VMware Horizon Client for iOS Installation and Setup Guide

04 JAN 2018

VMware Horizon Client for iOS 4.7

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VMware Horizon Client for iOS Installation and Setup Guide

This document, *VMware Horizon Client for iOS Installation and Setup Guide*, provides information about installing, configuring, and using VMware Horizon® Client™ software on an iOS device.

This information is intended for administrators who need to set up a Horizon deployment that includes iOS client devices. The information is written for experienced system administrators who are familiar with virtual machine technology and datacenter operations.

Setup and Installation

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Setting up a Horizon deployment for iOS clients involves using certain Connection Server configuration settings, meeting the system requirements for Horizon servers and iOS clients, and installing the app for Horizon Client.

This chapter includes the following topics:

System Requirements

iOS devices that run Horizon Client must meet certain hardware and software requirements.

System Requirements for iOS Clients

The iOS device on which you install Horizon Client, and the peripherals it uses, must meet certain system requirements.

Operating systems	iOS 9.x, iOS 10.x, or iOS 11.
(Optional) External keyboards	iPad Keyboard Dock and Apple Wireless Keyboard (Bluetooth).

Smart card authentication	See Smart Card Authentication Requirements.
Touch ID authentication	See Touch ID Authentication Requirements.
Face ID authentication	See Face ID Authentication Requirements.
Connection Server, security server, and View Agent or Horizon Agent	Latest maintenance release of Horizon 6 version 6.x and later releases. VMware recommends that you use a security server or Unified Access Gateway appliance so that client devices do not require a VPN connection. If your company has an internal wireless network to provide routable access to remote desktops that devices can use, you do not have to set up a security server, Unified Access Gateway, or VPN connection.
Display protocols	■ PCoIP ■ VMware Blast (requires Horizon Agent 7.0 or later)
Network protocols	■ IPv4 ■ IPv6 (requires iOS 9.2 or later) For information about using Horizon in an IPv6 environment, see the *View Installation* document.

System Requirements for Real-Time Audio-Video

Real-Time Audio-Video works with standard audio devices and with standard conferencing applications such as Skype, WebEx, and Google Hangouts. To support Real-Time Audio-Video, your Horizon environment must meet certain software and hardware requirements.

Important Only the audio-in feature is supported. The video feature is not supported.

Remote desktops and applications	To use Real-Time Audio-Video with published desktops and remote applications, you must have Horizon Agent 7.0.2 or later.
Client access device	Real-Time Audio-Video is supported on all iOS devices that run Horizon Client for iOS. For more information, see System Requirements for iOS Clients.

Smart Card Authentication Requirements

Client devices that use a smart card for user authentication must meet certain requirements.

Client Hardware and Software Requirements

An iOS 8.4.1 or later operating system is required.

Each client device that uses a smart card for user authentication must have the following hardware and software:

- Horizon Client
- A compatible smart card reader.

  Alternatively, you can use the Purebred app for derived credentials. To use derived credentials, you must also create a virtual smart card in Horizon Client.
- Product-specific application drivers

Users that authenticate with smart cards must have a physical or virtual smart card, and each smart card must contain a user certificate.

Remote Desktop and Application Software Requirements

A Horizon administrator must install product-specific application drivers on the remote desktops or RDS host.

Horizon Client for iOS supports using smart cards with remote desktops that have Windows 7, Windows Vista, Windows XP, Windows 8.1, Windows 10, and Windows Server 2008 R2 guest operating systems. For published desktops and remote applications, the Windows Server 2008 R2 and Windows Server 2012 R2 operating systems are supported.

Enabling the Username Hint Field in Horizon Client

In some environments, smart card users can use a single smart card certificate to authenticate to multiple user accounts. Users enter their user name in the **Username hint** field during smart card sign-in.

To make the **Username hint** field appear on the Horizon Client login dialog box, you must enable the smart card user name hints feature for the Connection Server instance in Horizon Administrator. The smart card user name hints feature is supported only with Horizon 7 version 7.0.2 and later servers and agents. For information about enabling the smart card user name hints feature, see the *View Administration* document.

If your environment uses an Unified Access Gateway appliance rather than a security server for secure external access, you must configure the Unified Access Gateway appliance to support the smart card user name hints feature. The smart card user name hints feature is supported only with Unified Access Gateway 2.7.2 and later. For information about enabling the smart card user name hints feature in Unified Access Gateway, see the *Deploying and Configuring Unified Access Gateway* document.

Note Horizon Client still supports single-account smart card certificates when the smart card user name hints feature is enabled.

Additional Smart Card Authentication Requirements

In addition to meeting the smart card requirements for Horizon Client systems, other Horizon components must meet certain configuration requirements to support smart cards.

Connection Server and security server hosts	An administrator must add all applicable Certificate Authority (CA) certificates for all trusted user certificates to a server truststore file on the Connection Server host or security server host. These certificates include root certificates and must include intermediate certificates if the user's smart card certificate was issued by an intermediate certificate authority. For information about configuring Connection Server to support smart card use, see the *View Administration* document.
Active Directory	For information about tasks that an administrator might need to perform in Active Directory to implement smart card authentication, see the *View Administration* document.

Touch ID Authentication Requirements

To use Touch ID for user authentication in Horizon Client, you must meet certain requirements.

iPad and iPhone models	Any iPad or iPhone model that supports Touch ID, for example, iPad Air 2 and iPhone 6.
Operating system requirements	■ iOS 8 or later. ■ Add at least one fingerprint in the Touch ID & Passcode setting.
Connection Server requirements	■ Horizon 6 version 6.2 or a later release. ■ Enable biometric authentication in Connection Server. For information, see "Configure Biometric Authentication" in the *View Administration* document. ■ The Connection Server instance must present a valid root-signed certificate to Horizon Client.
Horizon Client requirements	■ Set the certificate checking mode to **Never connect to untrusted servers** or **Warn before connecting to untrusted servers**. For information about setting the certificate checking mode, see Setting the Certificate Checking Mode in Horizon Client. ■ Enable Touch ID by tapping **Enable Touch ID** on the server login window. After you successfully log in, your Active Directory credentials are stored securely in the iOS device's Keychain. The **Enable Touch ID** option is shown the first time you log in and does not appear after Touch ID is enabled.

You can use Touch ID with smart card authentication and as part of two-factor authentication with RSA SecurID and RADIUS authentication. If you use Touch ID with smart card authentication, Horizon Client connects to the server after you enter your PIN and the Touch ID login window does not appear.

Face ID Authentication Requirements

To use Face ID for user authentication in Horizon Client, you must meet certain requirements.

iPad and iPhone models	Any iPad or iPhone model that supports Face ID, such as iPhone X.
Operating system requirements	■ iOS 11 or later. ■ Add a Face ID scan in the Face ID & Passcode setting.
Connection Server requirements	■ Horizon 6 version 6.2 or a later release. ■ Enable biometric authentication in Connection Server. For information, see "Configure Biometric Authentication" in the *View Administration* document. ■ The Connection Server instance must present a valid root-signed certificate to Horizon Client.
Horizon Client requirements	■ Set the certificate checking mode to **Never connect to untrusted servers** or **Warn before connecting to untrusted servers**. For information about setting the certificate checking mode, see Setting the Certificate Checking Mode in Horizon Client. ■ Enable Face ID by tapping **Enable Face ID** on the server login window. After you successfully log in, your Active Directory credentials are stored securely in the iOS device's Keychain. The **Enable Face ID** option is shown the first time you log in and does not appear after Face ID is enabled.

You can use Face ID with smart card authentication and as part of two-factor authentication with RSA SecurID and RADIUS authentication. If you use Face ID with smart card authentication, Horizon Client connects to the server after you enter your PIN and the Face ID login window does not appear.

Supported Desktop Operating Systems

A Horizon administrator creates virtual machines that have a guest operating system and installs agent software in the guest operating system. End users can log in to these virtual machines from a client device.

For a list of the supported Windows guest operating systems, see the *View Installation* document.

Some Linux guest operating systems are also supported if you have View Agent 6.1.1 or later, or Horizon Agent 7.0 or later. For information about system requirements, configuring Linux virtual machines for use in Horizon, and a list of supported features, see *Setting Up Horizon 6 for Linux Desktops* or *Setting Up Horizon 7 for Linux Desktops*.

Preparing Connection Server for Horizon Client

A Horizon administrator must perform specific tasks to enable end users to connect to remote desktops and applications.

Before end users can connect to a server and access a remote desktop or published application, a Horizon administrator must configure certain pool settings and security settings.

Unified Access Gateway and Security Servers

- If you plan to use Unified Access Gateway, configure Connection Server to work with Unified Access Gateway. See the *Deploying and Configuring Unified Access Gateway* document. Unified Access Gateway appliances fulfill the same role that was previously played by only security servers.
- If you are using a security server, verify that you are using the latest maintenance releases of Connection Server 6.x and Security Server 6.x or later releases. For more information, see the *View Installation* document.

Secure Tunnel Connection

- If you plan to use a secure tunnel connection for client devices, and if the secure connection is configured with a DNS host name for Connection Server instance or a security server, verify that the client device can resolve this DNS name.

  To enable or disable the secure tunnel, in Horizon Administrator, go to the **Edit Horizon Connection Server Settings** dialog box and select or deselect the **Use secure tunnel connection to desktop** check box.

Desktop and Application Pools

- Verify that a desktop or application pool has been created and that the user account that you plan to use is entitled to access the pool. For information, see the *Setting Up Virtual Desktops in Horizon 7* or *Setting Up Published Desktops and Applications in Horizon 7* document.
- Verify that the desktop or application pool is set to use the VMware Blast display protocol or the PCoIP display protocol. For information, see the *Setting Up Virtual Desktops in Horizon 7* and *Setting Up Published Desktops and Applications in Horizon 7* documents.

User Authentication

- To use two-factor authentication with Horizon Client, such as RSA SecurID or RADIUS authentication, you must enable this feature in the Connection Server instance. For more information, see the topics about two-factor authentication in the *View Administration* document.
- To hide security information in Horizon Client, including server URL information and the **Domain** drop-down menu, enable the **Hide server information in client user interface** and **Hide domain list in client user interface** settings in Horizon Administrator. These global settings are available in Horizon 7 version 7.1 and later. For information about configuring global settings, see the *View Administration* document.

  To authenticate when the **Domain** drop-down menu is hidden, users must provide domain information by entering their user name in the format ***domain**username*** or ***username*@*domain*** in the **User name** text box.

  Important If you enable the **Hide server information in client user interface** and **Hide domain list in client user interface** settings and select two-factor authentication (RSA SecureID or RADIUS) for the Connection Server instance, do not enforce Windows user name matching. Enforcing Windows user name matching will prevent users from being able to enter domain information in the user name text box and login will always fail. For more information, see the topics about two-factor authentication in the *View Administration* document.

- To use Touch ID or Face ID authentication, you must enable biometric authentication in Connection Server. Biometric authentication is supported in Horizon 6 version 6.2 and later. For more information, see the *View Administration* document.
- To enable end users to save their passwords with Horizon Client, so that they do not always need to supply credentials when they connect to a Connection Server instance, configure Horizon LDAP for this feature in the Connection Server instance.

  Users can save their passwords if Horizon LDAP is configured to allow it, if the Horizon Client certificate verification mode is set to **Warn before connecting to untrusted servers** or **Never connect to untrusted servers**, and if Horizon Client can fully verify the server certificate that Connection Server presents. For more information, see the *View Administration* document.

Installing Horizon Client

You can install Horizon Client the same way that you install other iOS apps. You can also configure AirWatch to deliver Horizon Client to end users.

Install or Upgrade Horizon Client on an iOS Device

You can install Horizon Client from the VMware Downloads page or from the App Store.

Prerequisites

- If you have not already set up the iOS device, do so. For information, see the user guide from Apple.

- Verify that you have the URL for a download page that contains the Horizon Client installer. This URL might be the VMware Downloads page at http://www.vmware.com/go/viewclients, or it might be the URL for a Connection Server instance.

Procedure

1. On the iOS device, Mac, or PC, browse to the URL for downloading the installer file, or search the App Store for the Horizon Client app.
2. Download the app.
3. If you downloaded the app to a Mac or PC, connect the iOS device to the computer and follow the onscreen instructions in iTunes.
4. To determine whether the installation succeeded, verify that the **Horizon** app icon appears on the iOS device.

Configure AirWatch to Deliver Horizon Client to iOS Devices

You can configure AirWatch to deliver Horizon Client to iOS device users.

You can optionally specify a default list of Connection Server instances. The Connection Server instances that you specify appear as shortcuts in Horizon Client.

Prerequisites

- Install and deploy AirWatch. See http://www.air-watch.com.
- Become familiar with the AirWatch console. This procedure assumes you know how to use the AirWatch console. For more information, see the AirWatch documentation or online help.

Procedure

1. Log in to the AirWatch console as an administrator.
2. Select **Accounts > Users > List View**, click **Add User**, and add user accounts for the users who will run Horizon Client on their mobile devices.
3. Select **Accounts > Users > User Groups**, click **Add**, and create a user group for the user accounts that you created.
4. Upload and add the Horizon Client application to AirWatch.
   a. Select **Apps & Books > Applications > List View** and click **Add Application** on the **Public** tab.
   b. Search for and select VMware Horizon Client for Apple iOS in the App Store.
   c. On the **Info** tab, type an application name and specify the supported iOS device models.
   d. On the **Assignment** tab, assign the Horizon Client application to the user group that you created.

e (Optional) Configure one or more default servers.

The servers that you specify appear as shortcuts in VMware Horizon Client.

Note This feature is supported only for iOS 7 and later devices. You cannot push a default Connection Server list to an iOS 6 device.

Option	Description
Configure server, user name, and domain information	On the **Deployment** tab, select a push mode, select the **Send Application Configuration** check box, enter **`broker_list`** in the **Configuration Key** text box, select **String** from the **Value Type** drop-down menu, and enter a list of default servers in the **Configuration Value** text box in JSON format. Use the **`server`** property to specify the IP address or host name of the server, the **`username`** and **`domain`** properties to specify the name and domain of a user that is entitled to the server, and the **`description`** property to specify a description of the server. The following example specifies four default servers. `{"settings":{ "server_list":[{"server":"123.456.1.1","description":"View server 1"}, {"server":"123.456.1.2","description":"View server 2"}, {"server":"123.456.1.3","description":"View server 3"}, {"server":"viewserver4.mydomain.com","description":"View server 4","username":"vmware","domain":"view"}]}}`
Configure server information only	On the **Deployment** tab, select a push mode, select the **Send Application Configuration** check box, enter **`servers`** in the **Configuration Key** text box, select **String** from the **Value Type** drop-down menu, and enter the IP address or host name of a server in the **Configuration Value** text box. **`servers`** is case sensitive. To specify a list of servers, enter multiple IP addresses or host names, separated by commas, in the **Configuration Value** text box. The following example specifies three default servers. `123.456.1.1, viewserver4.mydomain.com, 123.456.1.2`

f Publish the Horizon Client application.

5 Install and set up the AirWatch MDM Agent on each iOS device.

You can download the AirWatch MDM Agent from iTunes.

6 Use the AirWatch console to install the Horizon Client application on the mobile devices.

You cannot install the Horizon Client application before the effective date on the **Deployment** tab.

AirWatch delivers Horizon Client to the iOS devices in the user group that you associated with the Horizon Client application.

When a user launches Horizon Client, Horizon Client communicates with the AirWatch MDM Agent on the device. If you configured a default list of Connection Server instances, AirWatch pushes the server information to the AirWatch MDM Agent on the device and shortcuts for those servers appear in Horizon Client.

What to do next

You can use the AirWatch console to edit the Horizon Client application and push those changes to iOS devices. For example, you can add a default Connection Server instance to the server list for the Horizon Client application.

Using Embedded RSA SecurID Software Tokens

If you create and distribute RSA SecurID software tokens to end users, they need enter only their PIN, rather than their PIN and a token code, to authenticate.

Setup Requirements

You can use Compressed Token Format (CTF) or dynamic seed provisioning, which is also called CT-KIP (Cryptographic Token Key Initialization Protocol), to set up an easy-to-use RSA authentication system. With this system, you generate a URL to send to end users. To install the token, end users paste this URL directly into Horizon Client on their client devices. The dialog box for pasting this URL appears when end users connect to a Connection Server instance with Horizon Client.

After the software token is installed, end users enter a PIN to authenticate. With external RSA tokens, end users must enter a PIN and the token code generated by a hardware or software authentication token.

The following URL prefixes are supported for end users that copy and paste the URL into Horizon Client when Horizon Client is connected to an RSA-enabled Connection Server instance:

- `viewclient-securid://`
- `com.rsa.securid.iphone://`
- `com.rsa.securid://`

For end users who will be installing the token by tapping the URL, only the `viewclient-securid://` prefix is supported.

For information about using dynamic seed provisioning or file-based (CTF) provisioning, see the Web page *RSA SecurID Software Token for iPhone Devices* at http://www.rsa.com/node.aspx?id=3652 or *RSA SecurID Software Token for Android* at http://www.rsa.com/node.aspx?id=3832.

Instructions to End Users

When you create a CTFString URL or CT-KIP URL to send to end users, you can generate a URL with or without a password or activation code. You send this URL to end users in an email that must include the following information:

- Instructions for navigating to the Install Software Token dialog box.

  Tell end users to tap **External Token** in the Horizon Client dialog box that prompts them for RSA SecurID credentials when they connect to a Connection Server instance.

- CTFString URL or CT-KIP URL in plain text.

  If the URL has formatting on it, end users will get an error message when they try to use it in Horizon Client.

- Activation code, if the CT-KIP URL that you create does not already include the activation code.

  End users must enter this activation code in a text field of the dialog box.

- If the CT-KIP URL includes an activation code, tell end users that they need not enter anything in the **Password or Activation Code** text box in the Install Software Token dialog box.

Configure Smart Card Authentication

To use a physical smart card, you must connect and pair the card reader with the device and set the smart card removal policy.

To use derived credentials, you must create a virtual smart card. See Create a Virtual Smart Card.

Prerequisites

Verify that the client device, remote desktops, RDS hosts, Connection Server host, and other Horizon components meet the smart card authentication requirements. See Smart Card Authentication Requirements.

Procedure

1. Pair the device with the smart card reader, according to the documentation provided by the manufacturer of the reader.

   If your iOS device has a 30-pin connector, you can plug the smart card reader into the connector. For iPad Air and iPhone 5S, which have Lightning interfaces, you must use a 30-pin adapter to plug the smart card reader into the device's 30-pin connector.

2 Configure the smart card removal policy.

Option	Description
Set the policy on the Connection Server instance	When you set the policy on the Connection Server instance, you can disconnect users from the Connection Server instance when they remove their smart cards, or keep users connected to Connection Server when they remove their smart cards and let them start new desktop or application sessions without reauthenticating. a In Horizon Administrator, select **View Configuration > Servers**. b On the **Connection Servers** tab, select the Connection Server instance and click **Edit**. c On the **Authentication** tab, select or deselect the **Disconnect user sessions on smart card removal** check box to configure the smart card removal policy. d Click **OK** to save your changes. e Restart the Connection Server service to make your changes take effect. If you select the **Disconnect user sessions on smart card removal** check box, Horizon Client returns to the **Recent** window when users remove their smart cards.
Set the policy on the remote desktop	When you set the policy on the remote desktop, you can use the Group Policy Editor (`gpedit.msc`) to configure one of the following settings: no action, lock workstation, force log off, or Disconnect if a Remote Desktop Services session. a Open `gpedit.msc` in the desktop operating system. b Navigate to **Windows settings > Security settings > Local policies > Security options > Interactive logon: smart card removal behavior**. c Run the `gpupdate /force` command after you change the configuration to force a group policy refresh.

Create a Virtual Smart Card

You can create a virtual smart card to use when you log in to a server and connect to a remote desktop. With a virtual smart card, you do not need to connect a traditional smart card reader to the iOS device.

One virtual smart card can hold only one certificate. If you have different certificates for multiple Horizon environments, you can create multiple virtual smart cards, one for each Horizon environment.

Prerequisites

Use the Purebred app to create a derived credential and provision the credential on the iOS device.

Procedure

1 Tap **Settings** at the bottom of the Horizon Client window.

2 Tap **Derived Credentials** and then tap **Create new virtual smartcard**.

3 Enter and confirm a PIN for the virtual smart card.

4 Tap **Continue** and import the derived credential from the Purebred key chain.
   a Tap **PIV Authentication Certificate**.
   b Select the **Purebred Key Chain** location.
   c Select the derived credential to import.
5 Tap **Done** to create the virtual smart card.

   The derived credential appears in Settings window.
6 Toggle the **Use Derived Credentials** setting to on.
7 If you need to create another virtual smart card for a different Horizon environment, tap **Create new virtual smartcard** and repeat these steps.

What to do next

Use the virtual smart card when you log in to the server and connect to a remote desktop. The process is the same as when you use a physical smart card. See Connect to a Remote Desktop or Application.

Note If you enter the wrong PIN more than five times when using a virtual smart card to authenticate, the virtual smart card is removed and you must create a new virtual smart card.

Manage a Virtual Smart Card

You can reset the PIN for a virtual smart card. You can also delete a virtual smart card.

Prerequisites

Create a Virtual Smart Card.

Procedure

- To reset the PIN for a virtual smart card, perform these steps.
   a Tap **Settings** at the bottom of the Horizon Client window.
   b Tap **Derived Credentials**.
   c Tap the virtual smart card.
   d Tap **Reset PIN**.
   e Enter the current PIN, enter and confirm the new PIN, and tap **Done**.
- To remove a virtual smart card, perform these steps.
   a Tap **Settings** at the bottom of the Horizon Client window.
   b Tap **Derived Credentials**.
   c Touch the virtual smart card, slide your finger to the left, and tap **Delete**.

Configure Advanced TLS/SSL Options

You can select the security protocols and cryptographic algorithms that are used to encrypt communications between Horizon Client and Horizon servers and between Horizon Client and the agent in the remote desktop.

By default, TLSv1.0, TLSv1.1, and TLSv1.2 are enabled. SSL v2.0 and 3.0 are not supported. The default cipher control string is "!aNULL:kECDH+AESGCM:ECDH+AESGCM:RSA+AESGCM:kECDH +AES:ECDH+AES:RSA+AES".

If you configure a security protocol for Horizon Client that is not enabled on the Horizon server to which the client connects, a TLS/SSL error occurs and the connection fails.

For information about configuring the security protocols that are accepted by Connection Server instances, see the *View Security* document.

Procedure

1. Tap **Settings** at the bottom of the Horizon Client window.
2. Tap **Advanced SSL Options**.
3. Make sure that the **Reset to Default Settings** option is set to off.
4. To enable or disable a security protocol, tap the **On** or **Off** toggle next to the security protocol name.
5. To change the cipher control string, replace the default string.
6. (Optional) If you need to revert to the default settings, tap **Reset** in the upper right corner of the window.

Your changes take effect the next time you connect to the server.

Configure VMware Blast Options

You can configure H.264 decoding and network condition options for remote desktop and application sessions that use the VMware Blast display protocol.

You can configure H.264 decoding before or after you connect to a server.

You can change the network condition to any type before you connect to a server. After you connect to a server, you can switch the network condition between Typical and Excellent (you cannot select Poor), but only if Typical or Excellent was selected before you connected to the server. You cannot change the network condition after you connect to a server if Poor was selected before you connected.

After you connect to a server, the **VMware Blast** setting is visible only if VMware Blast is the preferred protocol.

Prerequisites

To use this feature, Horizon Agent 7.0 or later must be installed.

Procedure

1 Tap **Settings** at the bottom of the Horizon Client window and tap **VMware Blast**.

If you are logged in to a server, the **VMware Blast** setting is visible only if VMware Blast is the preferred protocol.

2 Configure the decoding and network condition options.

Option	Action
H.264	Select this option to allow H.264 decoding in Horizon Client. When this option is selected (the default setting), Horizon Client uses H.264 decoding if the agent supports H.264 software or hardware encoding. If the agent does not support H.264 software or hardware encoding, Horizon Client uses JPG/PNG decoding. Deselect this option to use JPG/PNG decoding.
Network Condition	Select one of the following network condition options: ■ **Excellent** - Horizon Client uses only TCP networking. This option is ideal for a LAN environment. ■ **Typical (default)** - Horizon Client works in mixed mode. In mixed mode, Horizon Client uses TCP networking when connecting to the server and uses Blast Extreme Adaptive Transport (BEAT) if the agent and Blast Security Gateway (if enabled) support BEAT connectivity. This option is the default setting. ■ **Poor** - Horizon Client uses only BEAT networking if the BEAT Tunnel Server is enabled on the server, otherwise it switches to mixed mode. **Note** In Horizon 7 version 7.1 and earlier, Connection Server and Security Server instances do not support the BEAT Tunnel Server. Unified Access Gateway 2.9 and later supports the BEAT Tunnel Server. Blast Security Gateway for Connection Server and Security Server instances do not support BEAT networking.

Changes take effect the next time a user connects to a remote desktop or application and selects the VMware Blast display protocol. Your changes do not affect existing VMware Blast sessions.

Configure the Horizon Client Default View

You can configure whether recently used desktops and applications or server shortcuts appear when you launch Horizon Client.

Procedure

1 Tap **Settings** at the bottom of the Horizon Client window.

2 Tap **Default View**.

3 Tap an option to select the default view.

Option	Description
Recent	The **Recent** window appears when you launch Horizon Client. The Recent window contains shortcuts to recently used desktops and applications. This is the default setting.
Servers	The **Servers** window appears when you launch Horizon Client. The Servers window contains shortcuts to the servers that you added to Horizon Client.

The default view you selected takes effect immediately.

Horizon Client Data Collected by VMware

If your company participates in the customer experience improvement program, VMware collects data from certain Horizon Client fields. Fields that contain sensitive information are anonymous.

VMware collects data on client systems to prioritize hardware and software compatibility. If your company's administrator has opted to participate in the customer experience improvement program, VMware collects anonymous data about your deployment to respond better to customer requirements. VMware does not collect data that identifies your organization. Horizon Client information is sent first to the Connection Server instance and then to VMware, with data from Connection Server, desktop pools, and remote desktops.

Although the information is encrypted while in transit to the Connection Server instance, the information on the client system is logged unencrypted in a user-specific directory. The logs do not contain any personally identifiable information.

The administrator who installs Connection Server can select whether to participate in the VMware customer experience improvement program while running the Connection Server installation wizard, or an administrator can set an option in Horizon Administrator after the installation.

Table 1-1. Data Collected from Horizon Clients for the Customer Experience Improvement Program

Description	Is This Field Made Anonymous?	Example Value
Company that produced the Horizon Client application	No	VMware
Product name	No	VMware Horizon Client
Client product version	No	(The format is *x.x.x-yyyyyy*, where *x.x.x* is the client version number and *yyyyyy* is the build number.)
Client binary architecture	No	Examples include the following: ■ i386 ■ x86_64 ■ arm

Table 1-1. Data Collected from Horizon Clients for the Customer Experience Improvement Program (Continued)

Description	Is This Field Made Anonymous?	Example Value
Client build name	No	Examples include the following: ■ VMware-Horizon-Client-Win32-Windows ■ VMware-Horizon-Client-Linux ■ VMware-Horizon-Client-iOS ■ VMware-Horizon-Client-Mac ■ VMware-Horizon-Client-Android ■ VMware-Horizon-Client-WinStore
Host operating system	No	Examples include the following: ■ Windows 8.1 ■ Windows 7, 64-bit Service Pack 1 (Build 7601) ■ iPhone OS 5.1.1 (9B206) ■ Ubuntu 12.04.4 LTS ■ Mac OS X 10.8.5 (12F45)
Host operating system kernel	No	Examples include the following: ■ Windows 6.1.7601 SP1 ■ Darwin Kernel Version 11.0.0: Sun Apr 8 21:52:26 PDT 2012; root:xnu-1878.11.10~1/RELEASE_ARM_S5L8945X ■ Darwin 11.4.2 ■ Linux 2.6.32-44-generic #98-Ubuntu SMP Mon Sep 24 17:27:10 UTC 2012 ■ unknown (for Windows Store)
Host operating system architecture	No	Examples include the following: ■ x86_64 ■ i386 ■ armv71 ■ ARM
Host system model	No	Examples include the following: ■ Dell Inc. OptiPlex 960 ■ iPad3,3 ■ MacBookPro8,2 ■ Dell Inc. Precision WorkStation T3400 (A04 03/21/2008)
Host system CPU	No	Examples include the following: ■ Intel(R) Core(TM)2 Duo CPU E8400 @ 3.00GH ■ Intel(R) Core(TM)2 Quad CPU Q6600 @ 2.40GH ■ unknown (for iPad)
Number of cores in the host system's processor	No	For example: 4
MB of memory on the host system	No	Examples include the following: ■ 4096 ■ unknown (for Windows Store)

Table 1-1. Data Collected from Horizon Clients for the Customer Experience Improvement Program (Continued)

Description	Is This Field Made Anonymous?	Example Value
Number of USB devices connected	No	2 (USB device redirection is supported only for Linux, Windows, and Mac clients.)
Maximum concurrent USB device connections	No	2
USB device vendor ID	No	Examples include the following: ■ Kingston ■ NEC ■ Nokia ■ Wacom
USB device product ID	No	Examples include the following: ■ DataTraveler ■ Gamepad ■ Storage Drive ■ Wireless Mouse
USB device family	No	Examples include the following: ■ Security ■ Human Interface Device ■ Imaging
USB device usage count	No	(Number of times the device was shared)

Using URIs to Configure Horizon Client

2

Using uniform resource identifiers (URIs), you can create a Web page or an email with links that end users click to start Horizon Client, connect to a server, and open a specific desktop or application with specific configuration options.

You can simplify the process of connecting to a remote desktop or application by creating Web or email links for end users. You create these links by constructing URIs that provide some or all the following information, so that your end users do not need to supply it:

- Connection Server address
- Port number for Connection Server
- Active Directory user name
- RADIUS or RSA SecurID user name, if different from the Active Directory user name
- Domain name
- Desktop or application display name
- Actions including reset, log out, and start session

To construct a URI, you use the `vmware-view` URI scheme with Horizon Client specific path and query parts.

Note You can use URIs to start Horizon Client only if the client software is already installed on client computers.

This chapter includes the following topics:

Syntax for Creating vmware-view URIs

Syntax includes the `vmware-view` URI scheme, a path part to specify the desktop or application, and, optionally, a query to specify desktop or application actions or configuration options.

URI Specification

Use the following syntax to create URIs to start Horizon Client:

```
vmware-view://[authority-part][/path-part][?query-part]
```

The only required element is the URI scheme, `vmware-view`. For some versions of some client operating systems, the scheme name is case-sensitive. Therefore, use `vmware-view`.

Important In all parts, non-ASCII characters must first be encoded according to UTF-8 [STD63], and then each octet of the corresponding UTF-8 sequence must be percent-encoded to be represented as URI characters.

For information about encoding for ASCII characters, see the URL encoding reference at http://www.utf8-chartable.de/.

authority-part

Specifies the server address and, optionally, a user name, a non-default port number, or both. Underscores (_) are not supported in server names. Server names must conform to DNS syntax.

To specify a user name, use the following syntax:

```
user1@server-address
```

You cannot specify a UPN address, which includes the domain. To specify the domain, you can use the `domainName` query part in the URI.

To specify a port number, use the following syntax:

```
server-address:port-number
```

path-part

Specifies the desktop or application. Use the desktop display name or application display name. This name is the one specified in Horizon Administrator when the desktop or application pool was created. If the display name has a space in it, use the **`%20`** encoding mechanism to represent the space.

query-part

Specifies the configuration options to use or the desktop or application actions to perform. Queries are not case-sensitive. To use multiple queries, use an ampersand (&) between the queries. If queries conflict with each other, the last query in the list is used. Use the following syntax:

```
query1=value1[&query2=value2...]
```

Supported Queries

This topic lists the queries that are supported for this type of Horizon Client. If you are creating URIs for multiple types of clients, such as desktop clients and mobile clients, see the *Using VMware Horizon Client* guide for each type of client system.

action

Table 2-1. Values That Can Be Used With the action Query

Value	Description
`browse`	Displays a list of available desktops and applications hosted on the specified server. You are not required to specify a desktop or application when using this action. If you use the `browse` action and specify a desktop or application, the desktop or application is highlighted in the list of available items.
`start-session`	Opens the specified desktop or application. If no action query is provided and the desktop or application name is provided, `start-session` is the default action.
`reset`	Shuts down and restarts the specified desktop or published application. Unsaved data is lost. Resetting a remote desktop is the equivalent of pressing the Reset button on a physical PC.
`restart`	Shuts down and restarts the specified desktop. Restarting a remote desktop is the equivalent of the Windows operating system restart command. The operating system usually prompts the user to save any unsaved data before it restarts.
`logoff`	Logs the user out of the guest operating system in the remote desktop. If you specify an application, the action is ignored or the end user sees the warning message "Invalid URI action."

args

Specifies command-line arguments to add to published application launch. Use the syntax `args=`*value*, where *value* is a string. Use percent encoding for the following characters:

- For a colon (:), use **`%3A`**
- For a back slash (\), use **`%5C`**
- For a space ( ), use **`%20`**
- For a double quotation mark ("), use **`%22`**

For example, to specify the filename "`My new file.txt`" for the Notepad ++ application, use **`%22My%20new%20file.txt%22`**.

appProtocol

For published applications, valid values are **`PCOIP`** and **`BLAST`**. For example, to specify PCoIP, use the syntax **`appProtocol=PCOIP`**.

defaultLaunchView

Sets the default launch view for Horizon Client. Valid values are **`recent`** and **`servers`**.

desktopProtocol	For remote desktops, valid values are **PCOIP** and **BLAST**. For example, to specify PCoIP, use the syntax **desktopProtocol=PCOIP**.
domainName	The NETBIOS domain name associated with the user who is connecting to the remote desktop or published application. For example, you might use `mycompany` rather than `mycompany.com`.
tokenUserName	Specifies the RSA or RADIUS user name. Use this query only if the RSA or RADIUS user name is different from the Active Directory user name. If you do not specify this query and RSA or RADIUS authentication is required, the Windows user name is used. The syntax is **tokenUserName=*name***.

Examples of vmware-view URIs

You can create hypertext links or buttons with the `vmware-view` URI scheme and include these links in email or on a Web page. Your end users can click these links to, for example, open a particular remote desktop with the startup options you specify.

URI Syntax Examples

Each URI example is followed by a description of what the end user sees after clicking the URI link.

1
```
vmware-view://view.mycompany.com/Primary%20Desktop?action=start-session
```

Horizon Client starts and connects to the `view.mycompany.com` server. The login box prompts the user for a user name, domain name, and password. After a successful login, the client connects to the desktop whose display name is displayed as **Primary Desktop**, and the user is logged in to the guest operating system.

Note The default display protocol and window size are used. The default display protocol is PCoIP. The default window size is full screen.

2
```
vmware-view://view.mycompany.com:7555/Primary%20Desktop
```

This URI has the same effect as the previous example, except that it uses the nondefault port of 7555 for Connection Server. (The default port is 443.) Because a desktop identifier is provided, the desktop opens even though the `start-session` action is not included in the URI.

3
```
vmware-view://fred@view.mycompany.com/Finance%20Desktop?desktopProtocol=PCOIP
```

Horizon Client starts and connects to the `view.mycompany.com` server. In the login box, the **User name** text box is populated with the name **fred**. The user must supply the domain name and password. After a successful login, the client connects to the desktop whose display name is displayed as **Finance Desktop**, and the user is logged in to the guest operating system. The connection uses the PCoIP display protocol.

4
```
vmware-view://view.mycompany.com/Calculator?action=start-session&appProtocol=BLAST
```

Horizon Client starts and connects to the `view.mycompany.com` server. In the login box, the user must supply the user name, domain name, and password. After a successful login, the client connects to the application whose display name is displayed as **Calculator**. The connection uses the VMware Blast display protocol.

5
```
vmware-view://fred@view.mycompany.com/Finance%20Desktop?domainName=mycompany
```

Horizon Client starts and connects to the `view.mycompany.com` server. In the login box, the **User name** text box is populated with the name **fred**, and the **Domain** text box is populated with **mycompany**. The user must supply only a password. After a successful login, the client connects to the desktop whose display name is displayed as **Finance Desktop**, and the user is logged in to the guest operating system.

6
```
vmware-view://view.mycompany.com/
```

Horizon Client starts and the user is taken to the login prompt for connecting to the `view.mycompany.com` server.

7
```
vmware-view://view.mycompany.com/Primary%20Desktop?action=reset
```

Horizon Client starts and connects to the `view.mycompany.com` server. The login box prompts the user for a user name, domain name, and password. After a successful login, Horizon Client displays a dialog box that prompts the user to confirm the reset operation for Primary Desktop.

Note This action is available only if a Horizon administrator has enabled the desktop reset feature for the desktop.

8
```
vmware-view://view.mycompany.com/Primary%20Desktop?action=restart
```

Horizon Client starts and connects to the `view.mycompany.com` server. The login box prompts the user for a user name, domain name, and password. After a successful login, Horizon Client displays a dialog box that prompts the user to confirm the restart operation for Primary Desktop.

Note This action is available only if a Horizon administrator has enabled the desktop restart feature for the desktop.

9
```
vmware-view://
```

If the client is already running, the Horizon Client application comes to the foreground. If the client is not already running, Horizon Client starts.

10
```
vmware-view://?defaultlaunchview=recent
```

Horizon Client starts and the user sees the **Recent** window.

11
```
vmware-view://10.10.10.10/My%20Notepad++?args=%22My%20new%20file.txt%22
```

Launches My Notepad++ on server 10.10.10.10 and passes the argument `My new file.txt` in the application launch command. The filename is enclosed in double quotes because it contains spaces.

12
```
vmware-view://10.10.10.10/Notepad++%2012?args=a.txt%20b.txt
```

Launches Notepad++ 12 on server 10.10.10.10 and passes the argument `a.text b.txt` in the application launch command. Because the argument is not enclosed in quotes, a space separates the filenames and the two files are opened separately in Notepad++.

Note Applications can differ in the way they use command line arguments. For example, if you pass the argument `a.txt b.txt` to Wordpad, Wordpad will open only one file, `a.txt`.

HTML Code Examples

You can use URIs to make hypertext links and buttons to include in emails or on Web pages. The following examples show how to use the URI from the first URI example to code a hypertext link that says, **Test Link**, and a button that says, **TestButton**.

```
<html>
<body>

<a href="vmware-view://view.mycompany.com/Primary%20Desktop?action=start-session">Test Link</a><br>

<form><input type="button" value="TestButton" onClick="window.location.href=
'vmware-view://view.mycompany.com/Primary%20Desktop?action=start-session'"></form> <br>

</body>
</html>
```

Managing Remote Desktop and Application Connections 3

End users can use Horizon Client to connect to a server, edit the list of servers they connect to, log in to or off of remote desktops, and use remote applications. For troubleshooting purposes, end users can also reset remote desktops and applications.

Depending on how you configure policies for remote desktops, end users might be able to perform many operations on their desktops.

This chapter includes the following topics:

Setting the Certificate Checking Mode in Horizon Client

You can determine whether client connections are rejected if any or some server certificate checks fail by configuring a setting in Horizon Client.

Certificate checking occurs for SSL connections between the server and Horizon Client. Certificate verification includes the following checks:

- Is the certificate intended for a purpose other than verifying the identity of the sender and encrypting server communications? That is, is it the correct type of certificate?

- Has the certificate expired, or is it valid only in the future? That is, is the certificate valid according to the computer clock?
- Does the common name on the certificate match the host name of the server that sends it? A mismatch can occur if a load balancer redirects Horizon Client to a server that has a certificate that does not match the host name entered in Horizon Client. Another reason a mismatch can occur is if you enter an IP address rather than a host name in the client.
- Is the certificate signed by an unknown or untrusted certificate authority (CA)? Self-signed certificates are one type of untrusted CA.

  To pass this check, the certificate's chain of trust must be rooted in the device's local certificate store.

Important For information about distributing a self-signed root certificate that users can install on their iOS devices, see the instructions on the Apple Web site. For example, for iPads, see http://www.apple.com/ipad/business/docs/iPad_Certificates.pdf.

To set the certificate checking mode, start Horizon Client and tap **Settings** at the bottom of the Horizon Client window and tap **Server Certificates Verification Mode**. You have three choices:

- **Never connect to untrusted servers**. If any of the certificate checks fails, the client cannot connect to the server. An error message lists the checks that failed.
- **Warn before connecting to untrusted servers**. If a certificate check fails because the server uses a self-signed certificate, you can click **Continue** to ignore the warning. For self-signed certificates, the certificate name is not required to match the server name you entered in Horizon Client.
- **Do not verify server identity certificates**. This setting means that no certificate checking occurs.

If the certificate checking mode is set to **Warn**, you can still connect to a server that uses a self-signed certificate.

If an administrator later installs a security certificate from a trusted certificate authority, so that all certificate checks pass when you connect, this trusted connection is remembered for that specific server. In the future, if that server ever presents a self-signed certificate again, the connection fails. After a particular server presents a fully verifiable certificate, it must always do so.

Connect to a Remote Desktop or Application

To connect to a remote desktop or application, you must provide the name of a server and supply credentials for your user account.

Before you have end users access their remote desktops and applications, test that you can connect to a remote desktop or application from a client device. You might need to specify a server and supply credentials for your user account.

Prerequisites

- Obtain login credentials, such as an Active Directory user name and password, RSA SecurID user name and passcode, or RADIUS authentication user name and passcode.

- Obtain the NETBIOS domain name for logging in. For example, you might use `mycompany` rather than `mycompany.com`.
- Perform the administrative tasks described in Preparing Connection Server for Horizon Client.
- If you are outside the corporate network and require a VPN connection to access remote desktops and applications, verify that the client device is set up to use a VPN connection and turn on that connection.
- Verify that you have the fully qualified domain name (FQDN) of the server that provides access to the remote desktop or application. Underscores (_) are not supported in server names. If the port is not 443, you also need the port number.
- If you plan to use embedded RSA SecurID software, verify that you have the correct CT-KIP URL and activation code. See Using Embedded RSA SecurID Software Tokens.
- Configure the certificate checking mode for the SSL certificate presented by the server. See Setting the Certificate Checking Mode in Horizon Client.
- If you plan to use Touch ID to authenticate, add at least one fingerprint in the Touch ID & Passcode setting on the iOS device. For complete Touch ID authentication requirements, see Touch ID Authentication Requirements.
- If you plan to use Face ID authentication, verify that the Face ID option is enabled and a Face ID scan is enrolled on the client device. For complete Face ID authentication requirements, see Face ID Authentication Requirements.

Procedure

1. If a VPN connection is required, turn on the VPN.
2. On the iOS device, tap the **Horizon** app icon.
3. Connect to a server.

Option	Action
Connect to a new server	Enter the name of a server, enter a description (optional), and tap **Add Server**.
Connect to an existing server	Tap the server icon on the Servers window.

   Connections between Horizon Client and servers always use SSL. The default port for SSL connections is 443. If the server is not configured to use the default port, use the format shown in this example: **`view.company.com:1443`**.

4. If a smart card is required or optional, select the smart card certificate to use and enter your PIN.

   If your smart card has only one certificate, that certificate is already selected. If there are many certificates, you can scroll through the certificates.

5 If you are prompted for RSA SecurID credentials or RADIUS authentication credentials, either type your credentials or, if you plan to use an embedded RSA SecurID token, install an embedded token.

Option	Action
Existing token	If you use a hardware authentication token or software authentication token on a smart phone, enter your user name and passcode. The passcode might include both a PIN and the generated number on the token.
Install software token	Tap **External Token**. In the Install Software Token dialog box, paste the CT-KIP URL or CTFString URL that your administrator sent to you in email. If the URL contains an activation code, you do not need to enter anything in the **Password or Activation Code** text box.

6 If you are prompted a second time for RSA SecurID credentials or RADIUS authentication credentials, enter the next generated number on the token.

Do not enter your PIN, and do not enter the same generated number that you entered before. If necessary, wait until a new number is generated.

If this step is required, it is required only when you mistype the first passcode or when configuration settings in the RSA server change.

7 (Optional) If the **Enable Touch ID** setting is available, turn on the setting to use Touch ID to authenticate.

The **Enable Touch ID** setting is available only if biometric authentication is enabled on the server and you have not previously authenticated with Touch ID.

8 (Optional) If the **Enable Face ID** setting is available, turn on the setting to use Face ID to authenticate.

The **Enable Face ID** setting is available only if biometric authentication is enabled on the server and you have not previously authenticated with Face ID.

9 If you are prompted for a user name and password, supply your Active Directory credentials.

a Type the user name and password of a user who is entitled to use at least one desktop or application pool.

b Select a domain.

If the **Domain** drop-down menu is hidden, type the user name as ***username*@*domain*** or ***domain**username***.

c (Optional) Tap to toggle the **Remember this Password** option to on if your administrator has enabled this feature and if the server certificate can be fully verified.

d Tap **Login**.

If Touch ID or Face ID is enabled and you are logging in for the first time, your Active Directory credentials are stored securely in the iOS device's Keychain for future use.

10 If you are prompted for Touch ID authentication, place your finger on the **Home** button.

11 If you are prompted for Face ID authentication, glance at the device.

The first time Horizon Client tries to use Face ID to authenticate, iOS prompts you to allow Horizon Client to use Face ID. If you do not want to use Face ID authentication, tap **Don't Allow** to enter a user name and password instead.

12 (Optional) Tap **Settings** at the bottom of the Horizon Client window and tap **Preferred Protocol** to select the display protocol to use.

VMware Blast provides better battery life and is the best protocol for high-end 3D and mobile device users.

13 Tap a desktop or application to connect to it.

If you are connecting to a published desktop, and if the desktop is already set to use the Microsoft RDP display protocol, you cannot connect immediately. You are prompted to have the system log you off the remote operating system so that a connection can be made with the PCoIP display protocol or the VMware Blast display protocol.

After you connect to a desktop or application for the first time, a shortcut for the desktop or application is saved to the **Recent** window. The next time you want to connect to the remote desktop or application, you can tap the shortcut instead of tapping the server's name.

Manage Saved Servers

When you connect to a server, Horizon Client saves the server to the Servers window. You can edit and remove saved servers.

Horizon Client saves the server, even if you mistype the name or type the wrong IP address. You can delete or change this information.

Procedure

1 Tap **Servers** (cloud icon) at the bottom of the window to display the saved servers.

2 To manage a saved server, touch and hold the server icon until the context menu appears.

Note Tapping a server icon connects to the server.

Option	Action
Change the user name, domain, server name, or description	a Tap **Edit Server** in the context menu. b Make your changes on the Edit Server window. c Tap **Update** to save your changes.
Remove a server	Tap **Delete Server** in the context menu. The desktop and application shortcuts associated with the server are also deleted.
Forget a saved password	Tap **Forget Password** in the context menu. This option is available only if you previously saved your password.
Disable Touch ID	Tap **Sign Out**. This option is available only if you previously enabled Touch ID.
Disable Face ID	Tap **Sign Out**. This option is available only if you previously enabled Face ID.

Select a Favorite Remote Desktop or Application

You can select remote desktops and applications as favorites. Favorites are identified by a star. The star helps you quickly find your favorite desktops and applications. Your favorite selections are saved, even after you log off from the server.

Prerequisites

Obtain the credentials you need to connect to the server, such as a user name and password or RSA SecurID and passcode.

Procedure

1. Tap **Servers** (cloud icon) at the bottom of the window and tap the server icon to connect to the server.
2. If prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both.
3. Perform these steps to select or deselect a desktop or application as a favorite.

Option	Action
Select a favorite	Touch and hold the desktop or application name until the context menu appears and tap **Mark as Favorite**. A star appears in the upper right corner of the name and the name appears on the Favorites page.
Deselect a favorite	Touch and hold the desktop or application name until the context menu appears and tap **Unmark Favorite**. A star no longer appears in the upper right corner of the name and the name disappears from the Favorites page.

4. (Optional) Tap **Favorites** (star icon) at the bottom of the window to display only favorite desktops or applications.

   You can tap **All** (cloud icon) at the bottom of the window to display all the available desktops and applications.

Disconnecting From a Remote Desktop or Application

You can disconnect from a remote desktop without logging off, so that applications remain open on the remote desktop. You can also disconnect from a remote application so that the remote application remains open.

When you are logged in to the remote desktop or application, you can disconnect by tapping the Horizon Client Tools radial menu icon and tapping the **Disconnect** icon.

Note A Horizon administrator can configure a remote desktop to automatically log off when it is disconnected. In that case, any open programs in the remote desktop are stopped.

Log Off From a Remote Desktop

You can log off from a remote desktop operating system, even if you do not have a desktop open in Horizon Client. If you are currently connected to and logged in to a remote desktop, you can use the Windows **Start** menu to log off. After Windows logs you off, the desktop is disconnected.

Prerequisites

Obtain the credentials that you use to log in, such as your Active Directory user name and password, RSA SecurID user name and passcode, or RADIUS authentication user name and passcode.

Procedure

1. Tap **Servers** (cloud icon) at the bottom of the window and tap the server icon.
2. If prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both.
3. Touch and hold the desktop name until the context menu appears.
4. Tap **Log Off** in the context menu.

Any unsaved files that are open on the remote desktop are closed during the logoff operation.

What to do next

Tap the **Logout** button in the upper-left corner of the window to disconnect from the server.

Manage Desktop and Application Shortcuts

After you connect to a remote desktop or application, Horizon Client saves a shortcut for the recently used desktop or application. You can rearrange and remove these shortcuts.

Desktop and application shortcuts can appear on multiple pages and you can swipe across pages to see more shortcuts. Horizon Client creates new pages, as needed, to accommodate all of your shortcuts.

Procedure

- Perform these steps to remove a desktop or application shortcut from the **Recent** window.
  a. Touch and hold the shortcut.
  b. Tap the **X** button.
- To move a desktop or application shortcut, touch and hold the shortcut, drag it to the new location, and tap **Done**.

  You cannot drag a shortcut to another page unless that page already exists.

Using 3D Touch with Horizon Client

You can use Peek and Pop gestures to interact with Horizon Client on a 3D Touch-enabled iPhone 6s or iPhone 6s Plus.

Using Peek and Pop with the Horizon app

You can Peek at the **Horizon** app on your iOS device Home screen to show a quick action menu. On the quick action menu, you can tap the **Connect to Most Recent Server** item to quickly connect to the most recently used server. If a recent server does not exist, you can tap the **Connect to Most Recent Server** item to add a new server.

After you connect to a remote desktop or application, Horizon Client adds a shortcut to the desktop or application to the quick action menu. For example, if you connect to a remote desktop named Win7, Horizon Client adds **Connect to Win7**. You can tap a shortcut to quickly connect a remote desktop or application. The **Horizon** icon quick action menu can contain up to three shortcuts.

Using Peek and Pop Inside Horizon Client

On the desktop and application selection window, you can Peek at a remote desktop or application to show a quick action menu. You can tap items in the quick action menu to connect, log off, mark a favorite, and perform other actions, depending on the remote desktop or application. You can also Pop into a remote desktop or application to connect to it.

Quick action menus are also available on the Servers, Recent, and Favorites windows. For example, on the Servers window, you can Peek at a saved server and tap items in the quick action menu to edit, remove, or connect to the server. On the Recent window, you can Peek at a remote desktop or application shortcut and tap items in the quick action menu to remove the shortcut or connect to the desktop or application. You can also Pop into a saved server or remote desktop or application shortcut to connect to it.

Enabling Peek for the Horizon Client Tools

By default, the Horizon Client Tools radial menu icon appears in the middle of the window when you are connected to a remote desktop or application. You tap the radial menu icon to expand the menu and display icons for each tool, which you tap to select. For pictures of the radial menu icon and tools icons, see Table 4-6.

If you enable Peek for the Horizon Client Tools, the Horizon Client Tools radial menu icon does not appear. To display the icons for each tool, press deeply on any place on the window.

To enable Peek for the Horizon Client Tools, tap **Settings** at the bottom of the Horizon Client window, tap **Touch**, and toggle the **Peek for the menu** setting to on. If you are connected to a remote desktop or application, you can access settings by tapping the **Settings** (gear) icon in the Horizon Client Tools radial menu.

Using Spotlight Search with Horizon Client

You can use Spotlight search on iOS 9 and later devices to search for and connect to remote desktops and applications.

When you log in to a server in Horizon Client, the remote desktops and applications on the server are added to the Spotlight index. Only the remote desktops and applications on the last server to which you logged in are indexed.

To use Spotlight search to search for a particular remote desktop or application, type its name or a partial name in the Spotlight search field. For example, to find a remote desktop named Win 2008 RDS Desktop, you might type **`Win`** or **`RDS`**.

To use Spotlight search to find your favorite remote desktops and applications, type **`favorite`** in the Spotlight search field. To search for any remote desktop or application, type **`vmware`** or **`horizon`** in the Spotlight search field. The search results can contain up to 10 items.

To connect to a remote desktop or application, tap its name in the search results. If you are not currently connected to the server, the Horizon Client login window appears and you can log in.

Using Split View and Slide Over with Horizon Client

You can use Split View and Slide Over with Horizon Client on any iPad model that supports Split View and Slide Over and is running iOS 9 or later.

With Split View and Slide Over, you can open Horizon Client and another app at the same time. You can run Horizon Client as either the primary app or the secondary app.

If you rotate your device or slide the vertical divider that separates the primary and secondary apps, Horizon Client automatically adjusts to fit the size of the window. If you are connected to a remote desktop, the remote desktop automatically adjusts to fit the size of the window if the **Resolution** setting is set to **Auto - Fit**. For information about setting the resolution for a remote desktop, see Changing the Display Resolution Setting.

Note Horizon Client does not support Picture in Picture.

Using the iPad Split Keyboard with Horizon Client

You can use the iPad onscreen keyboard in split mode with Horizon Client when you connect to a server and when you are working in a remote desktop. This feature is supported on any iPad model that supports the split keyboard feature.

To split the onscreen keyboard, tap inside a text field, touch and hold the **Keyboard** key in the lower-right corner of the onscreen keyboard, and tap **Split**. To merge a split keyboard, tap **Merge**.

When the onscreen keyboard is in split mode, the space between the two parts of the onscreen keyboard is transparent.

Note When the onscreen keyboard is in split mode, the accessory key bar is not available. To make the accessory key bar available, you must merge the keyboard.

Using Drag and Drop with Shortcuts and URIs

You can drag and drop server, desktop, and application shortcuts and URIs.

You can drag and drop a server shortcut from the Horizon Client **Servers** window into another app, such as Notes. The server shortcut appears as a URI in the other app, for example, `vmware-view://server-address`. You can drag and drop a server address or URI from another app into the **Servers** window. You can also use the drag and drop feature to reorder the server shortcuts on the **Servers** window.

After you connect to a server, you can drag and drop a remote desktop or application shortcut from the Horizon Client desktop and application selection window or the Favorites window into another app, such as Notes. The shortcut appears as a URI in the other app, for example, `vmware-view://server-name/item-name`. You can also drag and drop a desktop or application URI from another app into the desktop and application selection window, the **Favorites** window, or the **Recent** window.

For information about URI syntax, see Syntax for Creating vmware-view URIs.

This feature requires an iPad that is running iOS 11 or later.

Using the Horizon Client Widget

If you have an iOS 10 or later device, you can add the Horizon Client widget to the iOS device's Search screen.

To add the Horizon Client widget to the Search screen, click **Edit** on the Search screen, tap the green plus (**+**) button next to Horizon Client in the widget list, and click **Done**.

If you have never connected to a remote desktop or application, the Horizon Client widget displays `No desktop/application was launched yet`. After you connect to a remote desktop or application, a shortcut for the recently used remote desktop or application appears in the widget. You can tap this shortcut to open the remote desktop or application from the Search screen.

If you have a 3D Touch-enabled device, the Horizon Client widget can appear in the quick action menu when you apply pressure to the **Horizon** app on the iOS device's Home screen.

Using a Microsoft Windows Desktop or Application

4

Horizon Client for iOS includes additional features to aid in navigation on iOS devices. Users can use external devices with remote desktops and applications, copy text and images from iOS devices to remote desktops and applications, and save documents in remote applications.

This chapter includes the following topics:

Feature Support Matrix for iOS

Some features are supported on one type of Horizon Client but not on another.

Table 4-1. Features Supported on Windows Desktops for iOS Horizon Clients

Feature	Windows 10 Desktop	Windows 8.x Desktop	Windows 7 Desktop	Windows Vista Desktop	Windows XP Desktop	Windows Server 2008/2012 R2 or Windows Server 2016 Desktop
RSA SecurID or RADIUS	X	X	X	Limited	Limited	X
Single sign-on	X	X	X	Limited	Limited	X
RDP display protocol						
PCoIP display protocol	X	X	X	Limited	Limited	X
VMware Blast display protocol	X	X	X			X
USB access						
Real-Time Audio-Video (audio-in only)	X	X	X			X
Wyse MMR						
Windows 7 MMR						
Virtual printing						
Location-based printing	X	X	X	Limited	Limited	X
Smart cards	X	X	X	Limited	Limited	X
Multiple monitors						

Windows 10 desktops require View Agent 6.2 or later or Horizon Agent 7.0 or later. Windows Server 2012 R2 desktops require View Agent 6.1 or later or Horizon Agent 7.0 or later. Windows Server 2016 desktops require Horizon Agent 7.0.2 or later.

Important View Agent 6.1 and later and Horizon Agent 7.0 and later releases do not support Windows XP and Windows Vista desktops. View Agent 6.0.2 is the last View release that supports these guest operating systems. Customers who have an extended support agreement with Microsoft for Windows XP and Vista, and an extended support agreement with VMware for these guest operating systems, can deploy the View Agent 6.0.2 version of their Windows XP and Vista desktops with Connection Server 6.1.

For descriptions of these features, see the *View Planning* document.

Feature Support for Published Desktops on RDS Hosts

RDS hosts are server computers that have Windows Remote Desktop Services and View Agent or Horizon Agent installed. Multiple users can have desktop sessions on an RDS host simultaneously. An RDS host can be either a physical machine or a virtual machine.

Note The following table contains rows only for the features that are supported. Where the text specifies a minimum version of View Agent, the text "and later" is meant to include Horizon Agent 7.0.x and later.

Table 4-2. Features Supported for RDS Hosts with View Agent 6.0.x or Later, or Horizon Agent 7.0.x or Later, Installed

Feature	Windows Server 2008 R2 RDS Host	Windows Server 2012 RDS Host	Windows Server 2016 RDS Host
RSA SecurID or RADIUS	X	X	Horizon Agent 7.0.2 and later
Smart card	View Agent 6.1 and later	View Agent 6.1 and later	Horizon Agent 7.0.2 and later
Single sign-on	X	X	Horizon Agent 7.0.2 and later
RDP display protocol	X	X	Horizon Agent 7.0.2 and later
PCoIP display protocol	X	X	Horizon Agent 7.0.2 and later
VMware Blast display protocol	Horizon Agent 7.0 and later	Horizon Agent 7.0 and later	Horizon Agent 7.0.2 and later
HTML Access	View Agent 6.0.2 and later (virtual machine only)	View Agent 6.0.2 and later (virtual machine only)	Horizon Agent 7.0.2 and later
Virtual printing	View Agent 6.0.1 and later (virtual machine only)	View Agent 6.0.1 and later (virtual machine only)	Horizon Agent 7.0.2 and later (virtual machine only)
Location-based printing	View Agent 6.0.1 and later (virtual machine only)	View Agent 6.0.1 and later (virtual machine only)	Horizon Agent 7.0.2 and later (virtual machine only)
Multiple monitors	X	X	Horizon Agent 7.0.2 and later
Unity Touch	X	X	Horizon Agent 7.0.2 and later
Real-Time Audio-Video (RTAV)	Horizon Agent 7.0.2 and later	Horizon Agent 7.0.2 and later	Horizon Agent 7.0.3 and later

For information about which editions of each guest operating system are supported, see the *View Installation* document.

Limitations for Specific Features

Specific features that are supported on Windows desktops for Horizon Client for iOS have certain restrictions.

Table 4-3. Requirements for Specific Features

Feature	Requirements
Left Handed Mode	This feature is iOS specific. If your remote desktop is configured so that the primary and secondary mouse buttons are switched, use the Left Handed Mode feature. See Configure Horizon Client to Support Reversed Mouse Buttons.
Location-based printing for Windows Server 2008 R2 desktops, RDS desktops (on virtual machine RDS hosts), and remote applications	Horizon 6.0.1 with View and later servers.
Smart cards for RDS desktops	View Agent 6.1 and later.
Real-Time Audio-Video (audio-in only)	See System Requirements for Real-Time Audio-Video

Feature Support for Linux Desktops

Some Linux guest operating systems are supported if you have View Agent 6.1.1 or later or Horizon Agent 7.0 or later. For a list of supported Linux operating systems and information about supported features, see the *Setting Up Horizon 6 for Linux Desktops* or *Setting Up Horizon 7 for Linux Desktops* document.

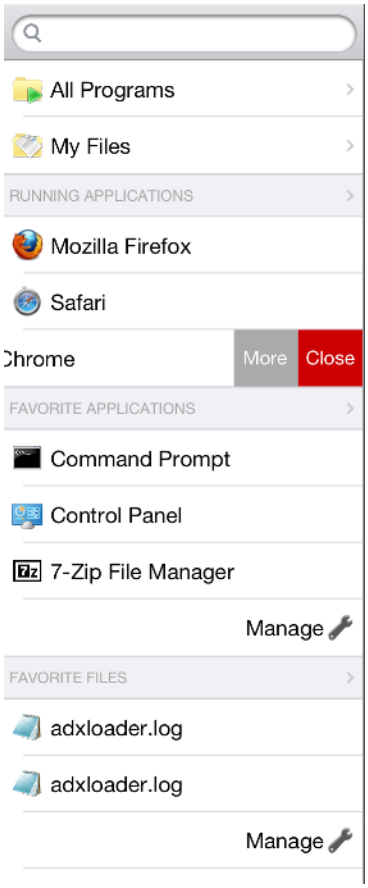
Using the Unity Touch Sidebar with a Remote Desktop

You can quickly navigate to a remote desktop application or file from a Unity Touch sidebar. From this sidebar, you can open files and applications, switch between running applications, and minimize, maximize, restore, or close windows and applications in a remote desktop.

The Unity Touch feature is available only if a Horizon administrator has enabled it. If users have a floating desktop, users' favorite applications and files can be saved only if Windows roaming user profiles are configured for the remote desktop. A Horizon administrator can also create a default **Favorite Applications** list that end users see the first time the sidebar appears. For more information, see "Configuring Unity Touch" in the *Configuring Remote Desktop Features in Horizon 7* document.

If the Unity Touch feature is enabled, the sidebar appears on the left side of the window when you first access a remote desktop.

Figure 4-1. Unity Touch Sidebar



If you access a desktop that has Unity Touch enabled but the sidebar is not displayed, you can see a tab on the left side of the window. Besides swiping this tab to the right to open the sidebar, you can slide the tab up or down.

From this sidebar, you can perform many actions on a file or application.

Table 4-4. Unity Touch Sidebar Actions for a Remote Desktop

Action	Procedure
Show the sidebar	Swipe the tab to the right. When the sidebar is open, you cannot perform actions on the desktop window or the Horizon Client Tools radial menu.
Hide the sidebar	Swipe the tab to the left to close the sidebar. When the sidebar is open, you cannot perform actions on the desktop window or the Horizon Client Tools radial menu. You can also touch the desktop window, including the Horizon Client Tools radial menu, to hide the sidebar.
Navigate to an application	Tap **All Programs** and navigate to the application just as you would from the Windows Start menu.
Navigate to a file	Tap **My Files** to access the `User` folder, and navigate to the file. **My Files** includes folders such as `My Pictures`, `My Documents`, and `Downloads`. **My Files** includes the folders in the user profile (`%USERPROFILE%` directory). If you relocate the `system` folder in the `%USERPROFILE%` directory, the **My Files** menu can also display content from the relocated folder, whether it is a local relocated folder or a network share folder.
Search for an application or file	■ Tap in the **Search** box and type the name of the application or file. ■ To use voice dictation, tap the microphone on the keyboard. ■ To launch an application or file, tap the name of the application or file in the search results. ■ To return to the home view of the sidebar, tap the **X** to close the **Search** box.
Open an application or file	Tap the name of the file or application in the sidebar. The application starts and the sidebar closes.
Switch between running applications or open windows	Tap the application name under **Running Applications**. If more than one file is open for one application, tap the chevron (**>**) next to the application to expand the list.
Minimize a running application or window	1 Touch the application name under **Running Applications** and swipe from right to left. 2 Tap the **More** button that appears. 3 Tap **Minimize**.
Maximize a running application or window	1 Touch the application name under **Running Applications** and swipe from right to left. 2 Tap the **More** button that appears. 3 Tap **Maximize**.
Close a running application or window	Touch the application name under **Running Applications** and swipe from right to left. Tap the **Close** button that appears.
Restore a running application or window to its previous size and position	1 Touch the application name under **Running Applications** and swipe from right to left. 2 Tap the **More** button that appears. 3 Tap **Restore**.

Table 4-4. Unity Touch Sidebar Actions for a Remote Desktop (Continued)

Action	Procedure
Create a list of favorite applications or files	1 Search for the application or file, or tap **Manage** under the **Favorite Applications** or **Favorite Documents** list. If the **Manage** bar is not visible, tap the chevron (**>**) next to **Favorite Applications** or **Favorite Files**. 2 Tap the check box next to the names of your favorites in the search results or in the list of available applications or files. The favorite that you add last appears at the top of your favorites list. Your favorites are remembered across all of your mobile devices so that, for example, you have the same list whether using your smart phone or your tablet.
Remove an application or file from the favorites list	1 Search for the application or file, or tap **Manage** under the **Favorite Applications** or **Favorite Dcuments** list. If the **Manage** bar is not visible, tap the chevron (**>**) next to **Favorite Applications** or **Favorite Documents**. 2 Tap to remove the check mark next to the name of the application or file in the favorites list.
Reorder an application or file in the favorites list	1 Tap **Manage** under the **Favorite Applications** or **Favorite Documents** list. If the **Manage** bar is not visible, tap the chevron (**>**) next to **Favorite Applications** or **Favorite Documents**. 2 In the favorites list, touch and hold the handle on the left side of the application or file name and drag the favorite up or down the list.

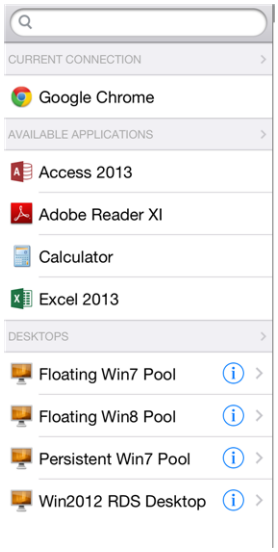
Using the Unity Touch Sidebar with a Remote Application

You can quickly navigate to a remote application from a Unity Touch sidebar. From this sidebar, you can launch applications, switch between running applications, and minimize, maximize, restore, or close remote applications. You can also switch to a remote desktop.

The Unity Touch feature is available only if a Horizon administrator has enabled it.

When you access a remote application, the Unity Touch sidebar appears on the left side of the window. If the Unity Touch sidebar is closed, a tab appears on the left side of the window. You can swipe this tab to the right to reopen the sidebar. You can also slide the tab up or down.

Figure 4-2. Unity Touch Sidebar for a Remote Application



From the Unity Touch sidebar, you can perform many actions on a remote application.

Table 4-5. Unity Touch Sidebar Actions for a Remote Application

Action	Procedure
Show the sidebar	Swipe the tab to the right to open the sidebar. When the sidebar is open, you cannot perform actions on the application window.
Hide the sidebar	Swipe the tab to the left to close the sidebar. When the sidebar is open, you cannot perform actions on the application window. In Horizon Client 3.1 and later, you can also touch the application window, including the Horizon Client Tools radial menu, to hide the sidebar.
Switch between running applications	Tap the application under **Current Connection**.
Open an application	Tap the name of the application under **Available Applications** in the sidebar. The application starts and the sidebar closes.
Close a running application	1 Touch the application name under **Current Connection** and swipe from right to left. 2 Tap the **Close** button that appears.
Minimize a running application	1 Touch the application name under **Current Connection** and swipe from right to left. 2 Tap the **More** button that appears. 3 Tap **Minimize**.
Maximize a running application	1 Touch the application name under **Current Connection** and swipe from right to left. 2 Tap the **More** button that appears. 3 Tap **Maximize**.
Restore a running application	1 Touch the application name under **Current Connection** and swipe from right to left. 2 Tap the **More** button that appears. 3 Tap **Restore**.
Switch to a remote desktop	Tap the desktop name under **Desktops**.

Horizon Client Tools on a Mobile Device

On a mobile device, the Horizon Client Tools include buttons for displaying the onscreen keyboard, virtual touchpad, configuration settings, and a virtual keypad for arrow keys and function keys.

The Horizon Client Tools radial menu icon appears in the middle of the window when you are connected to a remote desktop or application. Tap to expand the radial menu and display icons for each tool, which you can tap to select. Tap outside the tool icons to collapse the icons back into the radial menu icon.

The radial menu includes several tools.

Table 4-6. Radial Menu Icons

Icon	Description
	Horizon Client Tools radial menu
	Disconnect
	Onscreen keyboard (toggles to show or hide)
	Settings
	Navigation keys
	Virtual touchpad
	Gesture help

Onscreen Keyboard

The onscreen keyboard has more keys than the standard onscreen keyboard, for example, Control keys and function keys are available. To display the onscreen keyboard, tap the screen with three fingers at the same time or tap the **Keyboard** icon.

You can also use the feature that displays the onscreen keyboard whenever you tap a text field, such as in a note or new contact. If you then tap in an area that is not a text field, the keyboard is dismissed.

Important To use the three-finger tap, make sure the iOS accessibility feature for zooming is turned off. When the zoom accessibility feature is turned on, you zoom by double-tapping with three fingers, and tapping once with three fingers does nothing.

Even if you use an external keyboard, a one-row onscreen keyboard might still appear, which contains function keys, and the Ctrl, Alt, Win, and arrow keys. Some external keyboards do not have all these keys.

Sending a String of Characters

From the onscreen keyboard, tap the pen icon on the left side of the Ctrl key to display the local input buffer. Text that you type into this text box is not sent to an application until you tap **Send.** For example, if you open an application such as Notepad and tap the pen icon, the text that you type does not appear in the Notepad application until you tap **Send.**

Use this feature if you have a poor network connection. That is, use this feature if, when you type a character, the character does not immediately appear in the application. With this feature, you can quickly type up to 1,000 characters and then either tap **Send** or tap **Return** to have all 1,000 characters appear at once in the application.

Navigation Keys

Tap the **Ctrl/Page** icon in the Horizon Client Tools or onscreen keyboard to display the navigation keys. These keys include Page Up, Page Down, arrow keys, function keys, and other keys that you often use in Windows environments, such as Alt, Del, Shift, Ctrl, Win, and Esc. You can press and hold arrow keys for continuous key strokes. For a picture of the Ctrl/Page icon, see the table at the beginning of this topic.

Use the Shift key on this keypad when you need to use key combinations that include the Shift key, such as Ctrl+Shift. To tap a combination of these keys, such as Ctrl+Alt+Shift, first tap the onscreen Ctrl key. After the Ctrl key turns blue, tap the onscreen Alt key. After the Alt key turns blue, tap the onscreen Shift key. A single onscreen key is provided for the key combination Ctrl+Alt+Del.

Onscreen Touchpad and Full-Screen Touchpad

The virtual touchpad can be either regular-size, to resemble a touchpad on a laptop computer, or full screen, so that the entire device screen is a touchpad.

By default, when you tap the touchpad icon, you can touch anywhere on the screen to move the mouse pointer. The screen becomes a full-screen touchpad.

- Moving your finger around the touchpad creates a mouse pointer that moves around the remote desktop or application.
- You can use the regular-size and full-screen virtual touchpad for single-clicking and double-clicking.
- The regular touchpad also contains left-click and right-click buttons.
- To simulate holding down the left-click button while dragging, double-tap with one finger and then drag.

  To enable this feature, use the Horizon Client Tools to display the Options dialog box, and click to toggle the **Touchpad Tap & Drag** option to on.
- You can tap with two fingers and then drag to scroll vertically.

You can drag the regular-size virtual touchpad to the side of the device so that you can use your thumb to operate the touchpad while you are holding the device.

You can make the virtual touchpad resemble the touchpad on a laptop, including right-click and left-click buttons. Tap to expand the Horizon Client Tools radial menu icon, tap the **Settings** (gear) icon, tap **Touch**, and toggle the **Full Screen Touchpad Mode** setting to off.

To adjust how quickly the pointer moves when you use the touchpad, tap to expand the Horizon Client Tools radial menu icon, tap the **Settings** (gear) icon, tap **Touch**, and drag the slider in the **Touchpad Sensitivity** option.

You can also set the **Full Screen Touchpad Mode** and **Touchpad Sensitivity** settings from the Horizon Client Settings window. Tap **Settings** at the bottom of the Horizon Client window and tap **Touch** to display the touchpad settings.

If you are logged in to a remote desktop when you change the touchpad settings, your touchpad settings are retained the next time you connect to the remote desktop or application from the same iOS device.

Gestures

VMware has created user interaction aids to help you navigate conventional Windows user interface elements on a non-Windows device.

Clicking

As in other applications, you tap to click a user interface element.

In a remote desktop, if you tap and hold for a second, a magnifying glass appears, along with a mouse pointer, for precise placement. This feature is especially helpful when you want to resize a window.

Note If the remote desktop is configured for a left-handed user, see Configure Horizon Client to Support Reversed Mouse Buttons.

Right-Clicking

The following options are available for right-clicking:

- Use the Horizon Client Tools to display the regular virtual touchpad and use the touchpad's right-click button.
- On a touch screen, tap with two fingers at nearly the same time. The right-click occurs where the first finger tapped.

Scrolling and Scrollbars

The following options are available for vertical scrolling.

- On a touch screen, tap with one or two fingers and then drag to scroll. The text under your fingers moves in the same direction as your fingers.

  Important Scrolling with one finger has the following limitations: It does not work if you have zoomed in, or when the onscreen keyboard is displayed, or when you are using the full-screen touchpad.

- Use the Horizon Client Tools to display the touchpad, tap the touchpad with two fingers, and then drag to scroll.
- Use the onscreen touchpad to move the mouse pointer and click scroll bars.

Zooming In and Out

As in other applications, pinch your fingers together or apart to zoom on a touch screen.

Window Resizing

If you use the full screen touchpad to resize a window, touch and hold one finger at the corner or side of the window and drag to resize, or double-tap with one finger and then drag.

If you use the regular-size virtual touchpad, to simulate holding down the left-click button while dragging the corner or side of a window, double-tap with one finger and then drag.

If you are not using either type of virtual touchpad, tap and hold until the magnifying glass appears at the corner or side of the window. Move your finger around until the resizing arrows appear. Lift your finger off the screen. The magnifying glass is replaced by a resizing circle. Tap this resizing circle and drag it to resize the window.

Sound, Music, and Video

If sound is turned on for your device, you can play audio in a remote desktop.

Using Native Operating System Gestures with Touch Redirection

You can use native operating system gestures from a touch-based mobile device when you are connected to a Windows 8, Windows 10, or Windows Server 2012 remote desktop, or to a remote application that is hosted on Windows Server 2012. For example, you can touch, hold, and release an item on a Windows 8 desktop to display the item's context menu.

When touch redirection is enabled, you can use only native operating system touch gestures. Horizon Client local gestures, such as double-click and pinch, no longer work. You must drag the Unity Touch tab button to display the Unity Touch sidebar.

Touch redirection is enabled by default when you connect to a Windows 8, Windows 10, or Windows Server 2012 remote desktop, or to a remote application that is hosted on Windows Server 2012.

To disable touch redirection, tap **Settings** at the bottom of the Horizon Client window, tap **Touch**, and toggle the **Windows Native Touch Gestures** setting to off. If you are connected to a remote desktop or application, you can access settings by tapping the **Settings** (gear) icon in the Horizon Client Tools radial menu.

Screen Resolutions and Using External Displays

You can use Horizon Client with external displays and you can change screen resolutions.

When you connect a client device to an external display or projector, Horizon Client supports certain maximum display resolutions. You can change the screen resolution used on the client device to allow scrolling a larger screen resolution.

Enlarging the Screen Resolution for a Remote Desktop

By default, the display resolution is set so that the entire Windows desktop fits inside the client device, and the desktop icons and task bar icons are a certain size. If you change the default to a higher resolution, the desktop still fits inside the client device, but the desktop and taskbar icons become smaller.

You can pinch your fingers apart to zoom in and make the desktop larger than the device screen. You can then tap and drag to access the edges of the desktop.

Changing the Display Resolution Setting

To change the resolution from a remote desktop or application, tap to expand the Horizon Client Tools radial menu icon, tap the **Settings** (gear) icon, and tap **Resolution**. You can also change the resolution from the Horizon Client Settings window. Tap **Settings** at the bottom of the Horizon Client window and tap **Resolution**.

Note Certain options, including 3/4 Scaling and No Scaling, are not available on iPhone 6 when the device is in zoomed mode. To display these options, you must exit zoomed mode.

Using High Resolution Mode

You can use the High Resolution Mode feature to obtain the best display quality in remote desktops and applications.

You can enable High Resolution Mode from the Horizon Client Settings window. Tap **Settings** at the bottom of the Horizon Client window, tap **Resolution**, and tap to toggle the **High Resolution Mode** setting to on. To enable High Resolution Mode if you are using a remote desktop or application, tap to expand the Horizon Client Tools radial menu icon, tap the **Settings** (gear) icon, tap **Resolution**, and tap to toggle the **High Resolution Mode** setting to on.

The High Resolution Mode feature has the following requirements and limitations:

- You cannot use the High Resolution Mode feature for existing sessions. You must log out and log in to a new session for the feature to take effect.
- You must have an iPad Pro, or an iPad or iPad mini with Retina display, to use the High Resolution Mode feature.
- The High Resolution Mode feature requires Horizon Agent 7.0.3 or later.

High Resolution Mode is disabled by default.

Using External Monitors and Projectors

You can use the **Resolution** setting to set a larger resolution for external monitors and projectors.

To display the keyboard and an expanded onscreen touchpad on the device while displaying the remote desktop on the projector or attached monitor, enable the **Presentation Mode** setting. The expanded touchpad and keyboard appear when you plug the device into the external monitor. The device detects the maximum resolution provided by the external display.

You can mirror the entire device display on a projector or attached monitor, including the Unity Touch sidebar, by turning off the **Presentation mode** setting. If you are connected to a remote desktop and the **Presentation Mode** setting is enabled, you can click **Done** to switch to mirror mode.

You can use the **Keep the screen alive during Presentation** setting to keep the display from turning off after a period of inactivity while in presentation mode.

You can configure these settings from a remote desktop or application by tapping to expand the Horizon Client Tools radial menu icon and tapping the **Settings** (gear) icon. You can also configure these setting by tapping the **Settings** (gear) icon at the bottom of the Horizon Client window.

Hiding Sensitive Information on External Displays

When you use Horizon Client with an external monitor or projector, sensitive information, such as passwords and passcodes, is automatically hidden to protect user data security.

External Keyboards and Input Devices

Horizon Client supports the iPad Keyboard Dock and Apple Wireless Keyboard (Bluetooth) external keyboards. Horizon Client supports Apple Pencil as a pointer device on iPad Pro and the Swiftpoint GT mouse on any iOS device that the Swiftpoint GT mouse supports.

Using an External Keyboard

Horizon Client automatically detects the iPad Keyboard Dock external keyboard. To use the Apple Wireless Keyboard (Bluetooth) with a remote desktop or application, you must first pair the keyboard with the client device. After you pair the keyboard with the iPad, make sure that you do not have the onscreen keyboard in split keyboard mode when you attempt to make the iPad detect the Bluetooth keyboard. To make the client device detect the wireless keyboard, tap the screen with three fingers at the same time, or tap the **Keyboard** button in the Horizon Client Tools.

Also with the Apple Wireless Keyboard (Bluetooth), after the external keyboard is detected, you cannot use the Horizon Client Tools or three-finger tap to display the onscreen keyboard. You must first deactivate the external keyboard by pressing its Eject key.

Note The Apple Wireless Keyboard (Bluetooth) does not input the Japanese full-width tilde correctly in remote desktops.

International Keyboards

You can input characters for English, Japanese, French, German, Simplified Chinese, Traditional Chinese, Korean, and Spanish.

Use an English keyboard on the iOS device with a remote desktop that uses a Korean or Japanese input method editor (IME). If you use a Korean or Japanese keyboard on the iOS device and you connect to a remote desktop that uses a Korean or Japanese IME, the remote desktop Windows IME English/Korean or English/Japanese mode is not synchronized with the iOS keyboard locale.

Enable the Japanese 106/109 Keyboard Layout

If you are connected to a Windows XP desktop, you can configure Horizon Client to use the Japanese 106/109 keyboard layout.

Prerequisites

Use Horizon Client to connect to a Windows XP desktop that has the Japanese keyboard layout enabled.

Procedure

1. Use the Horizon Client Tools to display the **Options** dialog box.
2. Tap to toggle the **Japanese 106/109 Keyboard** option to on.

   This setting is disabled if the keyboard layout on the Windows XP desktop is not set to Japanese. This setting is hidden if the desktop is not running Windows XP.
3. Tap **Done**.

Enable a Swiftpoint GT Mouse in Horizon Client

If you have a Swiftpoint GT mouse, you can enable it to work with remote desktops and applications in Horizon Client.

Prerequisites

- Turn on the Swiftpoint GT mouse.
- Turn on Bluetooth on the client device.

Procedure

1. Tap **Settings** at the bottom of the Horizon Client window.
2. Tap **Mouse** on the Settings window.
3. Tap **Swiftpoint GT Mouse** and toggle the option to on.

   Horizon Client shows the Swiftpoint GT mouse and an option to connect to it. If Bluetooth is not turned on, Horizon Client prompts you to go to the iOS settings and turn on Bluetooth before you pair the mouse with the client device.
4. (Optional) To learn more about using the Swiftpoint GT mouse with Horizon Client, click the http://www.swiftpoint.com/vmware link.

After you pair the mouse with the device, mouse actions are redirected to remote desktops and applications that you open with Horizon Client

Using the Real-Time Audio-Video Feature for Microphones

With the Real-Time Audio-Video feature, you can use a microphone connected to the client device on a remote desktop. Real-Time Audio-Video is compatible with standard audio devices and with standard conferencing applications such as Skype, WebEx, and Google Hangouts.

Real-Time Audio-Video is enabled by default when you install Horizon Client on the client device.

Note Only the audio-in feature is supported. The video feature is not supported.

For information about setting up the Real-Time Audio-Video feature on a remote desktop, see the *Configuring Remote Desktop Features in Horizon 7* document.

The first time you use the microphone, Horizon Client prompts you for permission to access it. You must grant permission for the microphone to work with the remote desktop. You can enable and disable access to the microphone by changing the Microphone permission for Horizon Client in the iOS Settings app.

Configure Horizon Client to Support Reversed Mouse Buttons

You can use the **Left Handed Mode** option if the primary and secondary mouse buttons are switched in a remote desktop.

If you set the mouse properties inside the remote desktop so that the primary mouse button is the one on the right side, as many left-handed people do, you must turn on the **Left Handed Mode** option in Horizon Client. If you do not turn on this option when mouse buttons are reversed, a single tap acts as a click of the secondary mouse button. For example, a single tap might display a context menu rather than selecting something or inserting a cursor.

Procedure

- If you are already connected to the remote desktop, perform these steps.
  a. Tap to expand the Horizon Client Tools radial menu icon and tap the **Settings** (gear) icon to open the Settings window.
  b. Tap **Touch** on the Settings window.
  c. Tap **Left Handed Mode** to toggle the option to on.
  d. Tap **Done** to close the Settings window.
- If you are not connected to the remote desktop, perform these steps.
  a. Tap **Settings** at the bottom of the Horizon Client window.
  b. Tap **Touch** on the Settings window.
  c. Tap **Left Handed Mode** to toggle the option to on.

A single tap now acts as a click with the primary mouse button.

Copying and Pasting Text and Images

By default, you can copy and paste text from the iOS device to a remote desktop or application. If a Horizon administrator enables the feature, you can also copy and paste text from a remote desktop or application to the iOS device or between two remote desktops or applications. Supported file formats include plain text, images, and Rich Text Format (RTF). Some restrictions apply.

A Horizon administrator can set this feature so that copy and paste operations are allowed only from the iOS device to a remote desktop or application, or only from a remote desktop or application to the iOS device, or both, or neither.

Data that you copy to the clipboard is copied to the clipboard on the remote desktop when you log in to the remote desktop. If you are logged in to a remote desktop, data that you copy to the clipboard on the remote desktop is copied to the clipboard on the iOS device. If RTF data contains images, the images are lost when Horizon Client synchronizes the RTF data in the clipboard on the remote desktop with the data in the clipboard on the iOS device.

Horizon administrators can configure copy and paste behavior by setting group policies that pertain to Horizon Agent, including changing the clipboard size. The default clipboard size is 1 MB. The clipboard can accommodate up to 16 MB of data. Depending on the Horizon server and agent version, administrators might also use group policies to restrict clipboard formats during copy and paste operations, or use Smart Policies. For information, see the *Configuring Remote Desktop Features in Horizon 7* document.

If the text and RTF data together use less than maximum clipboard size, the formatted text is pasted. Often the RTF data cannot be truncated, so that if the text and formatting use more than the maximum clipboard size amount, the RTF data is discarded, and plain text is pasted. If you are unable to paste all the formatted text you selected in one operation, you might need to copy and paste smaller amounts in each operation.

You might not be able to copy and paste a certain image, even though it does not exceed the clipboard size. This problem occurs when Horizon Client converts the image to PNG format and the PNG image exceeds the clipboard size. Horizon Client converts all images to PNG format during the copy and paste operation.

Dragging and Dropping Text and Images

You can drag and drop text and images from the client device to a published application or an open application in a remote desktop.

For example, you can drag text from Safari on the iPad and drop it into the WordPad application in a remote desktop. Both plain text and Rich Text Format (RTF) text are supported.

Horizon administrators can configure drag and drop behavior by setting group policies that pertain to Horizon Agent, including changing the clipboard size. The default clipboard size is 1 MB. The clipboard can accommodate up to 16 MB of data. Depending on the Horizon server and agent version, administrators might also be able to use group policies to restrict clipboard formats during drag and drop operations, or use Smart Policies. For information, see the *Configuring Remote Desktop Features in Horizon 7* document.

This feature has the following limitations.

- You cannot drag and drop multiple images at the same time. You must drag and drop each image separately.
- You cannot drag and drop text and images at the same time. You must drag and drop text and images separately.
- You might not be able to drag and drop a certain image, even though it does not exceed the clipboard size. This problem occurs when Horizon Client converts the image to PNG format and the PNG image exceeds the clipboard size. Horizon Client converts all images to PNG format during the drag and drop operation.
- You cannot drag and drop text and images from a remote desktop or published application to the client device.

This feature requires an iPad that is running iOS 11 or later.

Saving Documents in a Published Application

With certain published applications, such as Microsoft Word or WordPad, you can create and save documents. Where these documents are saved depends on your company's network environment. For example, your documents might be saved to a home share mounted on your local computer.

A Horizon administrator can use the RDS Profiles group policy setting called **Set Remote Desktop Services User Home Directory** to specify where documents are saved. For more information, see the *Configuring Remote Desktop Features in Horizon 7* document.

Multitasking

You can switch between Horizon Client and other apps without losing a remote desktop or application connection.

In a WiFi network, by default Horizon Client runs in the background for up to three minutes on iOS 7.0 and later devices. In a 3G network, Horizon Client suspends data transmission when you switch to another app. Data transmission resumes when you switch back to Horizon Client.

Suppress the Cellular Data Warning Message

When Horizon Client detects that you are using a cellular data connection, the Network Usage dialog box appears to notify you that your remote desktop or application connection might use a substantial portion of your data plan.

The Network Usage dialog box appears after you connect to a server and try to launch a remote desktop or application, after you tap a recent desktop or application shortcut, and after you connect to a remote application and try to launch another application or remote desktop from the Unity Touch sidebar. The Network Usage dialog box appears only when you launch Horizon Client.

You can suppress the Network Usage dialog box after it appears. You can also set an option to always suppress the Network Usage dialog box.

Procedure

- To suppress the Network Usage dialog box after it appears in Horizon Client, tap **Never Remind** in the Network Usage dialog box.
- To set an option to always suppress the Network Usage dialog box, tap **Settings** at the bottom of the Horizon Client window and toggle the **Cellular Data Warning** option to off.

PCoIP Client-Side Image Cache

PCoIP client-side image caching stores image content on the client to avoid retransmission. This feature reduces bandwidth usage.

The PCoIP image cache captures spatial, as well as temporal, redundancy. For example, when you scroll down through a PDF document, new content appears from the bottom of the window and the oldest content disappears from the top of the window. All the other content remains constant and moves upward. The PCoIP image cache is capable of detecting this spatial and temporal redundancy.

Because during scrolling, the display information sent to the client device is primarily a sequence of cache indices, using the image cache saves a significant amount of bandwidth. This efficient scrolling has benefits both on the LAN and over the WAN.

- On the LAN, where bandwidth is relatively unconstrained, using client-side image caching delivers significant bandwidth savings.
- Over the WAN, to stay within the available bandwidth constraints, scrolling performance would be degraded without client-side caching. Over the WAN, client-side caching saves bandwidth and ensure a smooth, highly responsive scrolling experience.

With client-side caching, the client stores portions of the display that were previously transmitted. The cache size is one-half of the available RAM. If that amount of RAM is less than 50 MB, the cache size is 50 MB.

Internationalization

Both the user interface and the documentation are available in English, Japanese, French, German, Simplified Chinese, Traditional Chinese, Korean, and Spanish. You can also input characters for these languages.

Troubleshooting Horizon Client 5

You can solve most Horizon Client problems by resetting the desktop or reinstalling the app.

You can also enable log collection and send log files to VMware for troubleshooting.

This chapter includes the following topics:

Restart a Remote Desktop

You might need to restart a remote desktop if the desktop operating system stops responding. Restarting a remote desktop is the equivalent of the Windows operating system restart command. The desktop operating system usually prompts you to save any unsaved data before it restarts.

You can restart a remote desktop only if a Horizon administrator has enabled the desktop restart feature for the desktop.

For information about enabling the desktop restart feature, see the *Setting Up Virtual Desktops in Horizon 7* or *Setting Up Published Desktops and Applications in Horizon 7* document.

Prerequisites

- Obtain login credentials, such as an Active Directory user name and password, RSA SecurID user name and passcode, or RADIUS authentication user name and passcode.
- If you have not logged in at least once, become familiar with the procedure Connect to a Remote Desktop or Application.

Procedure

1 Tap **Servers** (cloud icon) at the bottom of the window and tap the server icon to connect to the server.

2 If prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both.

3 Touch and hold the desktop name until the context menu appears.

4 Tap **Restart** in the context menu.

Restart is available only if the status of the desktop is such that the action can be taken.

The operating system in the remote desktop reboots and Horizon Client disconnects and logs off from the desktop.

What to do next

Wait an appropriate amount of time for system startup before you attempt to reconnect to the remote desktop.

If restarting the remote desktop does not solve the problem, you might need to reset the remote desktop. See Reset a Remote Desktop or Remote Applications.

Reset a Remote Desktop or Remote Applications

You might need to reset a remote desktop if the desktop operating system stops responding and restarting the remote desktop does not solve the problem. Resetting remote applications quits all open applications.

Resetting a remote desktop is the equivalent of pressing the Reset button on a physical PC to force the PC to restart. Any files that are open on the remote desktop are closed and are not saved.

Resetting remote applications is the equivalent of quitting the applications without saving any unsaved data. All open remote applications are closed, even applications that come from different RDS server farms.

You can reset a remote desktop only if a Horizon administrator has enabled the desktop reset feature for the desktop.

For information about enabling the desktop reset feature, see the *Setting Up Virtual Desktops in Horizon 7* or *Setting Up Published Desktops and Applications in Horizon 7* document.

Prerequisites

- Obtain login credentials, such as an Active Directory user name and password, RSA SecurID user name and passcode, or RADIUS authentication user name and passcode.
- If you have not logged in at least once, become familiar with the procedure Connect to a Remote Desktop or Application.

Procedure

1 Tap **Servers** (cloud icon) at the bottom of the window and tap the server icon to connect to the server.

2 If prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both.

3 Touch and hold the desktop or application name until the context menu appears.

4 Tap **Reset** in the context menu.

Reset is available only if the status of the desktop or application is such that the action can be taken.

When you reset a remote desktop, the operating system in the remote desktop reboots and Horizon Client disconnects and logs off from the desktop. When you reset remote applications, the applications quit.

What to do next

Wait an appropriate amount of time for system startup before attempting to reconnect to the remote desktop or application.

Collecting and Sending Logging Information to VMware

You can configure Horizon Client to collect log information and send log files to VMware for troubleshooting.

If Horizon Client quits unexpectedly while log collection is enabled, Horizon Client prompts you to send log files to VMware when you restart Horizon Client.

If you choose to send log files to VMware, Horizon Client sends a message from the email account configured on the client device and attaches a GZ file that contains the last five log files. The file name contains a time stamp, for example, `Horizon_View_Client_logs_`*`timestamp`*`.log.gz`.

You can also manually retrieve and send log files at any time.

Enable Horizon Client Log Collection

When you enable log collection, Horizon Client creates log files that contain information that can help VMware troubleshoot problems with Horizon Client.

Because log collection affects the performance of Horizon Client, enable log collection only if you are experiencing a problem.

Prerequisites

Verify that an email account is configured on the device. Horizon Client uses this email account to send log files.

Procedure

1 If you are already connected to a remote desktop or application, perform these steps:

   a Tap to expand the Horizon Client Tools radial menu icon and tap the **Settings** (gear) icon to open the Settings window.

   b Tap **Log Collection** on the Settings window.

   c Tap to toggle the **Logging** option to on.

   d Tap **Done** to close the Settings window.

2 If you are not connected to a remote desktop or application, perform these steps:

   a Tap **Settings** at the bottom of the Horizon Client window to open the Settings window.

   b Tap **Log Collection** on the Settings window.

   c Tap to toggle the **Logging** option to on.

After log collection is enabled, Horizon Client generates several log files. When Horizon Client quits unexpectedly or is exited and relaunched, the log files are merged and compressed into a single GZ file. If you choose to send the log, Horizon Client attaches the GZ file to an email message.

If you switch from a running desktop to settings, enable log collection, and switch back to the desktop, you must reconnect to the desktop to collect a complete log file.

Manually Retrieve and Send Horizon Client Log Files

When Horizon Client log collection is enabled on your device, you can manually retrieve and send log files at any time.

This procedure shows you how to retrieve and send log files through Horizon Client. If the device is connected to a PC or Mac, you can also use iTunes to retrieve log files.

Prerequisites

- Verify that an email account is configured on the device. Horizon Client sends log files from this email account.
- Enable Horizon Client log collection. See Enable Horizon Client Log Collection.

Procedure

1 In Horizon Client, tap the email icon at the top of the window.

2 Type the address of the email recipient in the **To:** line and click **Send** to send the message.

   The email account configured on your device appears in the **From:** line.

   The existing GZ log file is attached to the message. Horizon Client saves a maximum of five GZ log files. It deletes the oldest files when the GZ log file count is greater then five.

Disable Horizon Client Log Collection

Because log collection affects the performance of Horizon Client, disable log collection if you are not troubleshooting a problem.

Procedure

1 If you are already connected to a remote desktop or application, perform these steps.

   a Tap to expand the Horizon Client Tools radial menu icon and tap the **Settings** (gear) icon to open the Settings window.

   b Tap **Log Collection** on the Settings window.

c Tap to toggle the **Logging** option to off.

d Tap **Done** to close the Settings window.

2 If you are not connected to a remote desktop or application, perform these steps.

a Tap **Settings** at the bottom of the Horizon Client window to open the Settings window.

b Tap **Log Collection** on the Settings window.

c Tap to toggle the **Logging** option to off.

Report Horizon Client Crash Data to VMware

You can configure Horizon Client to report crash data to VMware.

Procedure

1 Tap **Settings** at the bottom of the Horizon Client window.

2 Tap **Crash Reporting**.

3 Tap to toggle the **Crash Reporting** option on or off.

The setting is enabled by default.

If Horizon Client stops responding, a crash log file is uploaded to the VMware server the next time Horizon Client starts.

Horizon Client Stops Responding or the Remote Desktop Freezes

When the window freezes, first, try resetting the remote desktop operating system.

Problem

Horizon Client does not work or repeatedly exits unexpectedly or the remote desktop freezes.

Cause

Assuming that Horizon servers are configured properly and that firewalls surrounding them have the correct ports open, other issues usually relate to Horizon Client on the device or to the guest operating system on the remote desktop.

Solution

- If the operating system in the remote desktop freezes, use Horizon Client on the device to reset the desktop.

  This option is available only if the Horizon administrator has enabled this feature.
- Uninstall and reinstall the app on the device.
- If resetting the remote desktop and reinstalling Horizon Client do not help, you can reset the iOS device, as described in the device user guide from Apple.

- If you get a connection error when you attempt to connect to the server, you might need to change your proxy settings.

Problem Establishing a Connection When Using a Proxy

Sometimes if you attempt to connect to Connection Server using a proxy while on the LAN, an error occurs.

Problem

If the Horizon environment is set up to use a secure connection from the remote desktop to Connection Server, and if the client device is configured to use an HTTP proxy, you might not be able to connect.

Cause

Unlike Windows Internet Explorer, the client device does not have an Internet option to bypass the proxy for local addresses. When an HTTP proxy is used for browsing external addresses, and you try to connect to Connection Server using an internal address, you might see the error message `Could not establish connection`.

Solution

- Remove the proxy settings so that the device no longer uses a proxy.

Connecting to a Server in Workspace ONE Mode

If you cannot connect to a server directly through Horizon Client, or if your desktop and application entitlements are not visible in Horizon Client, Workspace ONE mode might be enabled on the server.

Problem

- When you try to connect to the server directly through Horizon Client, Horizon Client redirects you to the Workspace ONE portal.
- When you open a desktop or application through a URI or shortcut, or when you open a local file through file association, the request redirects you to the Workspace ONE portal for authentication.
- After you open a desktop or application through Workspace ONE and Horizon Client starts, you cannot see or open other entitled remote desktops or applications in Horizon Client.

Cause

Beginning with Horizon 7 version 7.2, a Horizon administrator can enable Workspace ONE mode on a Connection Server instance. This behavior is normal when Workspace ONE mode is enabled on a Connection Server instance.

Solution

Use Workspace ONE to connect to a Workspace ONE enabled server and access your remote desktops and applications.