# Using VMware Horizon View Client for Android

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Horizon View

**vm**ware®

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# Using VMware Horizon View Client for Android

This guide, *Using VMware Horizon View Client for Android*, provides information about installing and using VMware® Horizon View™ software on an Android device to connect to a remote desktop in the datacenter.

The information in this document includes system requirements and instructions for installing Horizon View Client for Android. This document also provides tips for improving the user experience of navigating and using Windows desktop elements on an Android device.

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

# Setup and Installation 1

Setting up an Horizon View deployment for Android clients involves using certain View Connection Server configuration settings, meeting the system requirements for Horizon View servers and Android device clients, and installing the VMware View app.

This chapter includes the following topics:

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## System Requirements

You can install Horizon View Client on many Android devices.

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

| | |
|---|---|
| **Operating systems** | ■ Horizon View Client 2.3: Android 3 (Honeycomb), Android 4 (Ice Cream Sandwich), and Android 4.1, 4.2, 4.3 (Jelly Bean), and 4.4 (KitKat). |
| | ■ Horizon View Client 2.0, 2.1, and 2.2: Android 3 (Honeycomb), Android 4 (Ice Cream Sandwich), and Android 4.1, 4.2, and 4.3 (Jelly Bean). |
| | ■ View Client 1.7: Android 3 (Honeycomb), Android 4 (Ice Cream Sandwich), and Android 4.1, 4.2, and 4.3 (Jelly Bean). |
| | ■ View Client 1.6: Android 3 (Honeycomb), Android 4 (Ice Cream Sandwich), and Android 4.1 (Jelly Bean). |
| | ■ View Client 1.5: Android 3 (Honeycomb) and Android 4 (Ice Cream Sandwich). On Cisco Cius devices, Android 2.2 is supported. |

| | |
|---|---|
| | ■ View Client 1.2, 1.3, and 1.4: Android 3 (Honeycomb). On Cisco Cius devices, Android 2.2 is supported. |
| **CPU architecture** | ■ Horizon View Client 2.1 and later: ARM and x86 |
| | ■ Horizon View Client 2.0 and earlier: ARM |
| **External keyboards** | (Optional) Bluetooth and docked keyboard devices. For information about the devices that your specific device supports, see the documentation from the device manufacturer. |
| **Smart cards** | See "Smart Card Authentication Requirements," on page 9. |
| **View Connection Server, Security Server, and View Agent** | Latest maintenance release of VMware View 4.6.x and later VMware View and VMware Horizon View releases |
| | VMware recommends that you use a security server so that your device will not require a VPN connection. |
| | IMPORTANT   The Unity Touch feature requires Horizon View 5.2 and later servers and desktops. The Remote Experience Agent must also be installed on the desktop. For more information, see the *VMware Horizon View Feature Pack Installation and Administration* document and see "Starting, Minimizing, and Closing Applications with Unity Touch," on page 31. |
| **Display protocol for Horizon View** | PCoIP |

# Preparing View Connection Server for Horizon View Client

Administrators must perform specific tasks to enable end users to connect to remote desktops.

Before end users can connect to View Connection Server or a security server and access a remote desktop, you must configure certain pool settings and security settings:

■ If you are using a security server, as VMware recommends, verify that you are using the latest maintenance releases of View Connection Server 4.6.x and View Security Server 4.6.x or later releases. See the *VMware Horizon View Installation* documentation.

■ 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 View Connection Server or a security server, verify that the client device can resolve this DNS name.

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

■ Verify that a desktop pool has been created and that the user account that you plan to use is entitled to access the remote desktop. See the topics about creating desktop pools in the *VMware Horizon View Administration* documentation.

■ To use two-factor authentication with Horizon View Client, such as RSA SecurID or RADIUS authentication, you must enable this feature on View Connection Server. RADIUS authentication is available with View 5.1 or later View Connection Server. For more information, see the topics about two-factor authentication in the *VMware Horizon View Administration* documentation.

■ To allow end users to save their passwords with Horizon View Client, so that users do not always need to supply credentials when logging in to a remote desktop, configure the policy for this feature on View Connection Server.

This feature is available for View Client 1.5 and later connecting to remote desktops through View Connection Server 5.1 or later . Users can save their passwords if the policy is configured to allow it and if Horizon View Client can fully verify the server certificate that View Connection Server presents. For instructions about configuring this policy, see the topic called "Allow Users to Save Credentials" in the chapter called "Setting Up User Authentication," in the *VMware Horizon View Administration* documentation.

■ Verify that the desktop pool is set to use the PCoIP display protocol. See the *VMware Horizon View Administration* documentation.

## Smart Card Authentication Requirements

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

NOTE   Horizon View Client for Android 2.1 and later supports using smart cards with desktops that have Windows XP, Windows Vista, or Windows 7 guest operating systems. VMware recommends using an Android 4.0 or later operating system. The CPU architecture must be ARM. The following cards and reader were tested: baiMobile Bluetooth Smart Card Reader and the following smart cards: CAC (Common Access Card) Smart Card, ActivIdentity 64K V2C Java Card, Gemalto ID Prime .NET (formerly .NET V2+ Orange) .

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

■ Horizon View Client

■ A Windows-compatible smart card reader

■ Smart card middleware

For example, the app on the Android device must support the baiMobile 3000MP reader. One such app is Android PC/SC-Lite Service, whose tile name on Android devices is baiMobile PC/SC. Otherwise, although you will be able to pair the Bluetooth card reader with the Android device, you will not be able to connect them. To make a connection, the app sends a connection request to the reader, and you must tap the **OK** button on the reader to establish the Bluetooth connection.

■ Product-specific application drivers

You must also install product-specific application drivers on the remote desktops. For example, the following drivers were tested: ActiveClient6.2.0.50, ActivClient_7.0.1, and Gemalto.MiniDriver.NET.inf.

Horizon View supports smart cards and smart card readers that use a PKCS#11 or Microsoft CryptoAPI provider. You can optionally install the ActivIdentity ActivClient software suite, which provides tools for interacting with smart cards.

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

To install certificates on a smart card, you must set up a computer to act as an enrollment station. This computer must have the authority to issue smart card certificates for users, and it must be a member of the domain you are issuing certificates for.

IMPORTANT   When you enroll a smart card, you can choose the key size of the resulting certificate. To use smart cards with local desktops, you must select a 1024-bit or 2048-bit key size during smart card enrollment. Certificates with 512-bit keys are not supported.

The Microsoft TechNet Web site includes detailed information on planning and implementing smart card authentication for Windows systems.

In addition to meeting these requirements for Horizon View Client systems, other Horizon View components must meet certain configuration requirements to support smart cards:

■   For information about configuring View servers to support smart card use, see the topic "Configure Smart Card Authentication," in the *VMware Horizon View Administration* document.

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**IMPORTANT**   Smart cards are supported only with Horizon View 5.1.3 and 5.2 or later servers and desktops.

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■   For information on tasks you might need to perform in Active Directory to implement smart card authentication, see the topics about preparing Active Directory for smart card authentication, in the *VMware Horizon View Installation* document .

## Configure Smart Card Authentication for Mobile Clients

Configuration tasks include connecting and pairing the Bluetooth card reader with the mobile device and setting the smart card removal policy.

**Prerequisites**

■   Verify that you are using the correct version of the client, desktop agent, server, mobile device operating system, smart card reader, and smart card. See "Smart Card Authentication Requirements," on page 9. The smart card middleware on the Android device must support the baiMobile 3000MP reader. One such app is Android PC/SC-Lite Service, whose tile name on Android devices is baiMobile PC/SC.

■   If you have not already done so, perform the tasks described in "Prepare Active Directory for Smart Card Authentication," in the *VMware Horizon View Installation* document.

■   Configure View servers to support smart card use. See the topic "Configure Smart Card Authentication," in the *VMware Horizon View Administration* document.

**Procedure**

1   Install the smart card middleware app on the mobile device.

    The app must support the baiMobile 3000MP reader.

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

    During this process, a randomly generated number is displayed on both devices. When you confirm that the numbers match, you establish secure Bluetooth communication.

3   Configure the smart card removal policy.

| Option | Description |
|---|---|
| **Set the policy on the server** | If you use View Administrator to set a policy, the choices are to either disconnect users from View Connection Server when they remove their smart cards or to keep users connected to View Connection Server when they remove their smart cards and let them start new desktop sessions without reauthenticating. |
| | In View Administrator, go to **View Configuration > Servers > View Connection Server (Edit) > Authentication > Smart card authentication > Smart card removal policy**. |
| **Set the policy on the desktop** | If you use the Group Policy Editor (gpedit.msc) you have four possible settings: no action, lock workstation, force log off, or disconnect. |
| | After you open gpedit.msc in the desktop operating system, go to **Windows settings > Security settings > Local policies > Security options > Interactive logon: smart card removal behavior**. |

## 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 PIN and token code, to authenticate.

### Setup Requirements

NOTE   This feature is available only if you are using View Client 1.6 or later.

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 View Client on their client devices. The dialog box for pasting this URL appears when end users connect to View Connection Server with Horizon View Client.

Horizon View Client for Android also supports file-based provisioning. When a file-based software token is issued to a user, the authentication server generates an XML-format token file, which is called an SDTID file for its `.sdtid` extension. Horizon View Client can import the SDTID file directly. With View Client 1.7 and later versions, users can also launch Horizon View Client by tapping the SDTID file in a file browser.

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 if end users will be copying and pasting the URL into Horizon View Client when Horizon View Client is connected to an RSA-enabled View Connection Server:

- `viewclient-securid://`

- `http://127.0.0.1/securid/`

With View Client 1.7 or later, end users can install the token by tapping the URL. Both prefixes `viewclient-securid://` and `http://127.0.0.1/securid/` are supported. Note that not all browsers support hyperlinks that begin with `http://127.0.0.1`. Also some file browsers, such as the File Manager app on the ASUS Transformer Pad, cannot link the SDTID file with Horizon View Client.

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 View Client dialog box that prompts them for RSA SecurID credentials when they connect to View Connection Server.

- 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 View 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 Advanced SSL Options

In Horizon View Client 2.3 and later, you can select the security protocols that Horizon View Client can use to connect to a View server. You can also specify the cipher control string.

IMPORTANT   Horizon View Client and View Connection Server support TLS v1.0 and TLS v1.1 by default. You should change the security protocols in Horizon View Client only if your View administrator instructs you to do so, or if your View server does not support the latest protocols.

**Prerequisites**

■   Verify that you have Horizon View Client 2.3 or later.

■   Verify the security protocol that your View server can use. If you configure a security protocol for Horizon View Client that is not enabled on your View server, the connection fails with an SSL error.

For information about configuring security protocols for View Connection Server, see the *VMware Horizon View Security* document.

**Procedure**

1   Use the Horizon View Client interface tools to display **General Settings**.

If you are using full-screen mode, tap the Horizon View Client Tools icon and tap the settings icon. If you are not using full-screen mode, the **Settings** button is in the upper-right corner of the screen.

2   Tap **Advanced SSL Options**.

3   Make sure that **Use Default Settings** is unchecked.

4   To enable or disable a security protocol, tap the check box next to the security protocol name.

TLS v1.0 and TLS v1.1 are enabled by default.

5   To change the cipher control string, tap inside the text box and replace the default string.

The default cipher control string (AES:!aNULL:@STRENGTH) includes cipher suites that use either 128-bit or 256-bit AES encryption, except for anonymous DH algorithms, and sorts them by strength.

6   (Optional) If you need to revert to the default settings, tap to select the **Use Default Settings** option.

7   Tap **OK** to save your changes.

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

## Supported Desktop Operating Systems

Administrators create virtual machines with a guest operating system and install View Agent in the guest operating system. End users can log in to these virtual machines from a client device.

For a list of the supported guest operating systems, see the "Supported Operating Systems for View Agent" topic in the Horizon View 4.6.x or 5.x installation documentation.

# Configure the View Client Download Links Displayed in View Portal

By default, when you open a browser and enter the URL of a View Connection Server instance, the portal page that appears contains links to the VMware Download site for downloading Horizon View Client. You can change the default .

The default Horizon View Client links on portal page ensure that you are directed to the latest compatible Horizon View Client installers. In some cases, however, you might want to have the links point to an internal Web server, or you might want to make specific client versions available on your own View Connection Server. You can reconfigure the page to point to a different URL.

When you make links for Mac OS X, Linux, and Windows client systems, the correct operating system specific link is shown on the portal page. For example, if you browse to the portal page from a Windows system, only the link or links for Windows installers appear. You can make separate links for 32-bit and 64-bit installers. You can also make links for iOS and Android systems, but these operating systems are not automatically detected, so that if you browse to the portal page from an iPad, for example, you see the links for both iOS and Android, if you created links for both.

---

IMPORTANT   If you customize the portal page links, as described in this topic, and later install VMware Horizon View HTML Access on the server, your customized portal page is replaced by an HTML Access page. For information about customizing that page, see *Using VMware Horizon View HTML Access*.

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### Prerequisites

- Download the installer files for the Horizon View Client types that you want to use in your environment. The URL to the client download page is https://www.vmware.com/go/viewclients.

- Determine which HTTP server will host the installer files. The files can reside on a View Connection Server instance or on another HTTP server.

### Procedure

1   On the HTTP server where the installer files will reside, create a folder for the installer files.

    For example, to place the files in a `downloads` folder on the View Connection Server host, in the default installation directory, use the following path:

    `C:\Program Files\VMware\VMware View\Server\broker\webapps\downloads`

    The links to the files would then use URLs with the format `https://server-name/downloads/client-installer-file-name`. For example, a server with the name `view.mycompany.com` might use the following URL for View Client for Windows: `https://view.mycompany.com/downloads/VMware-Horizon-View-Client.exe`. In this example, the folder named `downloads` is located in the `webapps` root folder.

2   Copy the installer files into the folder.

    If the folder resides on View Connection Server, you can replace any files in this folder without having to restart the VMware View Connection Server service.

3   On the View Connection Server machine, copy the `portal-links.properties` file and the `portal.properties` file located in *install-path*`\Server\Extras\PortalExamples`.

4   Create a `portal` folder the directory `C:\ProgramData\VMware\VDM`, and copy the `portal-links.properties` and `portal.properties` files into the `portal` folder.

5   Edit `C:\ProgramData\VMware\VDM\portal\portal-links.properties` file to point to the new location of the installer files.

You can edit the lines in this file and add to them if you need to create more links. You can also delete lines.

The following examples show properties for creating two links for View Client for Windows and two links for View Client for Linux:

```
link.win=https://server-name/downloads/VMware-Horizon-View-Client-x86_64-y.y.y-XXXX.exe#win
link.win.1=https://server-name/downloads/VMware-Horizon-View-Client-y.y.y-XXXX.exe#win
link.linux=https://server-name/downloads/VMware-Horizon-View-Client-x86_64-y.y.y-XXXX.rpm#linux
link.linux.1=https://server-name/downloads/VMware-Horizon-View-Client-y.y.y-XXXX.tar.gz#linux
```

In this example, `y.y.y-XXXX` indicates the version and build number. The `win` text at the end of the line indicates that this link should appear in the browser if the client has a Windows operating system. Use `win` for Windows, `linux` for Linux, and `mac` for Mac OS X. For other operating systems, use `unknown`.

6   Edit `C:\ProgramData\VMware\VDM\portal\portal.properties` file to specify the text to display for the links.

These lines appear in the section of the file called `# keys based on key names in portal-links.properties`.

The following example shows the text that corresponds to the links specified for `link.win` and `link.win.1`:

```
text.win=View Client for Windows 32 bit Client users
text.win.1=View Client for Windows 64 bit Client users
```

7   Restart the VMware View Connection Server service.

When end users enter the URL for View Connection Server, they see links with the text you specified. The links point to the locations you specified.

# Install or Upgrade Horizon View Client for Android

Horizon View Client for Android is an Android app, and you install it just as you do other Android apps.

**Prerequisites**

■   If you have not already set up the device, do so. See the manufacturer's user's guide for your device.

■   Verify that you have the URL for a download page that contains the VMware Horizon View 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 View Connection Server instance.

When you browse to a View Connection Server URL, by default the links on that portal page point to the VMware Downloads page. You can configure the links to point to a different location. For more information, see "Configure the View Client Download Links Displayed in View Portal," on page 13. Depending on how the page is configured, you might also see a link for VMware Horizon View HTML Access. HTML Access allows you to connect to a virtual desktop using the browser, without installing any client software. Because VMware Horizon View Client offers more features and better performance than the HTML Access client, VMware generally recommends that you install the client software.

■   Familiarize yourself with your device's procedure for installing apps.

Devices from different manufacturers use different methods for installing Android apps. See the manufacturer's user's guide for your device. Depending on the device, you might have to perform the following tasks before you can install an app:

- Install a particular driver.

- Install a file browser.

**Procedure**

1 Browse to the URL for downloading the VMware View app, or search for the VMware View app in the Google Play Store or Amazon Appstore for Android.

For some devices, you download the file to the device. For others, you download the file to a PC or a USB device.

2 If necessary, copy the app (.apk file) to your device.

3 Install the app according to your device's customary procedure for installing apps.

For example, on some devices, you must tap the file to install it.

4 To determine that installation succeeded, verify that the **VMware View** app icon appears on one of the desktops of your Home screen.

# Horizon View Client Data Collected by VMware

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

NOTE   This feature is available only if your Horizon View deployment uses View Connection Server 5.1 or later. Client information is sent for View Client 1.7 and later clients.

VMware collects data on the clients 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 in order to improve VMware's response to customer requirements. No data that identifies your organization is collected. Horizon View Client information is sent first to View Connection Server and then on to VMware, along with data from Horizon View servers, desktop pools, and remote desktops.

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

To participate in the VMware customer experience improvement program, the administrator who installs View Connection Server can opt in while running the View Connection Server installation wizard, or an administrator can set an option in View Administrator after the installation.

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

| Description | Is This Field Made Anonymous? | Example Value |
| --- | --- | --- |
| Company that produced the Horizon View Client application | No | VMware |
| Product name | No | VMware Horizon View Client |
| Client product version | No | The format is $x.x.x\text{-}yyyyyy$, where $x.x.x$ is the client version number and $yyyyyy$ is the build number. |

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

| Description | Is This Field Made Anonymous? | Example Value |
|---|---|---|
| Client binary architecture | No | Examples include the following:<br>■ i386<br>■ x86_64<br>■ arm |
| Client build name | No | Examples include the following:<br>■ VMware-Horizon-View-Client-Win32-Windows<br>■ VMware-Horizon-View-Client-Linux<br>■ VMware-Horizon-View-Client-iOS<br>■ VMware-Horizon-View-Client-Mac<br>■ VMware-Horizon-View-Client-Android<br>■ VMware-Horizon-View-Client-WinStore |
| Host operating system | No | Examples include the following:<br>■ Windows 8.1<br>■ Windows 7, 64-bit Service Pack 1 (Build 7601 )<br>■ iPhone OS 5.1.1 (9B206)<br>■ Ubuntu 10.04.4 LTS<br>■ Mac OS X 10.7.5 (11G63) |
| Host operating system kernel | No | Examples include the following:<br>■ Windows 6.1.7601 SP1<br>■ Darwin Kernel Version 11.0.0: Sun Apr 8 21:52:26 PDT 2012; root:xnu-1878.11.10~1/RELEASE_ARM_S5L8945X<br>■ Darwin 11.4.2<br>■ Linux 2.6.32-44-generic #98-Ubuntu SMP Mon Sep 24 17:27:10 UTC 2012<br>■ unknown (for Windows Store) |
| Host operating system architecture | No | Examples include the following:<br>■ x86_64<br>■ i386<br>■ armv71<br>■ ARM |
| Host system model | No | Examples include the following:<br>■ Dell Inc. OptiPlex 960<br>■ iPad3,3<br>■ MacBookPro8,2<br>■ Dell Inc. Precision WorkStation T3400 (A04 03/21/2008) |
| Host system CPU | No | Examples include the following:<br>■ Intel(R) Core(TM)2 Duo CPU E8400 @ 3.00GH<br>■ Intel(R) Core(TM)2 Quad CPU Q6600 @ 2.40GH<br>■ 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:<br>■ 4096<br>■ unknown (for Windows Store) |

# Using URIs to Configure Horizon View Client

# 2

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

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

- View Connection Server address

- Port number for View Connection Server

- Active Directory user name

- RADIUS or RSA SecurID user name, if different from Active Directory user name

- Domain name

- Desktop display name

- Desktop actions, including reset, log off, and start session

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

NOTE   You can use URIs to launch Horizon View Client only if the client software is already installed on end users' client computers.

This chapter includes the following topics:

- "Syntax for Creating vmware-view URIs," on page 17

- "Examples of vmware-view URIs," on page 19

## Syntax for Creating vmware-view URIs

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

### VMware Horizon View URI Specification

Use the following syntax to create URIs for launching Horizon View 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/.

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| | |
|---|---|
| ***authority-part*** | Specifies the server address and, optionally, a user name, a non-default port number, or both. Server names must conform to DNS syntax. |
| | To specify a user name, use the following syntax: |
| | `user1@server-address` |
| | Note that 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. Use the desktop display name. 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 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 View Client. If you are creating URIs for multiple types of clients, such as desktop clients and mobile clients, see the *Using VMware Horizon View 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 hosted on the specified server. You are not required to specify a desktop when using this action.<br>If you use the browse action and specify a desktop, the desktop is highlighted in the list of available desktops. |
| start-session | Launches the specified desktop. If no action query is provided and the desktop name is provided, start-session is the default action. |
| reset | Shuts down and restarts the specified desktop. Unsaved data is lost. Resetting a remote desktop is the equivalent of pressing the Reset button on a physical PC. |

**Table 2-1.** Values That Can Be Used with the action Query (Continued)

| Value | Description |
| --- | --- |
| logoff | Logs the user out of the guest operating system in the remote desktop. |
| rollback | Discards changes made to the specified desktop while it was checked out for use in local mode on a Windows PC or laptop. |

**domainName**    The domain associated with the user who is connecting to the remote desktop.

**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, launch 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 View Client is launched 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 View Connection Server. (The default port is 443.) Because a desktop identifier is provided, the desktop is launched even though the start-session action is not included in the URI.

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

Horizon View Client is launched 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://fred@view.mycompany.com/Finance%20Desktop?domainName=mycompany

Horizon View Client is launched 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.

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

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

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

Horizon View Client is launched 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 View Client displays a dialog box that prompts the user to confirm the reset operation for Primary Desktop. After the reset occurs, depending on the type of client, the user might see a message indicating whether the reset was successful.

NOTE  This action is available only if the View administrator has enabled this feature for end users.

7  `vmware-view://`

If the client is already running, the Horizon View Client app comes to the foreground. If the client is not already running, Horizon View Client is launched and the user sees the Recent Connections list, the Servers list, or the Welcome page, depending on whether the user has ever used Horizon View Client on the device and whether the client has previously connected to a server or a remote desktop.

## 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 Server Connections and Desktops

# 3

Use Horizon View Client to connect to View Connection Server or a security server, edit the list of servers you connect to, and log in to or off of a remote desktop. For troubleshooting purposes, you can also reset a remote desktop assigned to you.

Depending on how the administrator configures policies for remote desktops, end users might be able to perform many operations on their desktops.

This chapter includes the following topics:

## Log In to a Remote Desktop for the First Time

Before you have end users access their remote desktops, test that you can log in to a remote desktop from a client device. To log in, you must specify a URL for View Connection Server and supply credentials for your user account.

### Prerequisites

- Obtain the credentials you need to log in, such as a user name and password, RSA SecurID user name and passcode, RADIUS authentication user name and passcode, or smart card personal identification number (PIN).

- Obtain the domain name for logging in.

- Perform the administrative tasks described in "Preparing View Connection Server for Horizon View Client," on page 8.

- If you are outside the corporate network and are not using a security server to access the remote desktop, verify that your client device is set up to use a VPN connection and turn that connection on.

  IMPORTANT   VMware recommends using a security server rather than a VPN.

If your company has an internal wireless network to provide routable access to remote desktops that your device can use, you do not have to set up a View security server or VPN connection.

■ Verify that you have the fully qualified domain name (FQDN) of the server that provides access to the remote desktop. You also need the port number if the port is not 443.

■ 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," on page 11.

■ Configure the certificate checking mode for the SSL certificate presented by View Connection Server. See "Certificate Checking Modes for Horizon View Client," on page 23.

**Procedure**

1   Tap the **VMware View** app icon on the Home screen.

2   Tap the **Add Server** button, type the name of View Connection Server or a security server, and tap **Connect**.

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

You might see a message that you must confirm before the login dialog box appears.

3   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 them if necessary.

4   If you are prompted for RSA SecurID credentials or RADIUS authentication credentials, either enter 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** | Click **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. |

5   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 entered previously. 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.

6   If prompted, supply Active Directory credentials.

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

b   Select a domain.

c   Select the **Save Password** check box if your administrator has enabled this feature and if the server certificate can be fully verified.

If this is the first time you are saving a password, you are prompted to activate the device administrator, which is required in order to save a password on Android devices.

d   Tap **Done**.

7    In the list of remote desktops that appears, tap a desktop to connect to it.

In Horizon View Client 2.3 and later, you can use the search box at the top of the list to search for a particular desktop.

If you are using smart card authentication, you are not prompted to supply your PIN again, but the login process takes longer than if you use Active Directory authentication.

After you log in to a desktop for the first time, a shortcut for the desktop is saved to the Horizon View Client Home screen. The next time you want to connect to the remote desktop, you can tap the shortcut instead of entering the server's host name.

## Certificate Checking Modes for Horizon View Client

Administrators and sometimes end users can configure whether client connections are rejected if any or some server certificate checks fail.

Certificate checking occurs for SSL connections between View Connection Server and Horizon View 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 View Client to a server that has a certificate that does not match the host name entered in Horizon View 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 instructions about distributing a self-signed root certificate that users can install on their Android devices, as well as instructions for installing a certificate on an Android device, see documentation on the Google Web site, such as the *Android 3.0 User's Guide*.

You can set the security mode. When the **Add Server** button or View Connection Servers list appears on the Recent Connections screen, tap the **Settings** icon in the upper-right corner of the screen and tap **Security 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 View Connection Server name you entered in Horizon View Client.

■    **Do not verify server identity certificates**. This setting means that View does not perform any certificate checking.

If the certificate checking mode is set to **Warn**, you can still connect to a View Connection Server instance 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.

## Create a Desktop Shortcut for the Android Home Screen

You can use a desktop shortcut on the Recent Connections screen to create a desktop shortcut for your Android Home screen.

NOTE   This feature is not available on Kindle Fire devices.

### Prerequisites

Log in to the remote desktop at least once from the device so that a shortcut for the desktop appears on the Recent Connections screen.

If you have not logged in at least once, familiarize yourself with the procedure "Log In to a Remote Desktop for the First Time," on page 21.

### Procedure

- In Horizon View Client 2.3 and later, perform these steps.

    a   On the Recent Connections screen, touch and hold the shortcut for the remote desktop.

    **Add To Home** appears at the bottom of the screen.

    b   Drag the shortcut to **Add To Home**.

    c   Type a name for the desktop shortcut and tap **OK**.

    If the name is longer than 12 characters, the extra characters do not appear on the Android Home screen.

- In Horizon View Client 2.2 and earlier, perform these steps.

    a   On the Horizon View Client Home screen, in the Recent Desktops area, touch and hold the shortcut for the remote desktop.

    b   Select **Add Home Screen Shortcut** from the context menu.

    c   Type the shortcut name and click **OK**.

    If the name is longer than 12 characters, the extra characters do not appear on the Android Home screen.

## Manage the View Connection Servers List

When you connect to a View server, Horizon View Client saves the server description or IP address and user name to the View Connection Servers list on the Recent Connections screen. You can edit and remove servers from this list.

Horizon View Client saves the server name or IP address to the View Connection Servers list, even if you mistype the server name or type the wrong IP address. You can delete or change this information by editing the View Connection Servers list. If you do not type a server description, the server name or IP address becomes the server description.

### Procedure

1   On the Recent Connections screen, tap the Cloud icon in the upper-right corner of the screen.

2   In the View Connection Servers list, touch and hold a server name until a context menu appears.

3   Use the menu to delete the server or edit the server name, server description, or user name.

## Disconnecting from a Desktop

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

When you are logged in to the remote desktop and are not using full screen mode, you can disconnect by tapping the **Menu** button in the upper-right corner of the screen and selecting **Disconnect**. If you are using full screen mode, you can disconnect by tapping the Horizon View Client Tools icon and tapping the Disconnect icon. After you disconnect from a desktop, the Recent Connections screen appears. For pictures of the icons, see "Horizon View Client Tools," on page 33.

NOTE   A View administrator can configure your desktop to automatically log off when disconnected. In that case, any open programs in your desktop are stopped.

## Log Off from a Desktop

You can log off from a remote desktop operating system, even if you do not have a desktop open in Horizon View 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 and the Recent Connections screen appears.

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

**Prerequisites**

- Obtain the credentials that you need to log in, such as 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 "Log In to a Remote Desktop for the First Time," on page 21.

**Procedure**

- In Horizon View Client 2.3 and later, perform these steps.

  a    On the Recent Connections screen, tap the the Cloud icon in the upper-right corner and tap the arrow (>) next to the server name.

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

  c    In the Desktops list, touch and hold the desktop name until the context menu appears.

  d    Tap the **Log Off** button in the context menu.

■ In Horizon View Client 2.2 and earlier, perform these steps.

a   On the Horizon View Client Home screen, display the remote desktop's context menu.

The context menu is available only if your administrator has allowed it. The items in the menu are available only if the status of the desktop is such that the action can be taken.

| Option | Action |
|---|---|
| **Use a Recent Desktops shortcut** | Tap and hold the shortcut for the recently used desktop. |
| **Use the servers list** | 1   Tap the Cloud icon in the upper-right corner of the screen and tap the server name. |
| | 2   If prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both, and connect to the server. |
| | 3   Tap and hold the desktop name. |

b   Select **Log Off** from the context menu.

c   If you accessed the desktop from a desktop shortcut, if prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both.

**What to do next**

If you have Horizon View Client 2.3 or later, you can tap the system Back button and tap **Log Out** to return to the Recent Connections screen.

# Roll Back a Desktop

Rolling back discards changes made to a remote desktop that you checked out for use in local mode on a Windows PC or laptop.

⚠ CAUTION   If changes were made to the local mode desktop and those changes were not replicated back to the View server before rolling back, the changes are lost.

**Prerequisites**

■ Obtain the credentials you need to log in, such as a user name and password, RSA SecurID user name and passcode, RADIUS authentication user name and passcode, or smart card personal identification number (PIN).

■ Back up the desktop to the server to preserve data or files.

You can use View Administrator to replicate data to the server, or, if the policy is set to allow it, you can use Horizon View Client with Local Mode on the Windows client where the desktop is currently checked out.

■ If you have not logged in at least once, familiarize yourself with the procedure "Log In to a Remote Desktop for the First Time," on page 21.

**Procedure**

■ In Horizon View Client 2.3 and later, perform these steps.

a   On the Recent Connections screen, tap the Cloud icon in the upper-right corner and tap the arrow (>) next to the server name.

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

c   In the Desktops list, touch and hold the desktop name until the context menu appears.

d   Tap the **Roll Back** button in the context menu.

- In Horizon View Client 2.2 and earlier, perform these steps.

  a    On the Horizon View Client Home screen, display the remote desktop's context menu.

  The context menu is available only if your administrator has allowed it. The items in the menu are available only if the status of the desktop is such that an action can be taken.

| Option | Action |
| --- | --- |
| **Use a Recent Desktops shortcut** | Tap and hold the shortcut for the recently used desktop. |
| **Use the severs list** | 1  Tap the Cloud icon in the upper-right corner of the screen and tap the server name. |
| | 2  If prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both. |
| | 3  Tap the arrow (>) next to the desktop name. |

  b    Select **Roll Back** from the context menu.

  c    If you accessed the desktop from a desktop shortcut, if prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both.

After the remote desktop is rolled back, you can log in to it from the device.

## Manage Desktop Shortcuts

After you log in to a remote desktop, Horizon View Client saves a shortcut for the recently used desktop on the Recent Connections screen. You can rearrange and remove these desktop shortcuts.

In Horizon View Client 2.3 and later, the Recent Connections screen can consist of multiple pages and you can swipe across pages to see more desktop shortcuts. Horizon View Client creates new pages, as needed, to accommodate all of your desktop shortcuts.

**Procedure**

- In Horizon View Client 2.3 and later, perform these steps to remove a desktop shortcut.

  a    Touch and hold the shortcut until **Remove Shortcut** appears at the bottom of the screen.

  b    Drag the desktop shortcut to **Remove Shortcut**.

- In Horizon View Client 2.2 and earlier, perform these steps to remove a desktop shortcut.

  a    On the Horizon View Client Home screen, in the Recent Desktops area, tap and hold the shortcut for the remote desktop.

  b    Select **Remove Shortcut** from the context menu.

- In Horizon View Client 2.3 and later, to move a desktop shortcut, touch and hold the shortcut and drag it to the new location.

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

# Using a Microsoft Windows Desktop on a Mobile Device

**4**

On mobile devices, Horizon View Client includes additional features to aid in navigation.

This chapter includes the following topics:

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## Feature Support Matrix

Some features are supported on one type of Horizon View Client but not on another. For example, local mode is supported only on Horizon View Client for Windows.

**Table 4-1.** Features Supported on Windows Desktops for Android Horizon View Clients

| Feature | Windows 8.x Desktop | Windows 7 Desktop | Windows Vista Desktop | Windows XP Desktop | Windows Server 2008 R2 Desktop |
|---|---|---|---|---|---|
| RSA SecurID or RADIUS | X | X | X | X | X |
| Single sign-on | X | X | X | X | X |
| RDP display protocol | | | | | |
| PCoIP display protocol | X | X | X | X | X |
| USB access | | | | | |
| Real-Time Audio-Video (RTAV) | | | | | |
| Wyse MMR | | | | | |
| Windows 7 MMR | | | | | |
| Virtual printing | | | | | |

**Table 4-1.** Features Supported on Windows Desktops for Android Horizon View Clients (Continued)

| Feature | Windows 8.x Desktop | Windows 7 Desktop | Windows Vista Desktop | Windows XP Desktop | Windows Server 2008 R2 Desktop |
|---|---|---|---|---|---|
| Location-based printing | X | X | X | X | |
| Smart cards | X | X | X | X | X |
| Multiple monitors | | | | | |
| Local mode | | | | | |

Features that are supported on Windows desktops for Horizon View Client for Android have the following restrictions.

■ Windows 8.x desktops are supported only if you have Horizon View 5.2 or later servers and desktops.

■ Windows Server 2008 R2 desktops are supported only if you have Horizon View 5.3 or later servers and desktops.

For more information about these features and their limitations, see the *VMware Horizon View Planning* document.

# Input Devices, Keyboards, and Keyboard Settings

Horizon View Client for Android supports Bluetooth and docked keyboard devices and keyboards for many languages. You can also set preferences for settings such as auto-capitalization and text correction.

## External Keyboards and Input Devices

For information about the devices that your specific tablet supports, see the documentation from the tablet manufacturer.

External keyboards are sometimes automatically detected by Horizon View Client. For some external keyboards, you must either tap the tablet screen with three fingers at the same time, or you must tap the **Keyboard** button. If you are not using full screen mode, this button is on the Horizon View Client toolbar. If you are using full screen mode, tap the Horizon View Client Tools icon and tap the keyboard icon. For pictures of the icons, see "Horizon View Client Tools," on page 33.

NOTE   On Kindle Fire tablets, tapping with three fingers does not display the onscreen keyboard. You can instead use the **Keyboard** icon to display the onscreen keyboard.

After the external keyboard is detected, you might not be able to use the Horizon View Client tools or three-finger tap to display the onscreen keyboard. You might first have to deactivate the external keyboard by pressing its Eject key.

## International Keyboards

With the correct input methods installed, you can input characters for the following languages: English, Japanese, French, German, Simplified Chinese, Traditional Chinese, and Korean, among others.

To choose a language for the keyboard or voice, tap the Keyboard Settings key on the onscreen keyboard. The Keyboard Settings key is the left-most key on the bottom row of the onscreen keyboard. When you finish selecting settings, tap the Android Back button to dismiss the dialog box.

# Enable the Japanese 106/109 Keyboard Layout

If you are connected to a Windows XP desktop, you can configure Horizon View Client 2.3 and later to use the Japanese 106/109 keyboard layout.

**Prerequisites**

■ Verify that you have Horizon View Client 2.3 or later.

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

**Procedure**

1 Use the Horizon View Client user interface tools to display the **General Settings** list.

If you are using full-screen mode, tap the Horizon View Client Tools icon and tap the settings icon. If you are not using full-screen mode, the **Settings** button is in the upper-right corner of the screen.

2 Tap **Use Japanese 106/109 Keyboard** to select the check box.

This setting is disabled if the keyboard layout on the Windows XP desktop is not set to Japanese or if the desktop is not running Windows XP.

# Starting, Minimizing, and Closing Applications with Unity Touch

Tablet and smart phone users 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.

If the Unity Touch feature is enabled, the sidebar appears on the left side of the screen 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 screen. 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 4-2.** Actions You Can Perform from the Sidebar

| Action | Procedure |
|---|---|
| Show the sidebar | Touch and hold the tab on the left side of the screen and swipe to the right. When the sidebar is open, you cannot perform actions on the desktop screen or the Horizon View 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 screen or the Horizon View Client Tools radial menu. |
| 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.<br><br>**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.<br>■ To use voice dictation, tap the microphone on the keyboard.<br>■ To launch an application or file, tap the name of the application or file in the search results.<br>■ 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 | Touch and hold the application name under **Running Applications** until the context menu appears. Tap **Minimize**.<br><br>NOTE You can minimize applications in Horizon View Client 2.1 and later. To use the procedure described here, you must have Horizon View Client 2.3 or later. |
| Maximize a running application or window | Touch and hold the application name under **Running Applications** until the context menu appears. Tap **Maximize**.<br><br>NOTE To use this feature, you must have Horizon View Client 2.3 or later. |
| Close a running application or window | Touch and hold the application name under **Running Applications** until the context menu appears. Tap **Close**.<br><br>NOTE You can close applications in Horizon View Client 2.1 and later. To use the procedure described here, you must have Horizon View Client 2.3 or later. |
| Restore a running application or window to its previous size and position | Touch and hold the application name under **Running Applications** until the context menu appears. Tap **Restore**.<br><br>NOTE To use this feature, you must have Horizon View Client 2.3 or later. |

**Table 4-2.** Actions You Can Perform from the Sidebar (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 Files** list. |
| | If the **Manage** bar is not visible, tap the chevron (>) next to **Favorite Applications** or **Favorite Files**. |
| | NOTE To add a favorite from a list of search results, you must have Horizon View Client 2.1 or later. |
| | 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. |
| | NOTE To add favorites from search results, you must have Horizon View Client 2.1 or later. |
| 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 Files** list. |
| | If the **Manage** bar is not visible, tap the chevron (>) next to **Favorite Applications** or **Favorite Files**. |
| | 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 Files** list. |
| | If the **Manage** bar is not visible, tap the chevron (>) next to **Favorite Applications** or **Favorite Files**. |
| | 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. |
| | NOTE To reorder applications and files in the favorites list, you must have Horizon View Client 2.3 or later. |

NOTE The Unity Touch feature is available if you have Horizon View 5.2 and later servers and desktops. The Remote Experience Agent must be installed on the desktops. If you have the Remote Experience Agent installed but want to turn off this feature, you can set a registry value on the remote desktop. For instructions, see the *VMware Horizon View Feature Pack Installation and Administration* document.

If users have a floating desktop, users' favorite applications and files can be saved only if Windows roaming user profiles are configured for the desktop. Administrators can create a default **Favorite Applications** list that end users see the first time the sidebar appears. For more information, see the *VMware Horizon View Feature Pack Installation and Administration* document.

# Horizon View Client Tools

These tools include buttons for displaying the onscreen keyboard, virtual touchpad, configuration settings, and a virtual keypad for arrow keys and function keys.

For Horizon View Client 2.0 and later, when Horizon View Client is in full screen mode, a radial menu appears at the right edge of the screen when you log in to a remote desktop. You can drag the menu to relocate it. Tap to expand the menu and display icons for each tool, which you can tap to select. Tap outside the icons to collapse the icons back into the sphere.

The radial menu includes several tools.

**Table 4-3.** Radial Menu Icons

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

If the desktop is not in full screen mode, a toolbar appears on the right side of the menu bar at the top of the screen.

For View Client for Android 1.3 through 1.7, the radial menu is not available. Instead a toolbar appears on the right side of the action bar at the top of the screen.

For View Client for Android 1.2, you can display the toolbar by tapping the grid icon in the status bar at the bottom of the screen.

## Onscreen Keyboard

The onscreen keyboard in a remote desktop 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** button.

If you are not using full screen mode, this button is on the Horizon View Client toolbar. If you are using full screen mode, tap the Horizon View Client Tools icon and tap the keyboard icon. For pictures of the icons, see the table at the beginning of this topic.

IMPORTANT   If you use View Client 1.5 or later with an Horizon View 5.1 desktop, 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.

To turn this feature on or off, use the Horizon View Client tools to display the **General settings** list, and set the **Keyboard Popup** and **Keyboard Dismiss** options. If you are not using full screen mode, the Settings button is in the upper-right corner of the screen. If you are using full screen mode, tap the Horizon View Client Tools icon and tap the settings icon. For pictures of the icons used in full screen mode, see the table at the beginning of this topic.

NOTE   On Kindle Fire tablets, tapping with three fingers does not display the onscreen keyboard. You can instead use the **Keyboard** icon in the Horizon View Client toolbar to display the onscreen keyboard.

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.

If you are using Horizon View Client 1.4 or earlier versions, use this feature for entering Korean characters or characters from other languages that require multistage IME support. With Horizon View Client 1.5 and later versions, you are not required to use this feature for entering Korean characters.

## Navigation Keys

Tap the **Ctrl/Page** icon in the Horizon View Client interface 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+Del, 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 Del key.

## 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.

With View Client 1.7 and later versions, 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. To change the default, so that the virtual touchpad resembles the touchpad on a laptop, including right- and left-click buttons, use the Horizon View Client interface tools to display the general settings or options and turn the **Full screen touchpad** control off.

To display the **General settings** list and choose the type of virtual touchpad, if you are not using full screen mode, the **Settings** button is in the upper-right corner of the screen. If you are using full screen mode, tap the Horizon View Client Tools icon and tap the settings icon. For pictures of the icons used in full screen mode, see the table at the beginning of this topic.

- Moving your finger around the touchpad creates a mouse pointer that moves around the remote desktop.

- 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.

- 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.

To adjust how quickly the pointer moves when you use the touchpad, if you are not using full screen mode, use the Horizon View Client toolbar to display the **General settings** list. If you are using full screen mode, tap the Horizon View Client Tools icon and tap the settings icon. Drag the slider in the **Touchpad Sensitivity** option. For pictures of the icons, see the table at the beginning of this topic.

# 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.

## Right-Clicking

The following options are available for right-clicking:

■ Use the Horizon View Client interface tools to display the regular virtual touchpad and use the touchpad's right-click button.

■ Tap with two fingers at nearly the same time. The right-click occurs where the first finger tapped.

■ With View Client for Android 1.5 and later releases, on some devices, you can use an external mouse, such as a USB or Bluetooth mouse, to right-click.

## Scrolling and Scrollbars

Several options are available for vertical scrolling.

■ On the 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 is avalable with Horizon View Client 2.1. 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 View Client interface 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.

## 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.

If you use the regular-size virtual touchpad, touch and hold the left-click button while dragging the corner or side of a window.

## Sound, Music, and Video

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

# Multitasking

You can switch between a remote desktop and other apps without losing the desktop connection.

In a WiFi network, by default Horizon View Client runs in the background indefinitely. In a 3G network, depending on the version of Horizon View Client, the client might suspend data transfer in order to conserve data costs:

■ View Client 1.6 and later suspends data transmission when you switch to another app. Data transmission resumes when you switch back to Horizon View Client.

■ View Client 1.5 and earlier, by default, immediately drops the connection to the desktop. You can use the **Settings** button in the View Client toolbar to tun the **Disconnect when switching apps** setting off and let the app run indefinitely. (This setting is no longer necessary with View Client 1.6, and has been removed.)

The Horizon View Client icon appears in the status bar when the app is running in the background and there is a connection to a remote desktop. To switch back to Horizon View Client, tap the icon in the status bar.

You can copy and paste plain text between an Android device application and a remote desktop or between two remote desktops. Formatting information is not copied.

■ Text that you copy to your Android device's Clipboard is automatically copied to your remote desktop's Clipboard when you log in to the remote desktop.

■ If you are logged in to a remote desktop, text that you copy to the remote desktop's Clipboard is copied to your Android device's Clipboard when you press the Home button or switch to the background.

# Screen Resolutions and Using External Displays

When you connect the device to an external display or projector, Horizon View Client supports certain maximum display resolutions. Also, you can change the screen resolution used on your 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 your device, and the desktop icons and task bar icons are a certain size. But you can change the default to a higher resolution. If you do so, the desktop still fits inside the 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

You can use the **Resolution** setting in the Settings dialog box to set the display resolution to a larger value. If you are not using full screen mode, use the Horizon View Client toolbar to display the Settings dialog box. If you are using full screen mode, tap the Horizon View Client Tools icon and tap the settings icon. Drag the slider in the **Touchpad Sensitivity** option. For a picture of the settings icon in the Horizon View Client Tools radial menu, see

## Screen Resolutions for Using Projectors

Use the **Resolution** setting to set a larger resolution for projectors.

If you have View Client 2.1 or later, you can use the **Presentation mode** setting in the **General settings** list to display the keyboard and an expanded onscreen touchpad on the device while displaying the remote desktop on the projector or attached monitor. 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. Currently, the presentation mode feature is supported only if you have Android 4.2 on the following devices: Google Nexus 4, Google Nexus 10, and Samsung Galaxy S 4.

If you have View Client 2.2 or later, 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 turned on, you can click **Done** to switch to mirror mode.

Use the **Stay awake** setting to keep the display from turning off after a period of inactivity while in presentation mode. This feature is available if you have View Client 2.1.

# PCoIP Client-Side Image Cache

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

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**IMPORTANT**   This feature is available only when the version of View Agent and View Connection Server is View 5.0 or later.

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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 250MB.

With Horizon View Client 2.0 and later versions, if you use Horizon View 5.2 servers and desktops, a 90MB client-side cache gives the equivalent performance of using a 250MB cache with earlier versions.

# Internationalization and International Keyboards

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

To choose a language for the keyboard or voice, tap the Keyboard Settings key on the onscreen keyboard. The Keyboard Settings key is the left-most key on the bottom row of the onscreen keyboard.

# Troubleshooting Horizon View Client 5

You can solve most Horizon View Client problems by resetting the desktop or reinstsalling the app. You can also enable log collection and send log files to VMware for troubleshooting.

This chapter includes the following topics:

## Collecting and Sending Logging Information

If you have Horizon View Client 2.2 or later, you can configure Horizon View Client to collect log information and send log files to VMware for troubleshooting.

If Horizon View Client quits unexpectedly, Horizon View Client immediately prompts you to send log files to VMware. If log collection is enabled, the crash log file contains detailed debug information. If log collection is disabled, only certain exception information is included in the crash log file.

If you choose to send log files to VMware, Horizon View Client uses the available email client on your device to create a message. If your email client can send multiple attachments, Horizon View Client attaches the last five log files to the message. If your email client cannot send multiple attachments, Horizon View Client compresses the last five log files and attaches a ZIP file to the message. The ZIP file name contains a time stamp, for example, `Horizon_View_Client_logs_timestamp.zip`.

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

### Enable View Client Log Collection

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

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

**Prerequisites**

- Verify that you have Horizon View Client 2.2 or later.

- Verify that an email client is available on your device. Horizon View Client requires an email client to send log files.

**Procedure**

1   Use the Horizon View Client interface tools to display the **General settings** list.

    If you are using full-screen mode, tap the Horizon View Client Tools icon and tap the settings icon. If you are not using full-screen mode, the **Settings** button is in the upper-right corner of the screen.

2   Tap **Enable log** to select the check box and tap **OK** to confirm your choice.

After log collection is enabled, Horizon View Client generates a log file it quits unexpectedly or when it is exited and relaunched.

## Manually Retrieve and Send Horizon View Client Log Files

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

This procedure shows you how retrieve and send log files through Horizon View Client. You can also retrieve log files by using tools that can access app storage space. Horizon View Client saves log files in the `Android/data/com.vmware.view.client.android/files` directory.

**Prerequisites**

■   Verify that an email client is available on your device. Horizon View Client requires an email client to send log files.

■   Enable View Client log collection. See "Enable View Client Log Collection," on page 39.

**Procedure**

1   Use the Horizon View Client interface tools to display the **General settings** list.

    If you are using full screen mode, tap the Horizon View Client Tools icon and tap the settings icon. If you are not using full screen mode, the **Settings** button is in the upper-right corner of the screen.

2   Tap **General settings**.

3   Tap **Send the log**.

    Horizon View Client uses the email client on your device to create a message. The body of the message contains information about your device. If your email client can send multiple attachments, Horizon View Client attaches the last five log files to the message. If your email client cannot send multiple attachments, Horizon View Client compresses the last five log files and attaches a ZIP file to the message.

## Disable View Client Log Collection

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

**Prerequisites**

Verify that you have Horizon View Client 2.2 or later.

**Procedure**

1   Use the Horizon View Client interface tools to display the General settings list.

    If you are using full screen mode, tap the **View Client Tools** icon and tap the settings icon. If you are not using full screen mode, the **Settings** button is in the upper-right corner of the screen.

2   Tap **Enable log**.

    View Client clears the **Enable log** check box.

# Reset a Desktop

Resetting shuts down and restarts the desktop. Unsaved data is lost.

You might need to reset a desktop if the desktop operating system stops responding.

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 will be closed without being saved first.

You can reset the desktop only if the View administrator has enabled this feature.

**Prerequisites**

■ Obtain the credentials you need to log in, such as a user name and password, RSA SecurID user name and passcode, RADIUS authentication user name and passcode, or smart card personal identification number (PIN).

■ If you have not logged in at least once, familiarize yourself with the procedure

**Procedure**

■ In Horizon View Client 2.3 and later, perform these steps.

    a    On the Recent Connections screen, tap the Cloud icon in the upper-right corner and tap the arrow (>) next to the server name.

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

    c    In the Desktops list, touch and hold the desktop name until the context menu appears.

    d    Tap the **Reset** button in the context menu.

         The **Reset** command is available only if the View administrator has allowed it and only if the status of the desktop is such that the action can be taken.

■ In Horizon View Client 2.2 and earlier, perform these steps.

    a    On the Horizon View Client Home screen, display the remote desktop's context menu.

         The context menu is available only if your administrator has allowed it. The items in the menu are available only if the status of the desktop is such that the action can be taken.

| Option | Action |
|---|---|
| **Use a Recent Desktops shortcut** | Tap and hold the shortcut for the recently used desktop. |
| **Use the servers list** | 1   Tap the Cloud icon in the upper-right corner and tap the arrow (>) next to the server name.<br>2   If prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both.<br>3   Tap the arrow (>) next to the desktop name. |

    b    Tap **Reset**.

         The **Reset** command is available only if a View administrator has allowed it and only if the status of the desktop is such that the action can be taken.

    c    If you accessed the desktop from a desktop shortcut, if prompted, supply your RSA user name and passcode, your Active Directory user name and password, or both.

# Uninstall the VMware View App

You can sometimes resolve problems with Horizon View Client by uninstalling and reinstalling the VMware View app.

You uninstall Horizon View Client just as you would any Android app.

**Procedure**

1   On your device, go to **Apps** and browse to the **VMware View** app.

2   Tap and hold the **VMware View** icon until the **Uninstall** icon appears in the upper-right corner of your device.

3   Drag the **VMware View** icon to the **Uninstall** trash can icon.

   Alternatively, you can go to **Apps > Settings** and select **Applications > Manage Applications** to uninstall Horizon View Client.

**What to do next**

Reinstall Horizon View Client.

See

# Horizon View Client Stops Responding or the Remote Desktop Freezes

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

**Problem**

The VMware View app does not work or repeatedly exits unexpectedly or the remote desktop freezes.

**Cause**

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

**Solution**

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

   This option is available only if the View administrator has enabled this feature.

■   Uninstall and reinstall the app on the device.

■   If resetting the remote desktop and reinstalling the VMware View app do not help, you can reset the Android device, as described in the user guide for your Android device.

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

**What to do next**

# Problem Establishing a Connection When Using a Proxy

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

### Problem

If the Horizon View environment is set up to use a secure connection from the remote desktop to View 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 View 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.

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