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About this Release
This document provides information about DesktopPlayer for Mac; it includes an overview of the functionality available at this release, installation information, and general usage guidelines.

⚠️ Back up your data prior to installing this release. Consider saving your data to Citrix ShareFile or any cloud-based backup service to access your data from other devices or locations.

About the Citrix DesktopPlayer for Mac Solution
Citrix DesktopPlayer for Mac extends the benefits of desktop virtualization to mobile MacBook users, enabling you to work on your Windows business apps in virtual machines (VMs) whether you are online, offline, or on an intermittent network connection. DesktopPlayer end users gain freedom while IT Administrators gain control and centrally managed Windows VMs deployed to corporate and BYO MacBooks.

Sharing the same backend Synchronizer management infrastructure with DesktopPlayer for Windows, DesktopPlayer for Mac is a distributed solution that makes managing Windows VMs on thousands of Mac laptops as easy as managing one.

DesktopPlayer for Mac combines centralized VM management with distributed execution of managed Windows VMs on a client endpoint. DesktopPlayer offers IT professionals and Mac end users with a single, unified product that extends the benefits and convenience of local desktop virtualization with the efficiency and control of central, policy-driven management – providing the best of both worlds.

About system memory usage
System memory is shared between the host operating system (Mac OS X) and the guest operating system in the virtual machine (Windows). Operating a virtual machine on a Mac with 4 GB of memory limits memory allocation to the Windows OS (guest). When using DesktopPlayer, consider that Mac OS X requires approximately 2-2.5 GB of memory for normal operation; a Windows 7 32-bit guest virtual machine requires approximately 1.5 GB of memory to perform reasonably. Running a 64-bit Windows OS will require additional memory (8 GB RAM or higher) and is not feasible on a Mac with 4 GB RAM.

⚠️ Citrix recommends MacBooks with 8 GB RAM or higher.

DesktopPlayer Components
The DesktopPlayer for Mac solution uses two key components to provide Windows VMs on Macs:

- DesktopPlayer for Mac, a virtualization-based client application that enables Windows VMs to run on top of the Mac host computer and communicates with a management server
- Synchronizer, a centralized management server that controls multiple DesktopPlayer machines
The Power of VDI Locally on Your MacBook

About DesktopPlayer
DesktopPlayer is installed on individual Mac computers, and provides a virtualized platform to run each Windows VM image. An image contains a virtualized representation of an operating system plus any included applications. DesktopPlayer may have more than one virtual machine image running on top of a Mac computer, and is dependent on the available hardware resources (i.e., CPU, storage, memory) to support the multiple images.

The image definition includes its own specific RAM and storage requirements; memory management is performed by DesktopPlayer.

DesktopPlayer is comprised of a client endpoint, plus value-added functionalities wrapped around the endpoint, including:

- a single installer for quick and simple installation
- in-guest tools for the virtual machine OS
- the management engine that facilitates communication with Synchronizer for VM/Engine provisioning, updates and policy management

DesktopPlayer also performs the management tasks on the computer:

- Establishes network connections for the VM via the Mac platform (wireless and/or wired).
- Communicates securely (through SSL) with Synchronizer and checks for updates to VMs.
• Downloads and prepares updates and new versions of VMs.

System Requirements

Prior to installing DesktopPlayer for Mac, check and ensure that your machine can support the system requirements, as outlined below. You can find information about your Mac by clicking the Apple icon and then selecting About This Mac:

Click More Info to display additional hardware information:

Platform and Hardware Requirements

DesktopPlayer supports the following Mac platforms:

• MacBook Pro, with or without Retina display
• MacBook Air
• iMac

Hardware requirements include:

• CPU: Intel Core i5 processor, or better. (Third or Fourth generation)
• Physical memory: 8 GB RAM or higher
• Storage: Drive with 100 GB or more free disk space

Software requirements include:

• Host OS: Mac OS X 10.9, 10.10, 10.11, 10.12
• Guest OS: Windows 7, Windows 8.1 and Window 10 LTSB

Prepare for Installation

Use the information in this section to prepare your Mac for DesktopPlayer. To prepare for installation:

1. Install Synchronizer to take advantage of the management capabilities that are part of the solution.

Refer to Synchronizer Installation Guide for explicit instructions.

2. To install and run DesktopPlayer and the guest operating system successfully, the Mac user account must have local administrator rights. To check an account’s user rights, select the Apple icon ( ), then click System Preferences > Users and Groups (in the System section of the screen).

The current user account is displayed; it should indicate Admin (for Administrative rights). If the current user account does not have this privilege, select the Allow user to administer this computer option:
After enabling application installations from sources other than the Apple Store and verifying the user’s privileges, continue with the DesktopPlayer installation.

Installing DesktopPlayer

After preparing your Mac, follow the information in this section to install DesktopPlayer:

1. Double click the DesktopPlayer.dmg installer icon. Contact your IT administrator if you do not have this installation package:

   ![DesktopPlayer Installer Icon]

   The installer is a compressed file; after double clicking the icon, the DesktopPlayer installation directory appears:
Click DesktopPlayer Install to start the installation wizard.

2. In the Installation Wizard, use the default settings. Click Continue to proceed with the installation:

3. The Introduction screen appears:

4. Review the terms of the software license agreement for the software. Click Agree, then Continue to proceed with the installation:
5. Specify the installation location, click **Continue**.

6. In the Standard Install screen the default disk drive is chosen for installation. Click **Change Install Location** to alter the installation path, or click **Install** to continue:

7. If your computer required administrative privileges when installing programs, you may be required to verify the username and password associated with the computer. Enter an Administrative user ID (name and password). Click **Install Software**.
8. The installation progress screen appears:

9. An screen appears confirming the installation:
After installing DesktopPlayer, restart your Mac to complete the process.

DesktopPlayer simplifies the way a user uses a VM. The controls for DesktopPlayer are located in the Mac’s system settings extra menu, located at the upper-right side of the Mac desktop. Choose the Windows VM that you want to work with.

Registering DesktopPlayer to Synchronizer

After installing DesktopPlayer, register it to the Synchronizer management server; after registering, download a Windows VM that has been assigned to you.

1. Select the Register option from the menu bar to associate DesktopPlayer with Synchronizer and to download any assigned VMs:

   If DesktopPlayer has not been registered with Synchronizer an error icon appears in the menu bar.

2. In the Register screen, enter the Synchronizer information that your IT administrator provided; use this login information to gain access to a Windows VM that has been assigned to you. Click Register:

   Once you have successfully registered with Synchronizer, DesktopPlayer begins downloading your assigned VM. Download times vary depending on a number of factors, including available bandwidth. You can only register a single Mac with Synchronizer.
Using DesktopPlayer

After registering your computer with Synchronizer, you can start DesktopPlayer. After starting, sign in to use DesktopPlayer:

1. In the guest, click the DesktopPlayer icon in the Launchpad:

2. After launching, select the DesktopPlayer icon in the menu bar at the top of the screen to sign in. Enter the login credentials provided by the IT administrator, and click **Sign In**:

3. After signing in, you can start your assigned Windows VM. In the menu bar, click the DesktopPlayer icon to display a drop down menu. The Citrix DesktopPlayer menu includes a number of options, including:
   - Start your VM by **clicking the grey shaded area**.
   - Click the **USB icon** to select USB devices accessible to the VM.
   - Select **Preferences** to access information about DesktopPlayer.
   - Click **About** for information about this version.
   - Click **Quit** exit DesktopPlayer.

Click the grey shaded area to start your assigned Windows VM:
After starting your VM, DesktopPlayer starts your assigned Windows VM:

![Starting Win7 PvD x64...](image)

To enter Ctrl+Alt+Delete on Mac keyboards, press fn+command+delete

After starting the VM, Windows launches and goes through the startup process:

![Starting Windows](image)

After going through the Windows startup process, the login screen appears; the VM is now ready for use. Use your Active Directory (AD) account credentials provided by the IT administrator to log you’re your Windows VM (commonly referred to as the guest VM):
Consider the following when logging in to the guest Windows VM:

- To gain access to the Windows guest VM login screen, use the keystroke `command+fn+delete` while the VM screen is in focus; this effectively initiates the Ctrl+Alt+Delete command in the guest VM. Alternately, choose the Machine>Insert Ctrl+Alt+Del menu item to automatically add the command:

The Windows keyboard layout for ctrl+alt+del resembles:

- Use your AD credentials when logging in to the Windows guest VM. This information should be provided by the IT administrator.
When logging in, you may need to switch users; for the username, enter `<domain>\<your AD username>` and `<your AD password>`. This username/password combination may not be the credentials used to register with Synchronizer.

**DesktopPlayer Preferences**

To access DesktopPlayer Preferences, select the DesktopPlayer icon in the menu bar at the top of the screen, and click **Preferences**:

Options in the **Preferences** panel include:

- Updates – Displays information about recent updates, available networks, and current and pending activities. You can also use this panel to check for updates, or to specify a list of acceptable networks (networks that are permitted to transfer updates between Synchronizer and DesktopPlayer; select the **Allow Transfer** checkbox).

VM images are typically large; Citrix recommends that you allow transfers on reliable networks capable of supporting the extraneous load on network resources when downloading VMs.
To add a network to the list, click the + symbol; enter a name for the new network, and click OK:

![Add a network]

Updates will only occur when DesktopPlayer is connected to a named network and the **Allow Transfer** checkbox is selected in the **Updates** screen.

- **Registration** – The Registration screen displays information about the Synchronizer server to which DesktopPlayer is registered, and name of the registered user. Click **Unregister** to disconnect from Synchronizer:

![Registration]

- **Help & Feedback** – Use the Help & Feedback screen to report problems to Citrix Support, suggest improvements, access the Help system or view the system log:

![Help & Feedback]
To report a problem with DesktopPlayer, click **Report Problem** and submit additional information to help Citrix resolve the issue:

![Report a problem to Citrix](image)

- Provide a short, descriptive subject that describes the problem.
- Include an email address so Citrix Support can contact you, if necessary.
- Provide a description of the problem, click **Submit**.

Virtual Machines – Use this preference panel to display information about the assigned Windows VM. A number of options are provided to provide additional control, including changing the allocated memory, backing up the VM, or snapback to the previous configuration:

![Virtual Machines](image)

- Change the allocated memory for the Windows VM.
- Configure security policies for the assigned VM. If no policies are assigned, this option is not accessible.

To change the allocated memory for a Windows VM, click the section of the VM preference panel. Memory available for the VM is displayed; additionally,
current memory configured for all assigned VMs is also displayed. Use the slider to the desired amount of memory, or manually enter a value:

![Memory Configuration](image)

You must restart the VM after changing the memory setting.

If the assigned VM possesses security policies, the Virtual Machine preference screen displays information about them (encryption, clipboard sharing, and file sharing). If any of these noted policies have been assigned by the IT administrator, click **Change** to modify them:

![Security Policies](image)

After clicking **Change**, DesktopPlayer displays additional information for any security policies assigned to the Windows VM. For example, if the File Sharing policy (controls the VMs ability to share files between the guest VM and a specified host) is enabled, the File Sharing screen is displayed. Configure the policy by clicking + to share a file between the host (Mac OSX) and guest VM:

![File Sharing](image)

For additional information on configuring policies for DesktopPlayer, refer to the *Synchronizer Administration Guide*. 

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Using your Windows Virtual Machine

This section provides information about using your Windows VM for the first time. When using it, consider the following:

- The Windows guest VM initially displays as a DesktopPlayer window inside of the Mac OS X operating system (commonly referred to as the host VM).
- You can use the VM within a minimized window, or, you can display it in full screen mode.
- When first starting, the VM launches in windowed mode by default. To go to full screen mode, make sure the VM has focus and hit the keystroke: **Command + F** (the **Command** key is also known as the ‘Apple key’). The image below illustrate this keyboard sequence:

There are additional ways to manage the guest VM window size:

1. While the guest VM is in focus, select **View** in the DesktopPlayer menu bar:

2. In the drop down menu, select **Switch to Fullscreen (Host+F)** to maximize the guest VM.
3. Or, you can alternately use the corners of the guest Windows VM to manually size the window to the desired size.
Managing USB Devices

Use the procedures in this section to manage USB devices in the guest Windows VM:

1. Click the DesktopPlayer icon in the menu bar, and then click the USB icon:

![Select the USB icon to display a list of available devices.]

2. In the drop down menu, click the USB device that you would like to use in the guest Windows VM; ensure that a check mark appears next to the name of the selected USB device.

The guest Windows VM takes a few moments to recognize the device. Once recognized, DesktopPlayer remembers the device the next time it’s plugged in.

Using an External Monitor

DesktopPlayer supports the ability to connect to an external monitor. Consider the following when connecting an external display:

- Use the Mini Display Port/Thunderbolt to VGA Adapter cable to connect to an external monitor, or, alternately use a USB dongle to establish the connection between the Mac and the monitor.
- When you first connect a new monitor to the Mac, it configures it in mirror mode; the Windows display manager shows only a single monitor.
- Once you disable mirror mode on the Mac, the Windows display manager now sees two displays; because it is the first time Windows has detected two displays, it configures the monitors in mirror mode (the default behavior for the Windows 7 guest VM). You can then configure Windows to extend to the second monitor.
- The Mac remembers monitor configurations for next time use.
To manage the monitor configuration in the Mac OSX environment:

1. In the System Preferences window, select Displays:

![System Preferences window with Displays selected](image1)

2. In the Displays window, select the **Arrangement** tab; to rearrange the displays, drag them to a desired position, or, relocate the menu bar by dragging it to a different display.

![Displays window with Arrangement tab selected](image2)
Synchronizing with ShareFile

DesktopPlayer provides a seamless vehicle to experience client virtualization. One such example is using ShareFile to synchronize your files. Whether you’re on the phone, tablet, a hosted desktop, or using DesktopPlayer, you’ll have full access to all of your company files.

After launching your Windows Guest VM, open Windows Explorer. If you have it configured properly, and posses a ShareFile account, Windows Explorer displays your home directory:

![Windows Explorer Window with ShareFile Home Directory]

Starting and stopping your virtual machine

To start a VM, select it from the DesktopPlayer icon:

![DesktopPlayer Icon with VM Selection]

Click the grey shaded to start the VM.
A VM can be stopped in a number of different ways. To stop a VM use the Windows shutdown command accessible from the guest Windows VM start menu. The Windows Start menu provides the same functionality as a native machine: use it to stop, switch users, or lock the VM.

You can also stop a VM by clicking the (X) icon in the upper left portion of the VM window, this will prompt an icon to let you chose to send shutdown signal to VM or forcefully shutdown the VM.