Red Hat Enterprise Virtualization 3.0

User Portal Guide

Accessing and Using Virtual Machines from the User Portal

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Red Hat Enterprise Virtualization 3.0 User Portal Guide
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Edition 1

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Preface

The Red Hat Enterprise Virtualization platform is a virtualization management solution based on the leading open source virtualization platform.

1. About this Guide

This guide describes how users can access and use virtual desktops from the Red Hat Enterprise Virtualization User Portal.

1.1. Audience

This document is for end users of Red Hat Enterprise Virtualization virtual machines. No special skills or knowledge is required.

1.2. Overview

This guide helps you to use virtual machines from the Red Hat Enterprise Virtualization User Portal as follows:
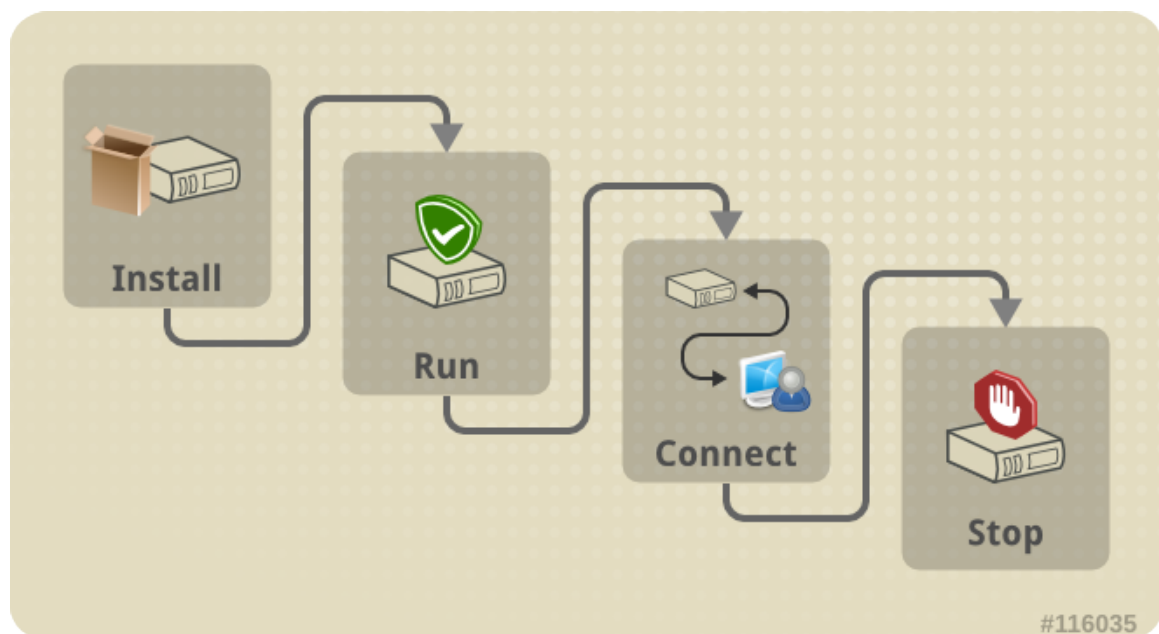
Figure 1. Using Virtual Machines

Install the required SPICE plug-ins if you are logging in for the first time. See *Section 1.2, "Logging in for the First Time"*. Log in to the User Portal with your server address, user name and password. Select a virtual machine and turn it on. See *Section 2.2, "Turning On a Virtual Machine"*. Connect to the virtual machine. See *Section 2.3, "Connecting to a Virtual Machine"*. After you have finished using the virtual machine, log out from the machine. See *To log out of the User Portal:*.

2. Document Conventions

This manual uses several conventions to highlight certain words and phrases and draw attention to specific pieces of information.

In PDF and paper editions, this manual uses typefaces drawn from the *Liberation Fonts*[1] set. The Liberation Fonts set is also used in HTML editions if the set is installed on your system. If not, alternative but equivalent typefaces are displayed. Note: Red Hat Enterprise Linux 5 and later includes the Liberation Fonts set by default.

2.1. Typographic Conventions

Four typographic conventions are used to call attention to specific words and phrases. These conventions, and the circumstances they apply to, are as follows.

`Mono-spaced Bold`

Used to highlight system input, including shell commands, file names and paths. Also used to highlight keycaps and key combinations. For example:

> To see the contents of the file `my_next_bestselling_novel` in your current working directory, enter the `cat my_next_bestselling_novel` command at the shell prompt and press `Enter` to execute the command.

The above includes a file name, a shell command and a keycap, all presented in mono-spaced bold and all distinguishable thanks to context.

Key combinations can be distinguished from keycaps by the hyphen connecting each part of a key combination. For example:

> Press `Enter` to execute the command.

> Press `Ctrl`+`Alt`+`F2` to switch to the first virtual terminal. Press `Ctrl`+`Alt`+`F1` to return to your X-Windows session.

The first paragraph highlights the particular keycap to press. The second highlights two key combinations (each a set of three keycaps with each set pressed simultaneously).

If source code is discussed, class names, methods, functions, variable names and returned values mentioned within a paragraph will be presented as above, in `mono-spaced bold`. For example:

> File-related classes include `filesystem` for file systems, `file` for files, and `dir` for directories. Each class has its own associated set of permissions.

Proportional Bold

This denotes words or phrases encountered on a system, including application names; dialog box text; labeled buttons; check-box and radio button labels; menu titles and sub-menu titles. For example:

> Choose **System** → **Preferences** → **Mouse** from the main menu bar to launch **Mouse Preferences**. In the **Buttons** tab, click the **Left-handed mouse** check box and click **Close** to switch the primary mouse button from the left to the right (making the mouse suitable for use in the left hand).

> To insert a special character into a **gedit** file, choose **Applications** → **Accessories** → **Character Map** from the main menu bar. Next, choose **Search** → **Find…** from the **Character Map** menu bar, type the name of the character in the **Search** field and click **Next**. The character you sought will be highlighted in the **Character Table**. Double-

---

[1] https://fedorahosted.org/liberation-fonts/

> click this highlighted character to place it in the **Text to copy** field and then click the **Copy** button. Now switch back to your document and choose **Edit** → **Paste** from the **gedit** menu bar.

The above text includes application names; system-wide menu names and items; application-specific menu names; and buttons and text found within a GUI interface, all presented in proportional bold and all distinguishable by context.

Mono-spaced Bold Italic or ***Proportional Bold Italic***

Whether mono-spaced bold or proportional bold, the addition of italics indicates replaceable or variable text. Italics denotes text you do not input literally or displayed text that changes depending on circumstance. For example:

> To connect to a remote machine using ssh, type **ssh *username@domain.name*** at a shell prompt. If the remote machine is **example.com** and your username on that machine is john, type **ssh john@example.com**.
>
> The **mount -o remount *file-system*** command remounts the named file system. For example, to remount the **/home** file system, the command is **mount -o remount /home**.
>
> To see the version of a currently installed package, use the **rpm -q *package*** command. It will return a result as follows: ***package-version-release***.

Note the words in bold italics above — username, domain.name, file-system, package, version and release. Each word is a placeholder, either for text you enter when issuing a command or for text displayed by the system.

Aside from standard usage for presenting the title of a work, italics denotes the first use of a new and important term. For example:

> Publican is a *DocBook* publishing system.

2.2. Pull-quote Conventions

Terminal output and source code listings are set off visually from the surrounding text.

Output sent to a terminal is set in **`mono-spaced roman`** and presented thus:

```
books         Desktop    documentation  drafts  mss     photos   stuff  svn
books_tests   Desktop1   downloads      images  notes   scripts  svgs
```

Source-code listings are also set in **`mono-spaced roman`** but add syntax highlighting as follows:

```java
package org.jboss.book.jca.ex1;

import javax.naming.InitialContext;

public class ExClient
{
   public static void main(String args[])
       throws Exception
   {
      InitialContext iniCtx = new InitialContext();
      Object         ref    = iniCtx.lookup("EchoBean");
      EchoHome       home   = (EchoHome) ref;
      Echo           echo   = home.create();
```

```
      System.out.println("Created Echo");

      System.out.println("Echo.echo('Hello') = " + echo.echo("Hello"));
   }
}
```

2.3. Notes and Warnings

Finally, we use three visual styles to draw attention to information that might otherwise be overlooked.

> **Note**
>
> Notes are tips, shortcuts or alternative approaches to the task at hand. Ignoring a note should have no negative consequences, but you might miss out on a trick that makes your life easier.

> **Important**
>
> Important boxes detail things that are easily missed: configuration changes that only apply to the current session, or services that need restarting before an update will apply. Ignoring a box labeled 'Important' will not cause data loss but may cause irritation and frustration.

> **Warning**
>
> Warnings should not be ignored. Ignoring warnings will most likely cause data loss.

3. We Need Feedback!

If you find a typographical error in this manual, or if you have thought of a way to make this manual better, we would love to hear from you! Please submit a report in Bugzilla: *http://bugzilla.redhat.com/* against the product **Red Hat Enterprise Virtualization Manager**.

When submitting a bug report, be sure to mention the manual's identifier: *Guides-User Portal*.

If you have a suggestion for improving the documentation, try to be as specific as possible when describing it. If you have found an error, include the section number and some of the surrounding text so we can find it easily.

Getting Started

To get started all you need is the URL and domain name of the User Portal, and your username and password. All of these should have been given to you by your system administrator or office manager.

1.1. Logging in to the User Portal

You can log in to the Red Hat Enterprise Virtualization User Portal directly from your web browser.

To log in to the User Portal
1. Enter the provided **User Portal URL** in the address bar of your web browser. The address should be in the format of `https://server.example.com:8443/UserPortal`. The login screen displays.

   Alternately, enter the provided **server address** into the web browser, to access the welcome screen. Click **User Portal** to be directed to the User Portal.

2. Enter your **User Name** and **Password**. Use the **Domain** drop-down menu to select the correct domain.

   • If you have only one running virtual machine in use, select the **Connect Automatically** checkbox and connect directly to your virtual machine.

   • If you have more than one running virtual machine or do not wish to automatically connect to a virtual machine, do not select the **Connect Automatically** checkbox.

3. Click **Login**. The list of virtual machines assigned to you displays.

Figure 1.1. User Portal

To log out of the User Portal:
• At the title bar of the User Portal, click **Sign out**. You are logged out and the User Portal login screen displays.

1.2. Logging in for the First Time

As you are using a secure connection to log in to the User Portal, you will be prompted to trust the site's identity the first time you log in. Once you have confirmed a security exception for the website, or added the website to your browser's list of trusted sites, you will be taken to the login screen.

If you wish to use the SPICE protocol for connecting to virtual machines, install the appropriate plugins for your browser. You will need to do this only once.

If you are accessing the User Portal from a Linux client machine with Mozilla Firefox, install the SPICE Firefox plugin. If you are accessing the User Portal from a Windows client machine with Internet Explorer, add the SPICE ActiveX component to your web browser.

SPICE is not supported for Mozilla Firefox on Windows. If you are using a Windows computer, use Internet Explorer.

To install the SPICE plugin for Mozilla Firefox on Linux

1. Open a terminal and run the following command as root:

   ```
   # yum install spice-xpi
   ```

   The plugin will be installed the next time Firefox is started.

To install the SPICE ActiveX component for Internet Explorer on Windows

1. The first time you attempt to connect to a virtual machine, an add-on notification bar displays in the browser, prompting you to install the SPICE ActiveX component. You need administrative privileges on your client machine to install the component. Contact your systems administrator if you do not have the necessary permissions.

2. When you accept the prompt to install the SPICE ActiveX component, Internet Explorer may issue a security warning. Confirm that you wish to proceed, and the component will be installed.

Running Virtual Machines

This chapter describes the features of the User Portal and how to run, connect to and stop virtual machines. On the User Portal, virtual machines are represented by icons that indicate both type and status. These icons indicate whether a virtual machine is part of a desktop pool, or is a stand-alone Windows or Linux virtual machine. They also reflect whether the virtual machine is running or stopped.

The User Portal displays a list of the virtual machines assigned to you. You can then turn on one or more virtual machines, connect, and log in. You can have access to virtual machines that are running different operating systems, and you can use multiple virtual machines simultaneously.

In contrast, if you have only one running virtual machine and have enabled automatic connection, you can bypass the User Portal and log in directly to the virtual machine, similar to how you log in to a physical machine.

2.1. The User Portal Graphical Interface

The User Portal Graphical Interface enables you to view and use all the virtual machines that are available to you. The screen consists of three areas: the title bar, a virtual machines area, and a details pane. A number of control buttons allow you to work with the virtual machines.

Figure 2.1. The User Portal

The title bar (1) includes the name of the **User** logged in to the portal and the **Sign out** button.

In the virtual machines area, the names of the virtual machines or desktop pools assigned to you display (2). The logo of the virtual machine's operating system also displays (3). When a virtual machine is powered up, you can connect to it by double-clicking on the virtual machine's logo.

On each virtual machine's icon, buttons allow you to play, stop or pause a virtual machine. The buttons perform the same functions as buttons on a media player (4).

- The green play button starts up the virtual machine. It is available when the virtual machine is paused, stopped or powered off.

- ■ The red stop button stops the virtual machine. It is available when the virtual machine is running.

- ⏸ The orange pause button temporarily halts the virtual machine. To restart it, press the green play button.

The status of the virtual machine is indicated by the text below the virtual machine's icon - **Machine is Ready** or **Machine is Down**.

Clicking on a virtual machine displays the statistics of the selected virtual machine on the details pane to the right (5), including the operating system, defined memory, number of cores and size of virtual drives. You can also configure connection protocol options (6) such as enabling the use of USB devices or local drives.

2.2. Turning On a Virtual Machine

To use a virtual machine in the User Portal, you must turn it on and then connect to it. If a virtual machine is turned off, it is grayed out and displays **Machine is Down**.

You can be assigned an individual virtual machine or a machine that is part of a virtual machine pool. Virtual machines in a pool have the same operating system and installed applications.

To turn on a virtual machine

1. If you are using a stand-alone virtual machine, select the machine and click the ▶ button to turn it on.

Figure 2.2. Turn on virtual machine

2. To use a virtual machine from a pool, select the pool icon and click the ▶ button.

Figure 2.3. Take virtual machine from a pool

A powered on virtual machine from the pool will be assigned to you.

3. The virtual machine powers up.

Figure 2.4. Virtual machine powering up

4. When the virtual machine is powered up, the icon is no longer grayed out. The text displays as **Machine is Ready**. You are now ready to connect.
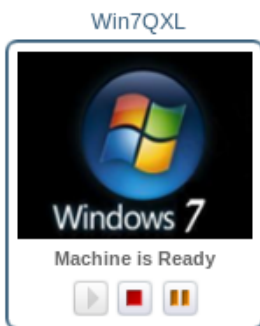
Figure 2.5. Virtual machine turned on

Note

You can only connect to a virtual machine after it has powered up.

2.3. Connecting to a Virtual Machine

After a virtual machine has been turned on, you can connect to it, log in, and start work in the same way as you would with a physical machine. The text "Machine is Ready" displays on virtual machines that are powered up.

To connect to a powered on virtual machine
1. Double click on the selected virtual machine to connect.

Figure 2.6. Connect to virtual machine

2. A console window of the virtual machine displays. You can now use the virtual machine in the same way that you would use a physical desktop.

> **Note**
>
> If it is the first time you are connecting with SPICE, you will be prompted to install the appropriate SPICE component or plugin. If it is the first time you are connecting from a Red Hat Enterprise Linux computer, install the Mozilla Firefox plugin as in *To install the SPICE plu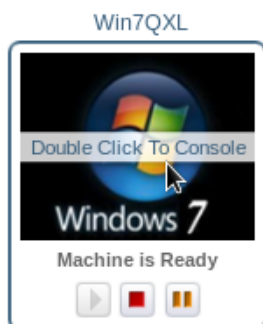gin for Mozilla Firefox on Linux*. If you are connecting from a Windows computer, install the ActiveX component as in *To install the SPICE ActiveX component for Internet Explorer on Windows*.

2.4. Logging Out of a Virtual Machine

It is recommended that you log out from a virtual machine before shutting it down, to minimize the risk of data loss. If you attempt to forcefully shut down a virtual machine from the User Portal without logging out of it beforehand, its status will be frozen at "Powering Down". To gracefully turn off a virtual machine, use the following steps.

To shut down a virtual machine

1. Once you have finished using a virtual machine, log out according to the instructions specific to the operating system.

    *   To log out from Windows, click **Start → Log Off**.

    *   To log out from Red Hat Enterprise Linux, click **System → Log Out**.

2. If you were using your virtual machine in full screen mode, press `Shift`+`F11` to exit full screen mode, and close the virtual machine's console window. You are now returned to the User Portal.

To shut down the virtual machine, click the ■ button. The text below the virtual machine displays as "Powering Down".

Figure 2.7. Shut down virtual machine

The virtual machine is grayed out and displays as "Machine is Down" when it has been turned off.

3. When you have finished using the User Portal, you can log out as instructed in *To log out of the User Portal:*.

Using Virtual Machines - Advanced

This chapter describes how to configure advanced operations on virtual machines. You will learn how to configure connection protocol options and enable the use of local drives and USB devices on your virtual machine.

3.1. Configuring Connection Protocols

A connection protocol enables you to see and interact with a virtual machine. When connecting to virtual machines, SPICE or RDP connection protocols can be used. Each protocol offers several connection options which can be enabled when the virtual machine is running.

3.1.1. Configure SPICE Console Options

SPICE is the recommended connection protocol for Linux and Windows virtual machines.

To configure SPICE connection protocol options
1.   Select a running virtual machine. On the details pane, for the **Console** option click **Edit**.

Figure 3.1. Select connection protocol

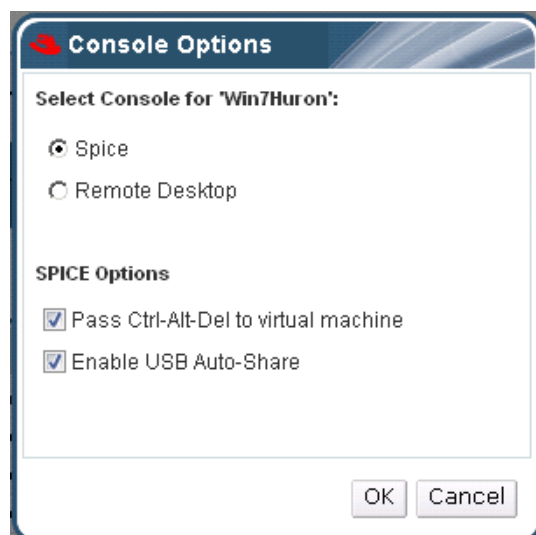2.   The **Console Options** dialog displays.

Figure 3.2. Configure Console Options

3. Select **SPICE**. The **SPICE Options** display.

- **Pass Ctrl-Alt-Del to virtual machine**: Tick this checkbox for this keystroke to be intercepted on the virtual guest. The use of this command depends on the operating system: on Red Hat Enterprise Linux, it sends a signal to reboot the computer; and on Windows, it displays the task manager or Windows Security dialog.

- **Enable USB Auto-Share**: Tick this checkbox to use USB devices on the virtual guest.

4. Click **OK**. You are returned to the User Portal. Double click on your selected virtual machine to connect to it.

3.1.2. Configure RDP Console Options

Remote Desktop Protocol (RDP) can be used for Windows virtual machines.

To configure RDP connection protocol options

1. Select a running virtual machine. Click **Edit** as illustrated in *Figure 3.1, "Select connection protocol"*.

2. The **Console Options** dialog displays as illustrated in *Figure 3.2, "Configure Console Options"*.

3. Select **Remote Desktop**. The **RDP Options** display.

- **Use Local Drives**: Tick this checkbox to use local CD or DVD drives on the virtual guest.

4. Click **OK**. You are returned to the User Portal. Double click on your selected virtual machine to connect to it.

3.2. Using Advanced Features

The SPICE protocol allows you to connect to a virtual machine and use it the same way you would use a physical desktop. In addition to standard tasks in-built with each operating system, Red Hat Enterprise Virtualization supports features including USB redirection, multiple monitor display and using local drives. The options available for use with virtual machines depend on the connection protocol and options used.

3.2.1. Using SPICE Connection Options

When using the SPICE protocol to connect to a virtual machine, you can configure a number of connection options. If you are using a Windows client to connect to virtual machines, you can right-click on the virtual machine window title bar to display the connection menu. This menu is not available to a Red Hat Enterprise Linux client, but you can also use the same hotkeys as described in the table below.
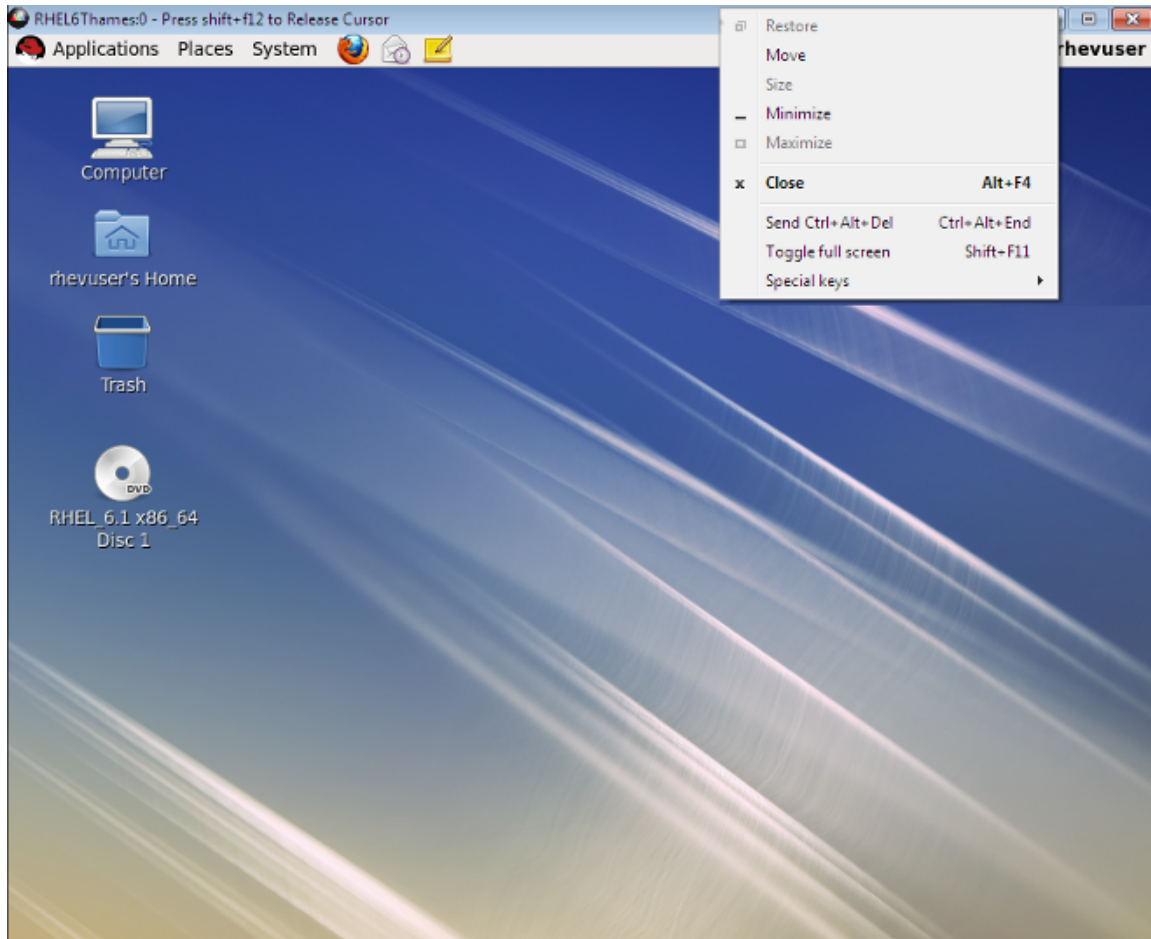
Figure 3.3. SPICE Connection menu

Table 3.1. Connection menu options

Option	Description	Hotkey
Send Ctrl+Alt+Del	Sends the Ctrl+Alt+Del key combination to the virtual machine. On a Red Hat Enterprise Linux virtual machine, it sends a signal to reboot the machine. On a Windows virtual machine, it displays the task manager or Windows Security dialog.	**Ctrl**+**Alt**+**End**
Toggle Full Screen	Toggles full screen mode on or off. When enabled, full screen mode expands the virtual machine to fill the entire screen. When disabled, the	**SHIFT**+**F11**

Option	Description	Hotkey
	virtual machine is displayed as a window.	
Special Keys	Shows a menu of special key combinations which can be sent to the virtual machine. • **SHIFT**+**F11**: Toggles full screen mode • **SHIFT**+**F12**: Releases cursor from the virtual machine window • **Ctrl**+**Alt**+**End**: Reboots virtual machine or displays task manager	-

3.2.1.1. SPICE hotkeys

In addition to accessing the connection options through the connection menu, it is possible to use the hotkeys listed in *Table 3.1, "Connection menu options"*, when using a virtual machine in full screen mode or from a Linux client. For Windows clients, the menu can be accessed by clicking on the virtual machine window title bar when not in full screen mode.

When the mouse is used inside a virtual machine, it becomes locked in the virtual machine window and cannot be used elsewhere. To unlock the mouse, press **Shift**+**F12**.

3.2.2. Using USB Devices on Virtual Machines

A virtual machine that is connected with the SPICE protocol can be configured to connect USB devices. To do so, the USB device has to be plugged into the client machine, then redirected to appear on the guest machine. Red Hat Enterprise Virtualization presently supports USB usage on the following clients and guests:

• Client
  • Red Hat Enterprise Linux 6.0 and higher

  • Red Hat Enterprise Linux 5.5 and higher

  • Windows XP

  • Windows 7

  • Windows 2008

• Guest
  • Windows XP

  • Windows 7

> **Important**
>
> It is important to note the distinction between the client machine and guest machine. The client is the hardware from which you access a guest. The guest is the virtual desktop or virtual server which can be connected through the User Portal.

3.2.2.1. Using USB Devices on a Linux Client

If you connect to a virtual guest from a Red Hat Enterprise Linux client machine, you have to install several SPICE packages before you can share USB devices between the client and the guest.

To use USB devices on Red Hat Enterprise Linux clients

1. **Install SPICE packages on client**

   On your Linux client machine, install the following packages:
   - *spice-usb-share*

   - *kmod-kspiceusb-rhel60* for Red Hat Enterprise Linux 6 or

     kmod-kspiceusb-rhel5u6 for Red Hat Enterprise Linux 5

   These packages are available on the *Red Hat Network*[1], from the Red Hat Enterprise Linux Supplementary Software channel for your version of Red Hat Enterprise Linux. To install the packages, run:

   ```
   # yum install spice-usb-share kmod-kspiceusb
   ```

2. **Run SPICE USB services**

   Start the **spiceusbsrvd** service and load the **kspiceusb** module. Run:

   ```
   # service spiceusbsrvd start
   # modprobe kspiceusb
   ```

3. **Install RHEV-Tools on guest**

   Locate the CD drive to access the contents of the Guest Tools ISO, and launch **RHEV-ToolsSetup.exe**. If the Guest Tools ISO is not available in your CD drive, contact your system administrator. After the tools have been installed, you will be prompted to restart the machine for changes to be applied.

4. **Open firewall ports**

   Allow connections on TCP port 32023 on any firewalls between the guest machine and the client machine.

5. **Enable USB Auto-Share**

   On the User Portal, select your guest machine. Ensure that you have enabled SPICE USB Auto-Share on the guest machine as described in *To configure SPICE connection protocol options*.

6. **Attach USB device**

   Connect to your guest machine as instructed in *Section 2.3, "Connecting to a Virtual Machine"*. Place the SPICE console window of your guest desktop in focus, then attach a USB device to the client. The USB device displays in your guest desktop.

When you close the SPICE session the USB device will no longer be shared with the guest.

3.2.2.2. Using USB Devices on a Windows Client

If you are connecting from a Windows client machine, and wish to use USB devices on your guest, you have to enable SPICE USB redirection.

To enable USB redirection on Windows:

1. **Install USB redirector package on client**

   On a Windows client machine, install the **RHEV-USB-Client.exe**. This package can be obtained from the **Red Hat Enterprise Virtualization Manager (v.3 x86_64)** channel on the Red Hat Network, under the **Downloads** list.

2. **Install RHEV-Tools on guest**

   Locate the CD drive to access the contents of the Guest Tools ISO, and launch **RHEV-ToolsSetup.exe**. If the Guest Tools ISO is not available in your CD drive, contact your system administrator. After the tools have been installed, you will be prompted to restart the machine for changes to be applied.

3. **Open firewall ports**

   Allow connections on TCP port 32023 on any firewalls between the guest machine and the client machine.

4. **Enable USB sharing**

   On the User Portal, select your guest machine. Ensure that you have enabled SPICE USB sharing on the guest machine as described in *To configure SPICE connection protocol options*.

5. **Attach USB device**

Connect to your guest machine as instructed in *Section 2.3, "Connecting to a Virtual Machine"*, and attach a USB device to the client. If the required USB device does not appear directly on the guest desktop, right click on the SPICE frame and select **USB Devices**. Choose your device from the list displayed.
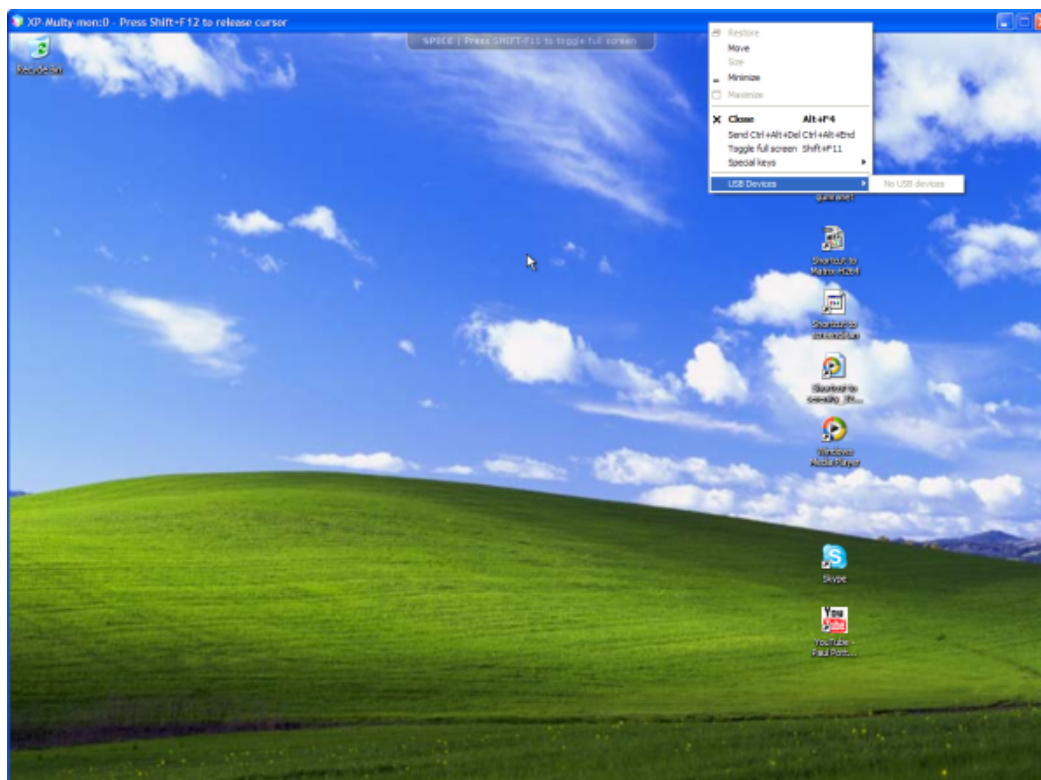

Figure 3.4. List of connected USB devices

> ⭐ **Important**
>
> When some USB devices are connected on Windows clients, the autoplay window will appear and the client will take control of the device, making it unavailable to the guest. To avoid this issue, disable USB autoplay on your Windows clients.

> 💬 **Note**
>
> You can also define additional USB policies for Windows clients, to allow or block access to certain USB devices. For details, see the sections on USB Filter Editor in the *Red Hat Enterprise Virtualization Administration Guide*.

3.2.3. Using Local Drives

The RDP connection allows a local CD or DVD drive on the client machine to be used on a virtual machine.

To use local drives on a virtual machine:

1. Insert a CD or DVD into your client machine's CD drive.

2. Select the virtual machine you wish to use it on and click the **Edit Protocol Options** icon.

3. Select the **Remote Desktop** option and tick the **Use Local Drives** checkbox. Connect to your guest machine as instructed in *Section 2.3, "Connecting to a Virtual Machine"*.

4. Your CD or DVD is automatically detected, and can be used on the virtual machine.

Appendix A. Revision History

Revision 1-5   **Friday December 2 2011**   **Cheryn Tan** *cheryntan@redhat.com*

Red Hat Enterprise Virtualization General Availability.

Revision 1-4   **Tuesday October 4 2011**   **Cheryn Tan** *cheryntan@redhat.com*

Red Hat Enterprise Virtualization External Beta 3.

Revision 1-3   **Monday September 19 2011**   **Cheryn Tan** *cheryntan@redhat.com*

Red Hat Enterprise Virtualization External Beta 2.

Revision 1-2   **Wednesday August 3 2011**   **Cheryn Tan** *cheryntan@redhat.com*

Red Hat Enterprise Virtualization External Beta 1.

Revision 1-1   **Saturday July 30 2011**   **Cheryn Tan** *cheryntan@redhat.com*

Edited as per technical and QE reviews.

Revision 1-0   **Monday May 24 2011**   **Cheryn Tan** *cheryntan@redhat.com*

Initial build of 3.0