\_Merlin\_Image\_32GB.exe
  - Size—205,738,547 bytes
- **Windows 10 IoT Enterprise Merlin common package:**
  - File name—MerlinPackage\_Common.exe
  - Size—51,068,416 bytes

## Optional add-ons

- **Optional add-on for Dell Hybrid Client multimedia extension**
  - File name—DHC\_multimedia\_extension\_VDI\_addon\_1.5-01.tar.gz
  - Version—1.5-01
  - Size—65,875,674 bytes
- **Optional add-on for Zoom VMware**
  - File name—zoom-vmware\_1.5-01.tar.gz
  - Version—1.5-01
  - Size—34,884,202 bytes
- **Optional add-on for Zoom Citrix**
  - File name—zoom-citrix\_1.5-01.tar.gz
  - Version—1.5-01
  - Size—34,947,544 bytes
- **Optional add-on for language package**
  - File name—full\_language\_1.5-01.tar.gz
  - Version—1.5-01
  - Size—309,545,937 bytes
- **Optional add-on for VNC**
  - File name—vnc-server\_1.5-01.tar.gz
  - Version—1.5-01
  - Size—3,068,729 bytes
- **Optional add-on for SSH**
  - File name—ssh-server\_1.5-01.tar.gz
  - Version—1.5-01
  - Size—1,370,357 bytes
- **Optional add-on for custom connection**
  - File name—custom-connections\_1.5-01.tar.gz
  - Version—1.5-01
  - Size—6,837 bytes

## New and enhanced features

### Supports new hardware platforms

Dell Hybrid Client supports new hardware platforms such as OptiPlex 3090 Ultra, OptiPlex 7090 Ultra, and Latitude 3320.

## Supports security profiles

Dell Hybrid Client enables you to set different levels of **Security Profiles** to provide an enhanced device security for deploying third-party applications.

As part of security profiles, Dell Hybrid Client supports application sandboxing using Firejail and AppArmor. The following are the types of security profiles supported on Dell Hybrid Client:

- **High**—This profile enables you to install Dell-signed, custom-signed, and unsigned Debian files with metadata. Based on the metadata, the firejail is applied.
- **Medium**—This profile enables you to install the following types of third-party application packages or files:
  - Unsigned Debian files with or without metadata
  - Custom-signed Debian files
  - Dell-signed applications
- **Low**—This profile enables you to install all types of file extensions, such as, Debian, Bundle, Python script, Shell script, Javascript, Image file extensions, and VLC extensions.


For more information about security profiles, see the *Dell Hybrid Client 1.x Security Guide* at [www.dell.com/support](http://www.dell.com/support).

You can use Wyse Management Suite to configure the security profile settings. For more information about how to configure the security profiles, see the *Dell Hybrid Client Version 1.x Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Supports Power Profiles

Power Profiles provide efficient power management capabilities for devices that are powered by Dell Hybrid Client. This feature is newly added for user personalization. The available Power Profile options are as below:

- **Energy Savings**—This mode saves power on your device by reducing system performance.
- **Balanced**—By default, the Balanced power mode is selected. This mode balances energy consumption and system performance by adapting the processor speed of the device to your activity.
- **Maximum Performance**—This mode maximizes system performance by running processor at higher speeds.

 **NOTE:** Power Profile is also supported for Device Settings Data Personalization along with previously supported options from Dell Hybrid Client 1.1.

## Supports Virtual Private Network (VPN)

Dell Hybrid Client enables you to connect to your corporate network from home or external networks using a virtual private network. Dell Hybrid Client uses the OpenConnect client that is based on the SSL protocol for connecting to a VPN connection. The VPN option is disabled by default and it supports GlobalProtect and Cisco Anyconnect.

## Supports User Data Encryption using ZFS file system

Dell Hybrid Client is designed to protect a domain user's data such as user files, user database, and user application details. Dell Hybrid Client uses the ZFS file system to encrypt the user home directory. Each user home directory is encrypted with an autogenerated passphrase. When a user logs in to the device, the user home directory of the user is automatically mounted by ZFS. When the user logs out of the device, the user home directory is unmounted by ZFS.

For more information about User Data Encryption using ZFS file system, see the *Dell Hybrid Client 1.x Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).


## Supports secure boot

Supports Secure Boot to guard the boot process of the device that is powered by Dell Hybrid Client. This option is enabled by default.

## Supports multifactor and Single Sign-on authentication

Dell Hybrid Client supports multifactor authentication for the following:

- Supports multifactor authentication for local and Active Directory login using a smart card.
- Supports multifactor authentication for browser-based Azure and Google Workspace login to cloud applications using a smart card.
- Supports multifactor authentication from initial login to the Citrix VDI session (SSO) using a smart card.
- Supports multifactor authentication for Citrix and VMware VDI sessions using a smart card.
- Supports Single Sign-on (SSO) into Google Cloud using Active Directory Federation Services (ADFS).

 **NOTE:** Smart cards that are supported for authentication are Gemalto, YubiKey PIV, and Common Access Card (CAC).

## Supports personal cloud drive

Dell Hybrid Client supports personal OneDrive account for Azure and Google Workspace. Personal cloud accounts can be accessed from Dell File Explorer. You can add up to a maximum of five personal accounts.

For more information about how to configure the personal cloud account, see the *Dell Hybrid Client 1.x Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Dell file explorer enhancements


Dell Hybrid Client supports the following enhancements:

- Enhanced user interface.
- Automatic and immediate synchronization of file data when a file is edited on the local, network share, cloud, or VDI.
- **Open with** function that enables you to choose an application to open a file in Dell File Explorer.
- Formatting a USB storage device that is connected to Dell Hybrid Client. The supported formats are VFAT, NTFS, ext2, ext3, ext4, and exFAT.
- Compress and decompress of .zip files.

## User data roaming

Dell Hybrid Client supports user data roaming across devices that are powered by Dell Hybrid Client. When a user logs in to another device with same username, all opened applications and browser data are restored from the previous device. The user data roaming feature supports the following options:

- **Chrome Browser Data**—Bookmarks, current tabs, history, last tabs, preferences, shortcuts, and top sites are supported for data roaming.
- **Mozilla Firefox Browser Data**—Bookmarks, downloaded files, previously visited websites, website favicon images, Mozilla Firefox permissions, search bar history, information that is entered into forms on websites, and file store preferences are supported for data roaming.
- **Desktop Customization**—Favorite bar customization and App folders customization are supported for data roaming.
- **Custom Wallpaper**—The wallpaper can be customized based on your needs.
- **Browser Apps State**—If Mozilla Firefox or Google Chrome is open when you log out of the device, it reopens automatically when you log in to another device.
- **Cloud Data**—Supports the state of cloud files that are opened from the Dell File Explorer, cloud apps opened from the launcher, and cloud files marked offline from the Dell File Explorer.
- **VDI session**—Supports Citrix, VMware, Remote Desktop Protocol connections, and sessions for Follow-me. The VDI session allows File Open using published and remote application, where the application is launched in a new session. All Citrix, VMware, and Remote Desktop Protocol client connections are created and launched when the session is active while logging off from previous session.

 **NOTE:** User data roaming is enabled by default with the cloud repository, and the administrator can disable it from Wyse Management Suite, if required. Log off and restart may take a few seconds based on the user data size and network bandwidth for uploading to the cloud or the Wyse Management Suite repository.

## Auto Update applications

Dell Hybrid Client supports the **Auto Update** feature to automatically update certain applications when a new version of the application is launched. The **Auto Update** feature is disabled by default, and it does not require you to create an **Advanced**

**app policy.** The autoupdate feature is available for Google Chrome, Mozilla Firefox, Dell Hybrid Client service pack, and image upgrade packages that are released by Dell.

## GRUB password randomization

The administrator can generate a random GRUB password when the device is powered on for the first time. When the device registration to Wyse Management Suite fails, you can use the Device UUID and the serial number to generate the GRUB password. This option is available in the Portal Administration tab on the Wyse Management Suite console.

**NOTE:** Wyse Management Suite administrator must change the GRUB password on registration. The device remains in noncompliance state until the GRUB password is changed.

## Wyse Management Suite config UI enhancement

Menu options under the Dell Hybrid Client Policy Settings on Wyse Management Suite version 3.2 are rearranged for better grouping and visibility.

## Device Settings enhancement

Enhanced User Interface for Device Settings and Dell File Explorer.

## Known issues

**Table 5. Known issues**

Issue number	Issue description	Workaround
HC-6224	While playing YouTube videos, the Mozilla Firefox browser displays distorted images in Latitude 3320 devices.	Google Chrome can be used as an alternative.
HC-6226	Restart notification window is displayed when the display resolution is pushed from Wyse Management Suite.	There is no workaround in this release.
HC-6222	Zoom video call stops responding when the in-built camera is launched and closed. This issue occurs when the system is connected to Dell C2422HE and C2722DE monitors.	There is no workaround in this release.
HC-6210	Once the system language is changed in Wyse Management Suite, the operating system displays messages to change folder names not observed for guest user.	There is no workaround in this release.
HC-5336	Keyboard and mouse take the default input settings when unplugged and plugged back to the client.	Input settings can be changed after the device is plugged back.
HC-6191	Internal audio speakers and USB headset does not get selected automatically inside the Zoom application.	Devices can be selected manually.
HC-5866	USB keeps mapping instead of redirecting when the USB is connected before launching the Citrix desktop.	Remove USB and reconnect. It gets connected as a redirected device.
HC-6152	VMware Horizon Blast sessions fail to launch.	Disable H264 decoding for VM Blast protocol from Wyse Management Suite. The default setting for H264 for VM Blast protocol is Disable. Alternatively, you can disable this from the VMware preference window also.
HC-5056	Smart card login does not work for domain user with .cer certificate.	Use .pfx certificate for smart card local login .

**Table 5. Known issues**

Issue number	Issue description	Workaround
HC-6133	Multimedia and function keys do not work.	There is no workaround in this release.
HC-6127	A message stating Choose password for new key ring is displayed when auto sign-in is enabled.	Enter the guest user password.
HC-5581	VMware apps fail to launch when using the smart card with FTA configured.	There is no workaround in this release.
HC-5748	After reimaging with no configurations from Wyse Management Suite, you must press Ctrl+Alt+Delete on Latitude 3320 devices to log in for the first time.	Press <b>Ctrl+Alt+Delete</b> after reboot.
HC-5790	The Wyse Management Suite DNS SRV discovery fails when the DNS is manually added in Device Settings. This issue occurs when the network is configured with DNS routing.	There is no workaround in this release.
HC-5298	The display in portrait mode changes back to the default landscape mode. This issue occurs after unplugging and plugging back the connection cable.	You must log out and log in to apply the configurations.
HC-2388	Lower resolution settings do not function when a 4K monitor is connected to OptiPlex 3090 and 7090.	The Display Data Channel resolution can be used to set the highest supported resolution.
HC-6254	Connections do not get deleted from taskbar and desktop screen, after removed from Wyse Management Suite.	There is no workaround in this release.
HC-6235	Azure SSO fails intermittently after the first imaging.	The Timezone Settings must be pushed from Wyse Management Suite so that there is a time sync and SSO works.
HC-6253	Citrix FTA does not open when the file name is in multibyte characters such as, Japanese, Korean, and Chinese. This issue occurs when the system language is set to English.	You can open the document using <b>File &gt; Open</b> option and then go to the file location and open the file.
HC-6290	Gemalto smart card certificate list comes up in light text for Citrix Workspace app after domain login to client using smart card.	There is no workaround in this release.
HC-5231	Printer redirection does not work for Citrix and VMware.	There is no workaround in this release.
HC-6291	.pdf files display a window asking to save the file whenever the .pdf file is opened using cloud app.	If <b>File Affiliation</b> priority is set to <b>Local</b> it will work seamlessly and .pdf files will launch using LibreOffice even after saving the file locally. If first priority is set to Cloud, you must go to <b>File menu context &gt; Open With</b> option and select <b>LibreOffice</b> as the app to open the application.

## Important notes

### Limitations

- Bluetooth, audio, and printer settings cannot be directly edited in Device Settings. These pages contain Advanced Settings button which opens the Ubuntu Settings page, where you can modify these settings.
- Monitor display values are static and for some monitors it may not show all the supported resolutions. Hence, some of the resolutions cannot be applied from the Display Settings page.

- In Network configuration, IP details can be added or modified only when the device does not receive IP configuration from the DHCP server.
- You cannot manually enter credentials while accessing the network drives. Credentials must be configured in the Wyse Management Suite Server while creating drives.
- When the network is not connected, log off and restart may take nearly a minute as the server attempts to upload the user data roaming content.
- Reset button in Wyse Management Suite does not work for password fields and guest user account properties. The workaround is to disable the options instead of reset.
- The administrator must configure **Time Zone & Time Server** from Wyse Management Suite.
- VPN Auto Connect is not supported. Configuring Auto Connect for VPN does not work.
- Data Roaming browser auto launch fails when the Citrix app is opened on last login.
- Host name resets to default on reimaging or conversion.
- Multiple display setups of up to six monitors is supported on the Dell Wyse 5070 Extended devices for the following combinations only:
  - Two 4k monitors
  - Four 2k monitors
  - Six 2k monitors

## Tested peripherals

## Supported peripherals

**Table 6. Supported peripherals**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
Audio or video	Dell 2.0 Speaker System- AE215	✓	N/A	N/A	N/A	✓
	Dell 2.1 Speaker System- AE415	✓	N/A	N/A	N/A	✓
	Dell UC Headset- UC150	✓	✓	✓	✓	✓
	Dell UC Headset- UC350	✓	✓	✓	✓	✓
	Microsoft Corporation LifeChat LX-6000 Headset	N/A	N/A	N/A	✓	N/A
	Dell Professional Sound Bar- AE515	N/A	N/A	✓	✓	N/A
	Dell USB Sound Bar- AC511	N/A	N/A	✓	✓	N/A
	Jabra Pro 935 MS Wireless headset (Mono)- Office Centric	N/A	N/A	N/A	✓	N/A

**Table 6. Supported peripherals (continued)**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
	Jabra Evolve 65 MS Stereo Headset	✓	✓	N/A	N/A	✓
	Jabra Engage 65 MS Stereo Headset	✓	✓	N/A	N/A	✓
	Logitech C525 HD Webcam	✓	✓	N/A	N/A	✓
	Logitech BRIO 4k Ultra HD Webcam	✓	✓	N/A	N/A	✓
	Logitech C930e HD Webcam	✓	✓	N/A	N/A	✓
	Plantronics Savi W440M-400 Series convertible wireless headset- DECT 6.0	✓	✓	N/A	N/A	✓
	Plantronics Voyager Focus UC B825-M headset for Microsoft Lync	✓	✓	N/A	N/A	✓
	Dell Mobile Adapter Speakerphone-MH3021P	✓	✓	✓	N/A	N/A
Input devices	Dell Laser Wired Mouse - MS3220 - Morty	✓	✓	✓	N/A	✓
	Dell Mobile Pro Wireless Mice-MS5120W-Splinter	✓	✓	✓	N/A	✓
	Dell Mobile Wireless Mouse-MS3320W-Dawson	✓	✓	✓	N/A	✓
	Dell Multi-Device Wireless Keyboard and Mouse Combo-KM7120W	✓	✓	✓	N/A	✓
	Dell Premier Wireless	✓	✓	N/A	N/A	✓



**Table 6. Supported peripherals (continued)**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
	Keyboard and Mouse- KM717					
	Dell Wireless Keyboard and Mouse- KM117 - Auburn	N/A	N/A	✓	N/A	✓
	Dell Wireless Mouse- WM126_BLACK K- Rosewood	✓	✓	✓	N/A	✓
	Logitech MK850 Performance - Wireless Keyboard and Mouse Combo - MK850	N/A	N/A	✓	N/A	N/A
	Logitech Wireless Combo MK320	N/A	N/A	✓	N/A	N/A
	Logitech Wireless Wave Combo MK550	N/A	N/A	✓	N/A	N/A
	Dell Laser Scroll USB 6-Buttons Silver and Black Mouse	N/A	N/A	N/A	N/A	✓
	Dell Multimedia Keyboard- KB216	✓	✓	✓	✓	✓
	Dell Optical Mouse- MS116	✓	✓	✓	✓	✓
	Dell Premier Wireless Mouse - WM527	N/A	N/A	N/A	✓	✓
	Dell Wireless Keyboard and Mouse- KM636	✓	✓	✓	✓	✓
	Dell Wired Mouse with Fingerprint Reader- MS819	✓	✓	N/A	N/A	✓
	Dell USB Wired Laser mouse- Naruto	N/A	N/A	N/A	✓	N/A
	Dell Wireless Mouse- WM326	N/A	N/A	✓	N/A	✓

**Table 6. Supported peripherals (continued)**

<b>Product Category</b>	<b>Product Description</b>	<b>OptiPlex 3090 Ultra</b>	<b>OptiPlex 7090 Ultra</b>	<b>Latitude 3320</b>	<b>Wyse 5070</b>	<b>OptiPlex 7070 Ultra device</b>
Cables, dongles and adapters	Dell Adapter - HDMI to DVI - DAUARBN004	N/A	N/A	✓	N/A	N/A
	Dell Adapter - USB-C to DisplayPort - DBQANBC067	✓	✓	✓	✓	✓
	Dell Adapter - USB-C to Dual USB-A with Power Pass-Through - DBQ2BJBC070 - Combo Adapter	N/A	N/A	✓	N/A	✓
	Dell Adapter - USB-C to HDMI/Display Port with Power Pass-Through DBQAUANBC070 - Combo Adapter	N/A	N/A	✓	N/A	N/A
	Dell Adapter - USB-C to HDMI/VGA/Ethernet/USB 3.0 - DA200 - Slayer 2	N/A	N/A	✓	N/A	N/A
	Dell Adapter- USB-C to USB-A 3.0 (DA300)- DBQBJBC054	N/A	N/A	✓	N/A	N/A
	Dell Adapter- USB-C to HDMI- DBQAUBC064	N/A	N/A	N/A	✓	✓
	Dell Adapter - USB-C to VGA - DBQBNBC064	N/A	N/A	N/A	✓	✓
	Dell Display Port to Display Port (.6M)- CJ2Y1	✓	✓	N/A	N/A	✓
	Dell Adapter - USB-C to VGA	N/A	N/A	N/A	N/A	✓
	USB-A to USB-B 3.0 Cable (0.6 meter)	✓	✓	N/A	N/A	✓

**Table 6. Supported peripherals (continued)**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
	USB-C to USB-C cable (0.6 meter) to enable USB-C Displays	✓	✓	N/A	N/A	✓
	Dell Adapter - DisplayPort to HDMI 2.0 (4K)- DANAUBC087	N/A	N/A	N/A	✓	N/A
	Dell Adapter - DisplayPort to VGA- DANBNBC084	N/A	N/A	N/A	✓	N/A
	DP to DVI D-SL Adapter	N/A	N/A	N/A	✓	N/A
	USB to Serial adapter - Trendnet	N/A	N/A	N/A	✓	N/A
	USB to Serial adapter - Cables-2-Go	N/A	N/A	N/A	✓	N/A
	C2G 15ft Cat6 Snagless Unshielded (UTP) Network Patch Ethernet Cable - Dell part A5309444 (US); A6927862 (EMEA) - Dell part A5309444 (US); A6927862 (EMEA)	✓	✓	N/A	N/A	✓
	C2G USB C to Display Port Adapter Converter - USB-C to Display Port Black external video adapter-Black	✓	N/A	N/A	N/A	N/A
Monitors	Dell Collaboration 24 USB-C Hub Monitor- C2422HE	✓	✓	N/A	N/A	N/A
	Dell Collaboration 27 USB-C Hub	✓	✓	N/A	N/A	N/A

**Table 6. Supported peripherals (continued)**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
	Monitor-C2722DE					
	Dell Collaboration 34 USB-C Hub Monitor-C3422WE	✓	✓	N/A	N/A	N/A
	Dell 19 Monitor-E1916H	N/A	N/A	N/A	✓	✓
	Dell 19 Monitor-E1916HV	✓	N/A	N/A	N/A	N/A
	Dell 19 Monitor-E1920H	✓	N/A	✓	N/A	N/A
	Dell 20 Monitor-E2016H	N/A	N/A	N/A	✓	✓
	Dell 20 Monitor-E2016HV	✓	N/A	N/A	N/A	N/A
	Dell 20 Monitor-E2020H	✓	✓	✓	N/A	N/A
	Dell 22 Monitor-E2216H	N/A	N/A	N/A	N/A	✓
	Dell 22 Monitor-E2216HV	✓	N/A	N/A	N/A	N/A
	Dell E Series Monitor-E2220H	✓	✓	✓	✓	N/A
	Dell 22 Monitor-E2218HN	N/A	N/A	N/A	✓	N/A
	Dell 23 Monitor-E2318H	N/A	N/A	N/A	✓	✓
	Dell 24 Monitor-E2417H	N/A	N/A	N/A	✓	✓
	Dell E Series Monitor-E2420H	✓	✓	✓	✓	N/A
	Dell E Series Monitor-E2420HS	N/A	N/A	✓	✓	N/A

**Table 6. Supported peripherals (continued)**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
	Dell E Series Monitor-E2720H	✓	✓	✓	✓	N/A
	Dell E Series Monitor-E2720HS	N/A	N/A	✓	✓	N/A
	Dell 24 Monitor-MR2416	N/A	N/A	N/A	✓	N/A
	Dell 19 Monitor-P1917S	✓	N/A	✓	N/A	✓
	Dell 20 Monitor-P2016	N/A	N/A	N/A	✓	N/A
	Dell 20 Monitor-P2018H	✓	✓	✓	N/A	✓
	Dell 22 Monitor-P2217	✓	N/A	✓	N/A	✓
	Dell 22 Monitor-P2217H	N/A	N/A	N/A	✓	N/A
	Dell 22 Monitor-P2219H	✓	✓	✓	✓	✓
	Dell 22 Monitor-P2219HC	N/A	N/A	✓	✓	N/A
	Dell 23 Monitor-P2317H	N/A	N/A	N/A	✓	N/A
	Dell 23 Monitor-P2319H	✓	✓		✓	✓
	Dell 24 Monitor-P2415Q	N/A	N/A	N/A	✓	✓
	Dell 24 Monitor-P2417H	N/A	N/A	N/A	✓	N/A
	Dell 24 Monitor-P2418D	N/A	N/A	N/A	N/A	✓
	Dell 24 Monitor-P2418HZm	✓	✓	✓	✓	✓
	Dell 24 Monitor-	✓	✓	✓	✓	✓

**Table 6. Supported peripherals (continued)**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
	P2418HT (Touch)					
	Dell 24 Monitor- P2419H	✓	✓	✓	✓	✓
	Dell 24 Monitor- P2419HC	✓	✓	✓	✓	✓
	Dell 24 Monitor- P2421	✓	✓	✓	N/A	N/A
	Dell 24 Monitor- P2421D	✓	✓	✓	N/A	N/A
	Dell 24 USB-C Monitor- P2421DC	✓	✓	✓	✓	N/A
	Dell 27 Monitor- P2719H	✓	✓	✓	✓	✓
	Dell 27 Monitor- P2719HC	✓	✓	✓	✓	✓
	Dell 27 Monitor- P2720D	✓	✓	✓	✓	N/A
	Dell 27 Monitor - P2720DC	✓	✓	✓	✓	N/A
	Dell UltraSharp 34 Monitor- P3418HW	N/A	N/A	N/A	✓	N/A
	Dell 43 Multi-Client Monitor- P4317Q	N/A	N/A	N/A	✓	✓
	Dell UltraSharp 24 Monitor- U2415	✓	✓	✓	✓	✓
	Dell UltraSharp 24 Ultrathin Monitor- U2419H	✓	✓	✓	✓	✓
	Dell UltraSharp 24 Ultrathin USB-C Monitor- U2419HC	✓	✓	✓	✓	✓
	Dell UltraSharp Monitor- U2421HE	✓	✓	✓	✓	N/A

**Table 6. Supported peripherals (continued)**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
	Dell UltraSharp 25 Monitor-U2518D	N/A	N/A	✓	✓	✓
	Dell Ultrasharp Monitor-U2520D	N/A	✓	✓	✓	N/A
	Dell UltraSharp 27 Monitor-U2718Q	N/A	N/A	✓	✓	✓
	Dell UltraSharp 27 Ultrathin Monitor-U2719D	✓	✓	✓	✓	✓
	Dell UltraSharp 27 Ultrathin USB-C Monitor-U2719DC	✓	✓	✓	✓	✓
	Dell Ultrasharp Monitor-U2720Q	N/A	✓	✓	✓	N/A
	Dell UltraSharp Monitor-U2721DE	✓	✓	✓	✓	N/A
	Dell UltraSharp 32 4K USB-C Monitor-U3219Q	✓	✓	N/A	N/A	✓
	Dell UltraSharp 34 Curved USB-C Monitor-U3419W	N/A	N/A	✓	N/A	✓
	Dell UltraSharp 34 Curved USB-C HUB Monitor-U3421WE	✓	✓	N/A	N/A	N/A
	Dell UltraSharp 38 Curved Monitor-U3818DW	N/A	N/A	✓	N/A	✓
	Dell Ultrasharp Monitor-U4320Q	N/A	✓	N/A	✓	N/A
	Dell UltraSharp 49 Curved Monitor-U4919DW	N/A	✓	✓	N/A	N/A
	Dell UltraSharp 30 Monitor-UP3017	N/A	N/A	N/A	N/A	✓

**Table 6. Supported peripherals (continued)**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
Docking Stations	Dell Dock-WD15	N/A	N/A	✓	N/A	N/A
	Dell Dock-WD19	✓	✓	✓	N/A	N/A
	Dell Performance Dock-WD19DC	✓	✓	✓	N/A	N/A
	Dell Thunderbolt Dock- WD19TB	✓	✓	✓	N/A	N/A
	Dell Universal Dock- D6000	N/A	N/A	✓	N/A	N/A
Networking	Dell Adapter-USB-C to Ethernet (PXE Boot)-DBQBCBC064	✓	✓	N/A	N/A	✓
	Dell FCLF-8521-3-(DL)	N/A	N/A	N/A	✓	N/A
External Data Storage	Dell USB Slim DVD/RW Drive- DW316	✓	✓		N/A	✓
	Dell External SSD, Typ C, USB3.1 Gen2, 250GB	N/A	N/A	N/A	✓	N/A
	Western Digital My Passport Ultra 1TB, Black	✓	✓	✓	N/A	✓
Smart Cards and Reader	CARD_IDPrime MD 830 B FIPS 140-2 L2 White PVC	✓	✓	N/A	N/A	✓
	CARD_IDPrime MD 3840 B w/o OTP	✓	✓	N/A	N/A	✓
	Card_IDPrime MD840B_white_PVC	✓	✓	N/A	N/A	✓
	CARD_IDPrime MD3811, Mifare EV1 4K&DESFire EV1, 4K _MPH150_New	✓	✓	N/A	N/A	✓
	Standard Card _IDPrime NET	✓	✓	N/A	N/A	✓



**Table 6. Supported peripherals**

Product Category	Product Description	OptiPlex 3090 Ultra	OptiPlex 7090 Ultra	Latitude 3320	Wyse 5070	OptiPlex 7070 Ultra device
	510_ white PVC					
	Yubikey Neo 5.0	✓	✓	N/A	N/A	✓
	Yubikey OTP+FIDO+C CID	✓	✓	N/A	N/A	✓
	Sun microsystem SRC 3311	✓	✓	N/A	N/A	✓
	IDBridge CT30 (GemPC Twin/TR USB)	✓	✓	N/A	N/A	✓
	Cherry SmartTerminal SMART Card Reader - ST-1044UCherry Cherry SmartTerminal SMART Card Reader - ST-1044Uv	✓	✓	N/A	✓	✓
	Cherry SmartTerminal ST-1144 SMART Card Reader - USB 2.0	✓	✓	N/A	✓	✓
Printers	Dell C2660dn Color Laser printer	✓	✓	✓	✓	✓
	Dell E515dn multifunctional printer	✓	✓	✓	✓	✓

✓ -Supported

## Printer matrix

**Table 7. Supported printer matrix**

Printer type	Local printing			Printer push from WMS	VDI Sessions				
	Mozilla Firefox	Google Chrome	File Explorer		RDP	VMware RDP	VMware PCoIP	VMware Blast	Citrix
USB	Supported	Supported	Supported	Not applicable	Not supported	Not supported	Not supported	Not supported	Not supported
LPD	Supported	Supported	Supported	Supported	Supported	Not supported	Not supported	Not supported	Not supported
SMB	Supported	Supported	Supported	Supported	Supported	Not supported	Not supported	Not supported	Not supported

**Table 7. Supported printer matrix**

Printer type	Local printing			Printer push from WMS	VDI Sessions				
	Mozilla Firefox	Google Chrome	File Explorer		RDP	VMware RDP	VMware PCoIP	VMware Blast	Citrix
URI	Supported	Supported	Supported	Supported	Supported	Not supported	Not supported	Not supported	Not supported

## Display matrix

**Table 8. Support for display matrix**

Hardware	Monitors	VDI sessions				
		RDP	VMware RDP	VMware PCoIP	VMware Blast	Citrix
Wyse 5070 Extended	<b>Two 4K displays</b> <ul style="list-style-type: none"> <li>P2415Q connected to Display Port 1</li> <li>P2415Q connected to Display Port 2</li> </ul>	Supported	Supported	Supported	Supported	Supported
	<b>Three 4K displays</b> <ul style="list-style-type: none"> <li>P2415Q connected to Display Port 1</li> <li>P2415Q connected to Display Port 2</li> <li>P2415Q connected to Display Port 4 using the DP to mDP cable</li> </ul>	Supported	Supported	Supported	Supported	Supported
	<b>Six 2K displays</b> <ul style="list-style-type: none"> <li>E2016 connected to Display Port 1</li> <li>E2016 connected to Display Port 2</li> <li>UP3017 connected to Display Port 3</li> <li>E1916H connected to AMD Display Port 4 using the DP to mDP cable</li> <li>E2216H connected to AMD Display Port 5 using the DP to mDP cable</li> <li>UP3017 connected to Display Port 6</li> </ul>	Not supported	Supported	Not supported	Not supported	Supported
	<b>Two 4K displays</b> <ul style="list-style-type: none"> <li>P2415Q connected to Display Port 1</li> <li>P2415Q connected to Display Port 2</li> </ul> <b>Two 2K displays</b> <ul style="list-style-type: none"> <li>UP3017 connected to Display Port 3</li> </ul>	Not supported	Supported	Supported	Supported	Supported

**Table 8. Support for display matrix (continued)**

Hardware	Monitors	VDI sessions				
		RDP	VMware RDP	VMware PCoIP	VMware Blast	Citrix
	<ul style="list-style-type: none"> <li>UP3017 connected to Display Port 6</li> </ul>					
	<p><b>Two 4K displays</b></p> <ul style="list-style-type: none"> <li>P2415Q connected to Display Port 1</li> <li>P2415Q connected to Display Port 2</li> </ul> <p><b>Three 2K displays</b></p> <ul style="list-style-type: none"> <li>UP3017 connected to Display Port 3</li> <li>UP3017 connected to Display Port 6</li> <li>E2016 connected to AMD Display Port 5 using the DP to mDP cable</li> </ul>	Supported	Supported	Not supported	Supported	Supported
	<p><b>One 4K display</b></p> <ul style="list-style-type: none"> <li>P2415Q connected to Display Port 1</li> </ul> <p><b>Five 2K display</b></p> <ul style="list-style-type: none"> <li>P2417H connected to Display Port 2</li> <li>P2417H connected to Display Port 3</li> <li>P2417H connected to Display Port 6</li> <li>P2417H connected to AMD Display Port 4 using the DP to mDP cable</li> <li>P2417H connected to AMD Display Port 5 using the DP to mDP cable</li> </ul>	Not supported	Supported	Not supported	Not supported	Supported

## Tested broker connections

**Table 9. VMware Horizon**

VDI version	Desktop	RDS server	
	Windows 10 Enterprise	Windows Server 2016	Applications
VMware Horizon 8	√	√	√

**Table 10. Citrix Virtual Apps and Desktops**

**Table 10. Citrix Virtual Apps and Desktops**

VDI version	Desktop	Server		Apps
	Windows 10 Enterprise	Windows Server 2016	Windows Server 2012 R2	Windows Server 2016
Citrix Virtual Desktops 7 2012	√	√	√	√

**Table 11. Dell Remote Desktop Protocol**

VDI version	Desktop	Server	
	Windows 10 Enterprise	Windows Server 2016	Windows Server 2019
Dell Remote Desktop Protocol	√	√	√

# Dell Hybrid Client 1.1

## Release summary

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

## Version

Dell Hybrid Client version 1.1.1618

Ubuntu version 18.04 LTS 64-bit

Wyse Management Suite Pro version 3.1

**NOTE:** Configuration User Interface must be updated to v1.0.112 for on-premises Wyse Management Suite v3.1 to support Dell Hybrid Client 1.1 features. You can download the Configuration User Interface package from the Wyse Management Suite drivers page at [www.dell.com/support](http://www.dell.com/support). For public cloud tenants or customers, the Configuration User Interface package is upgraded by Dell Technologies. For more information about how to upload and apply the Configuration User Interface package, see the Dell Wyse Management Suite v3.1 Administrator's Guide at [www.dell.com/support](http://www.dell.com/support).

## Release date

December 2020

## Compatibility

### Supported platforms


**Table 12. Supported platforms for Dell Hybrid Client**

Platform name	Configuration		
	Processor type	Memory	Storage
Wyse 5070	Intel Celeron Dual Core	8 GB	32 GB or higher capacity SSD/eMMC
	Intel Pentium Quad Core		
	Intel Pentium Quad Core		
OptiPlex 7070 Ultra	8th Generation Intel Core i3/i5/i7	8 GB and higher capacity RAM	128 GB and higher capacity SSD/HDD

**Table 13. Supported platforms for conversion**

**Table 13. Supported platforms for conversion**

Platform name	Configuration		
	Processor type	Memory	Storage
Wyse 5070	Intel Celeron Dual Core	4 GB and higher capacity RAM	16 GB or higher capacity SSD/eMMC
	Intel Pentium Quad Core		
	Intel Pentium Quad Core		
OptiPlex 7070 Ultra	8th Generation Intel Core i3/i5/i7	8 GB and higher capacity RAM	128 GB and higher capacity SSD/HDD

 **NOTE:** Dell Technologies recommends to use 8 GB RAM for better performance.

## Supported browsers


**Table 14. Supported browsers**

Browsers	Version
Google Chrome	87.0.4280.66
Mozilla Firefox	82

## Supported VDI clients

**Table 15. Supported VDI clients**

VDI Client Description	Version
Dell Hybrid Client RDP	8.1.08-02
Citrix Workspace App	2010
VMware Horizon Client	2006
Zoom Client	5.4.54779

 **NOTE:** Citrix Workspace App, VMware Horizon Client, and Zoom Client are released as optional add-ons for Wyse 5070 devices with 16 GB storage. Citrix RTME is not part of Dell Hybrid Client 1.1 build, however you can download it from the Citrix portal.

## Supported cloud platforms

- Office 365 applications with Azure Active Directory sync with On-Premise Active Directory User.
- GSuite applications with On-Premise users sync with Google Cloud Platform using Active Directory Federation Services (ADFS) enablement.

## Conversion images

**Table 16. Dell Wyse 5070 16 GB Storage**


File name	DHC_Wyse_5070_Conversion_Merlin_Image_1618_16GB.exe
Version	1.1.1618
Build	1.1
Size	3,978,150,610 bytes

**Table 17. Dell Wyse 5070 32 GB and above storage**

File name	DHC_Wyse_5070_Conversion_Merlin_Image_1618_32GB.exe
Version	1.1.1618
Build	1.1
Size	3,979,994,103 bytes


**Table 18. Dell OptiPlex 7070 Ultra**

File name	Dell-Hybrid-Client-OptiPlex7070Ultra-Bionic-Beaver_1618.zip
Version	1.1.1618
Build	1.1
Size	3,694,543,680 bytes

 **NOTE:** Image deployment is supported only using USB drive.


**Table 19. Dell Hybrid Client bundle (1618)**

File name	DellHybridClient_1.1_1618.tar.gz
Version	1.1.1618
Build	1.1
Size	832,168,795 bytes

 **NOTE:** DHC 1.1 upgrade package supports upgrade from DHC 1.0\_1288 build to DHC 1.1 build. Upgrade package can be deployed from Wyse Management Suite. DHC 1.1 bundle upgrade is not supported for 16 GB Devices.


**Table 20. Merlin Boot Agent for Dell Wyse ThinLinux**

File name	merlin-nonpxe_4.0.8-00.02_amd64.deb
Version	4.0.8-00.02
Size	509,834,84 bytes

 **NOTE:** Merlin Boot Agent supports conversion from ThinLinux to DHC 1.1 build. The devices running on ThinLinux can be converted to DHC only after installing Merlin Boot Agent.

**Table 21. Merlin Boot Agent for Dell Wyse Windows 10 IoT Enterprise**

File name	MerlinPackage_Common.exe
Version	4.0.8
Size	511,989,76 bytes

 **NOTE:** Merlin Boot Agent supports conversion from WIE10 to DHC 1.1 build. The devices running on Windows 10 IoT Enterprise can be converted to DHC only after installing Merlin Boot Agent.

## Optional add-on for all DHC-enabled device

**Table 22. SSH**

File name	ssh-server_7.6-05_amd64.tar.gz
Version	7.6-05
Size	1,259,231 bytes

**Table 23. VNC**

File name	vnc-server_0.9.13-06_amd64.tar.gz
Version	0.9.13-06
Size	2,984,778 bytes

**Table 24. DHC Multimedia Extension VDI**

File name	DHC_multimedia_extension_VDI_addon.tar.gz
Size	473,409,86 bytes


 **NOTE:** DHC Multimedia package enables HTML5 redirection for Citrix VDI session.

**Table 25. Custom Connection**

File name	custom-connections_1.00-01_amd64.tar.gz
Version	1.00-01
Size	4777 bytes

**Table 26. Language**

File name	Full_language.tar.gz
Size	340,473,780 bytes

 **NOTE:** You must install this language pack before configuring different languages from Wyse Management Suite. This full language addon is applicable only for 32GB and more devices. For more information on setting language configuration, see the Dell Hybrid Client Administrators's guide at the [Dell support site](#).

## Optional add-ons for Wyse 5070 devices with 16 GB storage

**Table 27. Citrix Workspace App**

File Name	citrix-client_20.10.0.6-04_amd64.tar.gz
Version	2010
Size	117,996,753 bytes

**Table 28. VMware View Client**

File Name	vmware-client_2006-8.0.0-06_amd64.tar.gz
Version	2006
Size	209,931,872 bytes

**Table 29. Zoom Client**

File Name	zoom-client_5.4.54779-03_amd64.tar.gz
Size	436,865,98 bytes

**Table 30. Zoom plugin for VMware**

File Name	zoom-vmware_5.4.53-01_amd64.tar.gz
Version	5.4.53-01
Size	306,543,63 bytes

**Table 31. Zoom plugin for Citrix**



**Table 31. Zoom plugin for Citrix**

File Name	zoom-citrix_5.4.53-01_amd64.tar.gz
Version	5.4.53-01
Size	306,397,37 bytes

## Optional language add-ons for devices with 16 GB storage

**Table 32. Chinese Simplified**

File Name	chinese_simplified.tar.gz
Size	171,449,434 bytes

**Table 33. Chinese Traditional**

File Name	chinese_traditional.tar.gz
Size	158,298,433 bytes

**Table 34. German**

File Name	German.tar.gz
Size	349,314,83 bytes

**Table 35. French**

File Name	French.tar.gz
Size	248,359,64 bytes

**Table 36. Italian**

File Name	Italian.tar.gz
Size	203,216,91 bytes

**Table 37. Japanese**

File Name	Japanese.tar.gz
Size	189,350,411 bytes

**Table 38. Korean**

File Name	Korean.tar.gz
Size	157,275,311 bytes

**Table 39. Spanish**

File Name	Spanish.tar.gz
Size	256,675,42 bytes

## New and enhanced features

**NOTE:** Configuration User Interface must be updated to v1.0.112 for on-premises Wyse Management Suite v3.1 to support Dell Hybrid Client 1.1 features. You can download the Configuration User Interface package from the Wyse Management Suite drivers page at [www.dell.com/support](http://www.dell.com/support). For public cloud tenants or customers, the Configuration User Interface package is upgraded by Dell Technologies. For more information about how to upload and apply the Configuration User Interface package, see the *Dell Wyse Management Suite v3.1 Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Support for unsigned and custom signed applications

Dell Hybrid Client supports installation of unsigned and custom signed applications. It supports loading and running datafile such as .tar, script, and binary. You can place any file on the local file system, such as image files, binary datafile, .txt files, and configuration files to the user-specific directory.

## Support for SSH and Virtual Network Computing (VNC)

**SSH**—Administrators can **Enable** or **Disable** SSH from the Wyse Management Suite. This change allows the user to log in as **sshuser** using the SSH connection. No other user can log in using the SSH connection. The administrator must set the password from Wyse Management Suite for **sshuser** when enabling SSH. The elevated privileges for an **sshuser** are disabled by default. In order to access the elevated privileges, SSH must be enabled.

**NOTE:** For security reasons the SSH is an optional add-on. The administrator must install the SSH add-on to enable SSH access. For more information about how to download and configure the SSH add-on, see the *Dell Hybrid Client Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

**VNC**—Administrators can **Enable** or **Disable** VNC from the Wyse Management Suite. The options **Show VNC access warning at the start of connection** and **Must confirm access for each VNC connection** can be enabled or disabled. By default, these options are enabled to ensure secured connection. The administrator must configure the password from Wyse Management Suite to Dell Hybrid Client powered devices through VNC. The VNC option can be enabled or disabled by administrator on Wyse Management Suite.

**NOTE:** For security reasons the VNC is an optional add-on. The administrator must install the VNC add-on to enable VNC access. For more information about how to download and configure the VNC add-on, see the *Dell Hybrid Client Administrator's Guide* at [www.dell.com/support](http://www.dell.com/support).

## Custom connection support

Dell Hybrid Client enables you to create custom connections. Users can create custom connections for browsers and local applications. The browser connection supports both icon and windows size configuration, whereas, the custom connection only supports icon configuration. Auto login and Auto reconnect options can be configured for both custom connection and browser connection.

**NOTE:** For security reasons the custom connection is an optional add-on. The administrator must install the custom connection add-on to create custom connections. For more information on how to download the custom connection add-on, see the Administrator's Guide at <https://www.dell.com/support>.

## Enable or disable access to desktop shortcuts

You can enable or disable access to the following desktop shortcuts using Wyse Management Suite:

- Google Chrome
- Firefox
- Dell File Explorer
- Device Settings
- Citrix Default icon
- VMware Default icon
- RDP Default icon
- Text Editor
- VLC Media Player
- Image Viewer
- Libre Office

## Guest user auto login

Dell Hybrid Client allows users to log in automatically as a guest user. However, autologin as a guest user is disabled by default. You can also configure the **Remove Device Lock** and **Password prompt on wakeup** options. When enabled, the lock screen is no longer displayed and the device does not prompt for a password after the device or display resumes from sleep mode.

## Image conversion

Dell Hybrid Client supports the following conversions:

- Convert Wyse 5070 devices running Windows 10 IoT Enterprise, ThinLinux 2.x, or ThinOS 8.6 (Maintenance Release 8 and later) to Dell Hybrid Client using Wyse Management Suite Pro 3.1 or later version.
- Convert OptiPlex 7070 devices running Windows 10 and Ubuntu 18.04 to Dell Hybrid Client using a bootable USB drive.

For more information, see the *Dell Hybrid Client Conversion Guide* at [www.dell.com/support](http://www.dell.com/support).

**NOTE:** Updated boot agent 4.0.8 must be installed before converting ThinLinux and Windows 10 IoT Enterprise-based devices to Dell Hybrid Client. For ThinOS devices, you must upgrade to ThinOS 8.6 Maintenance Release 8 and later versions.

## Supported languages

- The following languages are supported on Dell Hybrid Client:
    - English—US
    - German
    - French
    - Italian
    - Spanish
    - Japanese
    - Korean
    - Chinese Traditional
    - Chinese Simplified
  - By default, only English is installed. Language add-ons are released for other languages. As an administrator, you must first deploy the language add-on and then configure the language settings using Wyse Management Suite.
  - On Wyse 5070 devices with 16 GB storage, you must first install the individual language add-on pack before configuring the language settings using Wyse Management Suite. These devices can support only one additional language in addition to English. When the second language add-on is deployed from Wyse Management Suite, it uninstalls the previously installed language pack.
  - When you set a language, only the system local language is changed. Keyboard input language must be selected separately.
    - If the Japanese input language is used, select the keyboard layout as **Japanese (Macintosh)**.
    - If the Korean language pack is installed, the **ibus hangul** keyboard layout is used.
    - If the Chinese Simplified language pack is installed, the **ibus libpinyin** keyboard layout is used.
    - If the Chinese Traditional language pack is installed, the **ibus chewing** keyboard layout is used.
- NOTE:** For Korean and Chinese keyboard input languages, the respective language packages must be installed to change the input language.

For more information, see the *Dell Hybrid Client Administrator's Guide* at <https://www.dell.com/support>.

## Limitations

1. If the Dock feature is set to auto hide, it does not show up when you connect to a VNC session using the cursor.
2. Any previously installed application and user data is not saved when a Dell Hybrid Client device is re-imaged.
3. Dell Hybrid Client restarts upon installation of any add-ons such as VNC and SSH.
4. Domain unjoin is not supported on devices upgraded from DHC 1.0.1288 to 1.1.1618.
5. Performance issues are observed when you use the Zoom application on Wyse 5070 devices with 16 GB storage.

## Known issues

Table 40. Known issues

**Table 40. Known issues**

Issue number	Issue description	Workaround
HC-3502	There are two language locales listed in <code>locale-a</code> command even after setting the Multiple language installation flag to false.	There is no workaround in this release.
HC-3686	VNC does not connect when you are not logged into Dell Hybrid Client desktop.	There is no workaround in this release.
HC-4095	Browser shortcut opens in default window size and not in the required window size after logoff and login.	There is no workaround in this release.
HC-4149	Wallpapers for guest user desktop and lock screen may not be set after imaging	There is no workaround in this release.
HC-4216	There is no support for hotkeys in Dell Hybrid Client 1.1 EULA dialog box.	You can use the mouse control.
HC-4450	The VMware VDI session top menu bar options are greyed out when the session is launched.	There is no workaround in this release.
HC-4649	Files are not created if attempted before documents appears in Dell File Explorer.	The workaround is to wait for few seconds after opening Dell File Explorer to create files.
HC-4876	The monitor resolution changes does not reflect in the mirror mode.	There is no workaround in this release.
HC-4880	An error message, Are you sure you want to permanently delete the file? is displayed when a folder is deleted.	There is no workaround in this release.
HC-4898	An invalid meeting ID message may be displayed on Zoom when a meeting ID is entered manually.	There is no workaround in this release.
HC-4898	When you are sharing your screen on Zoom, black boxes are displayed in place of the chat window on the other participant's screen.	There is no workaround in this release.

## Important notes

Dell Technologies recommends to use an 8 GB RAM for better performance.

## Tested broker connections

**Table 41. VMware Horizon**

VDI version	Desktop	RDS server	
	Windows 10 Enterprise	Windows Server 2016	Applications
VMware Horizon 8 2006	√	√	√

**Table 42. Citrix Virtual Apps and Desktops**

VDI version	Desktop	Server		Apps
	Windows 10 Enterprise	Windows Server 2016	Windows Server 2012 R2	Windows Server 2016
Citrix Virtual Desktops 7 2009	√	√	√	√

**Table 43. Dell Remote Desktop Protocol**

**Table 43. Dell Remote Desktop Protocol**

VDI version	Desktop	Server	
	Windows 10 Enterprise	Windows Server 2016	Windows Server 2019
Dell Remote Desktop Protocol	√	√	√

# Dell Hybrid Client 1.0

## Release summary

Dell Hybrid Client is a desktop solution that follows the Software-as-a-Service (SaaS) model of software delivery. It provides a hybrid operating environment that enables you to access virtual, cloud, or local applications and resources seamlessly. It encompasses the cloud and storage aggregation for maintaining security and simplicity.

Devices powered by Dell Hybrid Client require a management software to configure, operate, and update, thereby eliminating the need for IT support to visit or touch the physical devices. You can manage the devices powered by Dell Hybrid Client using Wyse Management Suite version 3.0. As the number of devices grow, Wyse Management Suite offers process automation and helps lower costs for large deployments of hybrid clients.

## Version

Dell Hybrid Client version 1.0

Ubuntu version 18.04 LTS 64-bit

## Release date

September 2020

## Compatibility

### Build information

- Version—1.0
- Build number—1288
- Size—61,95,98,390 bytes

## Supported platforms

**Table 44. Supported platforms and configurations**

Platform name	Configuration			Language
	Processor type	Memory	Storage	
Wyse 5070	Intel Celeron Dual Core	8 GB and higher capacity RAM	32 GB or higher capacity SSD/eMMC	English (EN-US)
	Intel Pentium Quad Core			English (EN-US)
Wyse 5070 Extended	Intel Pentium Quad Core			English (EN-US)
OptiPlex 7070 Ultra	8th Generation Intel Core i3/i5/i7		128 GB and higher capacity SSD/HDD	English (EN-US)

## Supported management software

Table 45. Supported management software

Supported environment	
Management software	Wyse Management Suite
Edition	Pro
Version	3.0 and later

## Supported browsers

Table 46. Supported browsers

Browsers	Version
Chrome	84.0.4147.89
Mozilla Firefox	73.0.1

If the Google Chrome browser version on your Dell Hybrid Client is 66.0.3359.181 or 74.0.3729.108, you must upgrade the version to 84.0.4147.89. To check the Google Chrome version on your Dell Hybrid Client, go to **System Information > Packages tab** and click **Show All Packages**.

To upgrade the Google Chrome version to 84.0.4147.89, do the following:

1. Download the Google Chrome v 84.0.4147.89 package from <https://www.dell.com/support>.
2. Create and deploy standard app policy using Wyse Management Suite Pro (On-prem or Public Cloud). For more information about how to deploy a standard app policy, see the *Create and deploy standard application policy* section in the *Dell Wyse Management Suite v3.0 Administrator's Guide* at <https://www.dell.com/support>.

## Supported VDI clients

Table 47. Supported VDI clients

VDI Client Description	Version
RDP	8.1.07-06
Citrix Workspace App	1912
VMware Horizon Client	5.3

## Supported cloud platforms

- Office 365 applications with Azure Active Directory sync with on premise Active Directory User
- Google Cloud platform

## Salient features of Dell Hybrid Client

### Active Directory authentication


Dell Hybrid client supports user authentication with Active Directory—local AD and on-premise user sync with Azure Active Directory.

Dell Hybrid Client supports login only with Active Directory user. The guest user account is supported with group level policy configurations from Wyse Management Suite. The local user accounts are not supported.

Azure Active Directory (Azure AD) is Microsoft's cloud-based identity and access management service. It helps your employees to sign in and access resources in both external resources such as Microsoft Office 365, the Azure portal, and thousands of

other SaaS applications and internal resources such as applications on your corporate network and intranet, along with any cloud applications developed by your own organization.

For more information about *Azure Active Directory On-Prem users sync*, see *Azure AD Connect sync: Understanding Users, Groups, and Contacts* at <https://docs.microsoft.com/>.

 **NOTE:** Azure Active Directory is not supported in Dell Hybrid Client, and only on-premise sync with Azure AD is supported.

## Single Sign-On (SSO) to applications

Dell Hybrid client extends SSO to cloud applications and web applications along with VDI applications. It enables you to log in only one time with one set of credentials to access all applications.


### Known issues and expected behavior

The following are the known issues and expected behavior of the Single Sign-On (SSO) support for applications in Dell Hybrid Client:

- Single SignOn is not supported for VMware connections and FTA.
- A connection must be created with FQDN, and the device time should be synchronized with the RDP server domain time to use SSO with RDP.
- SSO is not supported for Citrix PNAgent connection but is supported for Storefront connections. Also, SSO is only supported from device login to remote session and is not supported for applications in session.
- Dell Hybrid Client does not support SSO for GCP (GSuite), and you must enter the credentials when you log in for the first time. The subsequent login works with SAML-based SSO authentication until you delete the browser cache.

## File Explorer

Dell Hybrid client delivers a seamless user experience for accessing local files, USB, network, or cloud files and folders through the custom File Explorer. The following are a few features of File Explorer in Dell Hybrid Client:

- Users can access only their respective local documents and downloads folders from the current drive in the File Explorer for security reasons. `Pictures` folder is available in Dell File Explorer if the **Print Screen** option is enabled.  
 **NOTE:** `Pictures` folder is available only for domain users if the **Print Screen** option is enabled.
- Azure or GCP cloud drive contents is available in the **Cloud** section.
- Network shares and USB storage devices are displayed in the **External Files** section.
- You can open the files using local, VDI, or cloud applications based on the priority configured in the **File Affiliation** settings.
- You can synchronize the files only when a user logs in for the second time on the same device when the local file or the local drive file is opened with cloud applications. For example, when you open cloud drive files in VDI or local applications and if you make any modifications, the synchronization happen after you log in again.
- You can upload local files to cloud. This option should be used after you log off and log in again, if the file is modified in the current logged in session and when the **File Type Association** is enabled with cloud applications.
- You can copy and paste, or move files between local folders, local drives, and external drives. If you make any changes when the file is opened in cloud, you must log off and log in again before you copy or move the file.
- Cloud files can be made available in the offline mode, where a user can access the file when the network is not available. Files made available offline can be accessed only for seven days, and a user should synchronize the files before seven days.
- You can use global file search to search for documents across any folder.

### Known issues and expected behavior

The following are the known issues and expected behavior of File Explorer in Dell Hybrid Client:

- You cannot configure both Azure or GCP cloud providers simultaneously.
- Keyboard shortcuts and right click options are not supported. You must use mouse to navigate through various files and folders in file explorer.
- When you upload a local file to GCP folder, a new file is created under GCP with the same name after every upload. This is because you create multiple files with the same name in GCP. When any of the duplicate files is made offline, all files in the same name are also available in the offline mode.



- When you save any cloud file to a local drive using the **Save Offline** option, the UI displays all the files with the same name in the in offline mode. But, only the selected file is saved in the offline mode which is a known issue in the UI.
- You cannot manually enter credentials while accessing network drives. Credentials must be configured in the Wyse Management Suite server when you are creating drives.
- Cloud files launch with VDI, local file launch with cloud and file synchronization is achieved only after you log off and log in again.
- Device specific cache directory and drafts directory are created in the cloud root for Azure and GCP.
- **NOTE:** New device specific cache directory and drafts directory is created in the cloud root for GCP when you unregister the device from Wyse Management Suite or when you reset the device to factory settings.
- For GCP, any local file that is uploaded by a user is available in the cloud root. The Azure file is uploaded to the `Uploads` folder in the cloud drive.
- You can manually upload cloud files of any size. However, the automatic synchronization of VDI files that you edited offline is limited to 4 MB for Azure. For more information, see *Upload or replace the contents of a Driveltem* at <https://docs.microsoft.com/>.
- Occasionally, a file opened by the user in OneDrive may be temporarily locked with the error message **Error Code 423** and become inaccessible. This is as per the design from Azure. For more information, see *Microsoft Graph error responses and resource types* at <https://docs.microsoft.com/>.
- Progress bar is not displayed when you copy the files. You must click the **Sync** button to view the copied file.

## File affiliation

File affiliation feature enables you to restrict the user's ability to access applications depending on the mode. In the cloud mode, the client displays applications that are supported by Cloud services. In the local mode, the client displays the local and VDI applications that are installed and configured using Wyse Management Suite. In the offline mode, the client displays the tools and applications that operate on the cached files. You can configure different modes on the same device for different users using the User Policy groups.

The following are the different modes that are supported for file affiliation:

- Cloud+VDI+Local
- Cloud+Local
- Cloud
- VDI+Local
- VDI

Files in the File Explorer launch based on the priority that is set. File open function falls back to the second priority application when the first priority fails.

## Known issues and expected behavior

The following are the known issues and expected behavior of the file affiliation feature:

- Fallback mechanism works only when the server is not reachable. For example if the priority is set to VDI, and the VDI server is not reachable then file open falls back to second priority applications. But if the server is reachable and application fails to launch then the fallback mechanism does not work.
- When a network is not reachable, files always open using local applications.

## Google Cloud Provider and Azure

Using File Explorer, users can access their files and applications in the Google cloud environment and Microsoft Azure environment. You can use Active Directory log-in and Single Sign-On support for Azure using Azure AD sync with On-prem Domain. You can configure these settings using Wyse Management Suite.


- **NOTE:** Dell Hybrid Client does not support SSO for GCP (GSuite), and you must enter the credentials when you log in for the first time. The subsequent login works with SAML-based SSO authentication until you delete the browser cache.

## VDI clients support

Dell Hybrid Client supports Citrix, VMware, RDP connections, and File Type Association (FTA). Users can add multiple connections to access desktop or applications on VDI servers. File Type Association can also be configured with VDI applications.

### Known issue and expected behavior

The following are the known issues and expected behavior of the VDI clients with Dell Hybrid Client:

- You must create a connection using FQDN and time should be synchronized with RDP server domain to use SSO with RDP.  
 **NOTE:** SSO is supported from Windows 10 operating system and Windows server 2016.
- For VMware FTA, administrator must provide file extensions and respective application names from Wyse Management Suite. However, for Citrix and RDP FTA settings, Extensions and Application name that is configured from Citrix and RDP Broker agent server is fetched automatically after your login. While launching files from explorer, matching application opens the files automatically based on the file type.
- After changing the keyboard layout, you must sign out from the current session for the changes to reflect inside the session.
- Citrix session launch from the Chrome browser is not supported. It is supported only from the Firefox browser. Desktop and application files are downloaded, and launched.

## Local applications support

By default, the following applications are installed on your Dell Hybrid Client:

- **VLC Media Player**—Enables you to play most of the multimedia files.
- **Image Viewer**—Enables you to open most of the image files.
- **Libre Office**—Enables you to view, create, or edit text documents, spreadsheets, presentations, drawings, and compose a mathematical formula.

## Network drives


Network drives can be configured from Wyse Management Suite with different protocols such as FTPS, SMB, and CIFS. Based on the user requirement user can create drives with anonymous mode or with credentials.

### Known issues and expected behavior

Users cannot manually enter the credentials while accessing the network drives. Credentials must be configured using the Wyse Management Suite server while creating the drives.

## Device settings

Users can view and modify the device settings locally using the device settings. Local Settings which are configured using Wyse Management Suite policy are reflected and the same can be modified and saved by the user. The following are the device settings that can be configured:

- Network Configuration  
 **NOTE:** Using the network configuration you can manually add IP when DHCP is not available in the subnet, DNS to resolve network domain and to enable or disable Bluetooth.
- Monitor settings
- Peripheral management
- Display personalization
- Region settings
- Power settings
- Password
- Dell Client Agent

## User personalization


User personalized roaming is supported for device settings. You can configure user specific settings, and the same settings are enabled in another device when you log in with the same user credentials. The following features can be personalized:

- Peripheral Management
  - Mouse
    - Speed
    - Swap
    - Scroll wheel
    - Pointer size
  - Keyboard
    - Keyboard Repeat rate
    - Keyboard Repeat delay
    - Keyboard layout
    - Number lock
    - Print screen
- Display personalization
  - Desktop color
  - Wallpaper mode
  - Scale
  - Brightness
  - Dock icon size
  - Dock position
  - Auto hide dock
- Region settings
  - Time zone
  - Time format
- Power settings
  - Power saving
    - WiFi
  - Suspend and power
    - Blank screen
    - Auto suspend
    - Power button action

## Known issues and expected behavior

The following are the known issues and expected behavior of the user personalization feature:

- Bluetooth, audio, and printer settings cannot be configured using the **Device Settings** option. These pages contain Advanced Settings buttons which display the **Ubuntu Settings** page, where users can modify these settings.
- Monitor resolution values are static and for some monitors it may not display all the supported resolution. So, some of the resolutions cannot be applied from this page.
- Under Network configuration, IP details can be added or modified only when the device does not receive IP configuration from the DHCP server.
- Multi-display six monitor setup is supported for the following combinations for Wyse 5070:
  - Two 4K monitor and four 2K monitor
  - Six 2K monitor

 **NOTE:** Six monitor display setup is supported only on Wyse 5070 Extended.

## User security

Dell Hybrid Client provides a high level of user security in which the data of a user is locked and cannot be viewed by other users. A user's access to Dell Hybrid Client is controlled through specific permissions and the data profiles that are managed using Wyse Management Suite.

## Secure browsing

Dell Hybrid client provides a secure end point for your browser-based work environment. You can enable or disable Site Isolation and Extensions for Google Chrome. You can also enable or disable Multi Containers feature for the Firefox browser.

## Browser settings

Dell Hybrid Client supports Google Chrome and Firefox browsers. Google chrome is the default browser. You can customize the following browsers settings using Wyse Management Suite:

- Change default browser
- Create Browser Shortcuts such as browser connections
- Blacklist and Whitelist URLs

The **URLBlacklist** option prevents users from accessing a list of blocked URLs. The following are the few examples to allow or block the URLs:

- Allowing only a small set of sites. For example, "mail.example.com", "wikipedia.org", "google.com". You can also block URLs. For example, Block "URL" .
- Block all access to a domain, except to the mail server using HTTPS and to the main page. For example, Block "example.com", Allow "https://mail.example.com", or Allow ".example.com", and maybe ".www.example.com".
- Block all access to YouTube, except for selected videos. For example, Block "youtube.com", Allow "youtube.com/watch?v=V1", or Allow "youtube.com/watch?v=V2".

**NOTE:** With Firefox, while adding blacklist URL, you must specify one or more URLs without the https/http schema. For example, instead of *https://www.youtube.com* we should specify only youtube.com or www.youtube.com which will block youtube.com with all schemas. The same is applicable when you configure whitelist URLs(exceptions) also. Firefox supports only http/https, and the prefix is added by default.

## Known issues and expected behavior

The following are the known issues and expected behavior of the browser settings:

- Except browser shortcuts, all other browser settings must be configured from the User Policy groups. These settings are not applicable for a guest user.
- If you blacklist an entire website and whitelist a specific webpage URL for that site, blacklist and whitelist functionality does not work as expected. Users might be able to access other content on that website.
- Only *http* and *https* addresses are supported for Firefox. For more information, go to <https://github.com/mozilla/policy-templates>.

## USB lockdown

You can allow or block access to specific USB devices using the USB lockdown feature. By default, all USB devices can be accessed. If you disable the **Enable All** option, all USB devices are blocked.

You can use the **Disable all excluding HID** option to disable all USB devices excluding keyboard and mouse. Also, you can use the **Disable USB devices using Vendor ID/Product ID/Class** option to disable specific set of USB devices using VID and PID combination of the device or using the USB class.

## Known issues and expected behavior

The following are the known issues and expected behavior of the USB lockdown feature:

- When you disable the **Audio** USB class, the webcam stops working.
- USB lockdown cannot be configured from User Policy groups in Wyse Management Suite.

# General features

The following are the general features of Dell Hybrid Client:

- Monitor, keyboard, mouse, and printer settings can be configured from the **Peripheral Management** page.
- Proxy, Bluetooth, and wireless settings can be configured from the **Network Configuration** page.
- Wallpaper, brightness, and dock settings can be configured from the **Desktop Personalization** page.
- You can import and delete certificates, change GRUB password, and configure guest user account properties, power settings, application security, and BIOS settings.

**NOTE:** Automatic operating system security updates are disabled for Dell Hybrid Client 1.0 release. Also, only Dell Signed applications can be installed in Dell Hybrid Client from Wyse Management Suite.

## Important notes

### Server details

Wyse management Suite version— 3.0.588

### Tested broker connections

**Table 48. VMware Horizon**

VDI version	Desktop	RDS server	
	Windows 10 Enterprise	Windows Server 2016	Applications
VMware Horizon 7.11	√	√	√

**Table 49. Citrix Virtual Apps and Desktops**

VDI version	Desktop	Server		Apps
	Windows 10 Enterprise	Windows Server 2016	Windows Server 2012 R2	Windows Server 2016
Citrix Virtual Desktops 7 1912 LTSR	√	√	√	√

**Table 50. Remote Desktop Protocol**

VDI version	Desktop	Server		
	Windows 10 Enterprise	Windows Server 2016	Windows Server 2012 R2	Windows Server 2019
Remote Desktop Protocol	√	√	√	√

## Supported peripherals

**Table 51. Supported peripherals**

Product Category	Product Description	Wyse 5070	OptiPlex 7070 Ultra
Audio or video	Dell 2.0 Speaker System - AE215	N/A	√
	Dell 2.1 Speaker System - AE415	N/A	√

**Table 51. Supported peripherals (continued)**

<b>Product Category</b>	<b>Product Description</b>	<b>Wyse 5070</b>	<b>OptiPlex 7070 Ultra</b>
	Dell UC Headset - UC150	N/A	✓
	Dell UC Headset - UC350	✓	✓
	Microsoft Corporation LifeChat LX-6000 Headset	✓	N/A
	Dell Professional Sound Bar - AE515	✓	N/A
	Dell USB Sound Bar - AC511	✓	N/A
	Jabra Pro 935 MS Wireless headset (Mono) - Office Centric	✓	N/A
	Jabra Evolve 65 MS Stereo Headset	N/A	✓
	Jabra Engage 65 MS Stereo Headset	N/A	✓
	Plantronics Savi W440M-400 Series convertible wireless headset - DECT 6.0	N/A	✓
	Plantronics Voyager Focus UC B825-M headset for Microsoft Lync	N/A	✓
Input devices	Dell Laser Scroll USB 6-Buttons Silver and Black Mouse	N/A	✓
	Dell Multimedia Keyboard - KB216	✓	✓
	Dell Optical Mouse - MS116	✓	✓
	Dell USB Wired Keyboard with Smart Card reader - KB813	✓	N/A
	Dell Premier Wireless Mouse - WM527	N/A	✓
	Dell Wireless Keyboard and Mouse - KM636	✓	✓
	Dell USB Wired Laser mouse - Naruto	✓	N/A
	Dell Wireless Mouse - WM326	N/A	✓
Cables, dongles and adapters	USB-C to USB-C cable (0.6 meter) to enable USB-C Displays	N/A	✓
	Dell Adapter - USB-C to DisplayPort	✓	✓

**Table 51. Supported peripherals (continued)**

Product Category	Product Description	Wyse 5070	OptiPlex 7070 Ultra
	- DBQANBC067 - DBQANBC067		
	Dell Adapter - USB-C to VGA - DBQBNBC064 - DBQBNBC064	✓	✓
	Dell Adapter - USB-C to HDMI - DBQAUBC064 - DBQAUBC064	✓	✓
	Dell Adapter - DisplayPort to HDMI 2.0 (4K) - DANAUBC087 - DANAUBC087	✓	N/A
	Dell Adapter - DisplayPort to VGA - DANBNBC084 - DANBNBC084	✓	N/A
	USB - C to DP adapter	✓	✓
	USB to Serial adapter - Trendnet	✓	N/A
	USB to Serial adapter - Cables-2-Go	✓	N/A
	StarTech.com 1 Port USB to RS232 DB9 Serial Adapter Cable - Serial adapter - USB 2.0 - RS-232	✓	N/A
	C2G USB C to DisplayPort Adapter Converter - USB-C to DisplayPort Black external video adapter - black	✓	N/A
Monitors	Dell 19 Monitor - E1916H	✓	✓
	Dell 19 Monitor - E1920H	✓	✓
Monitors	Dell 20 Monitor - E2016H	✓	✓
	Dell 20 Monitor - E2020H	✓	N/A
	Dell 22 Monitor - E2216H	✓	✓
	Dell FY20 E Series Monitor - E2220H	✓	N/A
	Dell 22 Monitor - E2218HN	✓	N/A

**Table 51. Supported peripherals (continued)**

<b>Product Category</b>	<b>Product Description</b>	<b>Wyse 5070</b>	<b>OptiPlex 7070 Ultra</b>
	Dell 23 Monitor - E2318H	✓	✓
	Dell 24 Monitor - E2417H	✓	✓
	Dell FY20 E Series Monitor - E2420H	✓	N/A
	Dell FY20 E Series Monitor - E2420HS	✓	N/A
	Dell FY20 E Series Monitor - E2720H	✓	N/A
	Dell FY20 E Series Monitor - E2720HS	✓	N/A
	Dell 24 Monitor - MR2416	✓	N/A
	Dell 19 Monitor - P1917S	N/A	✓
	Dell 20 Monitor - P2016	✓	N/A
	Dell 22 Monitor - P2217	✓	✓
	Dell 22 Monitor - P2217H	✓	N/A
	Dell 23 Monitor - P2317H	✓	N/A
	Dell 23 Monitor - P2319H	N/A	N/A
	Dell 24 Monitor - P2415Q	✓	✓
	Dell 20 Monitor - P2018H	N/A	✓
	Dell 22 Monitor - P2219H	N/A	✓
	Dell 22 Monitor - P2219HC	✓	N/A
	Dell 23 Monitor - P2319H	N/A	✓
	Dell 24 Monitor - P2417H	✓	N/A
	Dell 24 Monitor - P2418HZm	✓	✓
	Dell 24 Monitor - P2418HT (Touch)	✓	✓
	Dell 24 Monitor - P2419H	N/A	✓
	Dell 24 Monitor - P2419HC	N/A	✓
	Dell 27 Monitor - P2719H	N/A	✓



**Table 51. Supported peripherals (continued)**

<b>Product Category</b>	<b>Product Description</b>	<b>Wyse 5070</b>	<b>OptiPlex 7070 Ultra</b>
	Dell 27 Monitor - P2719HC	N/A	✓
	Dell 27 Monitor - P2720D	✓	N/A
	Dell 27 Monitor - P2720DC	✓	N/A
	Dell UltraSharp 34 Monitor - P3418HW	✓	N/A
	Dell 43 Multi-Client Monitor - P4317Q	✓	✓
	Dell UltraSharp 24 Monitor - U2415	✓	✓
	Dell UltraSharp 24 Ultrathin Monitor - U2419H	N/A	✓
	Dell UltraSharp Monitor - U2421HE	✓	✓
	Dell UltraSharp Monitor - U2721DE	✓	✓
	Dell UltraSharp 24 Ultrathin USB-C Monitor - U2419HC	N/A	✓
	Dell UltraSharp 25 Monitor - U2518D	✓	✓
	Dell Ultrasharp Monitor - U2520D	✓	N/A
	Dell UltraSharp 27 Monitor - U2718Q	✓	✓
	Dell Ultrasharp Monitor - U2720Q	✓	N/A
	Dell UltraSharp 27 Ultrathin Monitor - U2719D	N/A	✓
	Dell UltraSharp 27 Ultrathin USB-C Monitor - U2719DC	N/A	✓
	Dell UltraSharp 34 Curved USB-C Monitor - U3419W	N/A	✓
	Dell Ultrasharp Monitor - U4320Q	✓	N/A
Networking	Dell Adapter - USB-C to Ethernet	✓	N/A
	Dell FCLF-8521-3-(DL)	✓	N/A
External Data Storage	Dell USB Slim DVD/RW Drive - DW316	N/A	✓

**Table 51. Supported peripherals**

Product Category	Product Description	Wyse 5070	OptiPlex 7070 Ultra
	Dell External SSD, Typ C, USB3.1 Gen2, 250GB	N/A	✓
Smart Cards and Reader	ETOKEN, SAFENET 5110, FIPS, JAVA/80K, BLACK, ID, (HEX)	✓	✓
	ETOKEN, SAFENET, 5110+, CC, JAVA/80K, BLACK, ID (HEX)	✓	✓
	CARD_IDPrime MD 830 B FIPS 140-2 L2 White PVC	✓	✓
	CARD_IDPrime MD 3840 B w/o OTP	✓	✓
	Card_IDPrimeMD840B _white_PVC	✓	✓
	CARD_IDPrime MD3811, Mifare EV1 4K&DESFire EV1, 4K _MPH150_New	✓	✓
	Standard Card _IDPrime NET 510_ white PVC	✓	✓
	Yubikey Neo 5.0	✓	✓
	E-token pro Alladin 72 K	✓	✓
	Sun microsystem SRC 3311	✓	✓
	Dell keyboard KB813t	✓	✓
	Dell keyboard KB813	✓	✓
	Cherry SmartTerminal SMART Card Reader - ST-1044U	✓	✓
	Cherry SmartTerminal ST-1144 SMART Card Reader - USB 2.0	✓	✓
	CHERRY KC 1000 SC - Keyboard - with Smart Card reader - USB - English - US - black - TAA Compliant - JK-A0104EU-2	✓	✓
Printers	Dell C2660dn Color Laser Printer	✓	N/A
	Dell E515dn multifunctional printer	✓	N/A
	Dell Color Multifunction Printer - E525w	✓	N/A

# Supported display matrix

Table 52. Supported display matrix (continued)

Supported display matrix						
Hardware	Monitors	VDI sessions				
		RDP	VMware RDP	VMware PCoIP	VMware Blast	Citrix
Wyse 5070 Extended	<b>Two 4K Monitors</b> DP1:P2415Q(DP-cable) DP2:P2415Q(DP-cable)	√	√	√	√	√
Wyse 5070 Extended	<b>Three 4K Monitors</b> DP1:P2415Q(DP-cable) DP2:P2415Q(DP-cable) DP4:P2415Q(Dp to mDP cable)	√	√	x	x	x
Wyse 5070 Extended	<b>Six 2K Monitors</b> DP1:E2016(DP-cable) DP2:E2016(DP-cable) DP3:UP3017(DP-cable) AMD DP4:E1916H(DP to mDP cable) AMD DP5:E2216H (DP to mDP cable) DP6:UP3017(DP-cable)	√	√	x	√	√
Wyse 5070 Extended	<b>One 4K Monitors</b> DP1:P2415Q(DP-cable) <b>Three 2K Monitors:</b> DP3:P2417H(DP-cable) DP4:P2417H(Dp to mDP cable) DP6:P2417H(Dp-cable)	√	√	x	x	x
Wyse 5070 Extended	<b>Two 4K Monitors</b> DP1:P2415Q(DP-cable) DP2:P2415Q(DP-cable) <b>Four 2K Monitors:</b> DP3:UP3017(DP-cable)	√	√	x	√	x

**Table 52. Supported display matrix**

Supported display matrix						
	DP6:UP3017(DP-cable) AMD DP4:E2016 (DP to mDP cable) AMD DP5:E2016 (DP to mDP cable)					
Wyse 5070 Extended	<b>Three 4K Monitors</b> DP1:P2415Q(DP-cable) DP2:P2415Q(DP-cable) AMD DP4:P2415Q (DP to mDP cable) <b>Three 2K Monitors:</b> DP3:UP3017(DP-cable) DP6:UP3017(DP-cable) AMD DP5:E2016 (DP to mDP cable)	√	√	x	√	x
Wyse 5070 Extended	<b>One 4K Monitor</b> DP1:P2415Q(DP-cable) <b>Five 2K Monitors:</b> DP2:P2417H(DP-cable) DP3:P2417H(DP-cable) DP6:P2417H(DP-cable) AMD DP4:P2417H (DP to mDP cable) AMD DP5:P2417H (DP to mDP cable)	√	√	x	√	x

## Supported printer matrix

**Table 53. Supported printer matrix**

Printer type	Local printing			Printer Configuration push from Wyse Management Suite	VDI Sessions				
	Firefox	Chrome	File explorer		RDP	VMware RDP	VMware PCoIP	VMware Blast	Citrix
USB	√	x	√	N/A	x	x	√	√	x
LPD	√	x	√	√	√	x	√	√	x

**Table 53. Supported printer matrix**

SMB	√	×	√	√	√	×	√	√	×
URI	√	×	√	√	√	×	√	√	×


## Limitations

RDP supports only Single Sign-on (SSO) to log in to remote desktops and applications. SSO is not supported for applications running inside a session. This issue is due to the limitation from Microsoft.

## Resources and support

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 or the product model. For example, **Dell Hybrid Client**.  
A list of matching products is displayed.
3. Click your product from the list.
4. Click **DOCUMENTATION**.

## Contacting Dell

 **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.

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:

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.