



Version 8.0.0

Double-Take Installation, Licensing, and Activation

Notices

Double-Take Installation, Licensing, and Activation version 8.0, Monday, March 06, 2017

Check your service agreement to determine which updates and new releases you may be eligible for.

If you need maintenance renewal, an upgrade license key, or other sales assistance, contact your reseller/distributor or a Double-Take Software sales representative.

If you need technical assistance, you can contact CustomerCare. All basic configurations outlined in the online documentation will be supported through CustomerCare. Your technical support center is dependent on the reseller or distributor you purchased your product from and is identified on your service agreement. If you do not have access to this agreement, contact CustomerCare and they will direct you to the correct service provider. To contact CustomerCare, you will need your serial number and license key.

Assistance and support for advanced configurations may be referred to a Pre-Sales Systems Engineer or to Professional Services.

Man pages are installed and available on Double-Take Linux servers. These documents are bound by the same Double-Take Software license agreement as the software installation.

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Contents

Chapter 1 Overview	4
Chapter 2 Installation	5
Installation and upgrade notes	6
Installing the Double-Take Console	9
Installing on Windows using the installation wizard	11
Installing on Windows using the command line utility	14
Installing on Windows or Linux using the Double-Take Console	19
Installing on Linux	23
Installing a Linux virtual recovery appliance	25
Installing Double-Take Reporting Service	29
Uninstalling Double-Take	30
Chapter 3 Licensing and activation	32
Licensing and activation terminology	33
Managing the Double-Take license inventory	36
Licensing a server or appliance	39
Activating a single license	41
Activating multiple licenses	44
Preparing a target server for Metered Usage	46
Chapter 4 Deactivation and host-transfers	48
Deactivating a license	49
Completing a host-transfer	50

Chapter 1 Overview

Welcome to Double-Take. Before you can begin protecting or migrating your data, you must first begin with your Double-Take installation. There are several installation methods available to meet varying needs. See *Installation* on page 5 for complete installation details.

If you choose not to license and activate your servers during the installation, you will have to license and activate them using the Double-Take Console. (Appliances are not licensed during appliance deployment and for those that require a license, must be licensed using the console.) There are several licensing and activation methods that depend on the Double-Take product you are using, the type of license you have purchased, and your Internet connection (or lack thereof). See *Licensing and activation* on page 32 for complete details.

There are two ways to reuse a Double-Take Availability or Double-Take DR license. (Double-Take Move licenses cannot be reused.) For details on reusing a license, see *Deactivation and host-transfers* on page 48.



Although the installations are shared between Double-Take products, the requirements for each Double-Take product and each job type within each Double-Take product are unique. Be sure and review the requirements for your product and job type in that product's *User's Guide* or in the Double-Take Console help.

Chapter 2 Installation

Review the *Installation and upgrade notes* on page 6 before beginning your installation. Then choose from one of the following installation methods.

Client installation

- *Installing the Double-Take Console* on page 9—Install the Double-Take Console on a Windows machine.

Server installations

- *Installing on Windows using the installation wizard* on page 11—Install on a single Windows server using the installation wizard. The wizard will guide you step by step through the installation process.
- *Installing on Windows using the command line utility* on page 14—Install on a single or multiple Windows server using the command line utility. This utility automates the installation process by running an unattended, or silent, installation. It allows you to pass parameters through to the installation program instead of entering information manually through the wizard.
- *Installing on Linux* on page 23—Install on a single Linux server using the .rpm file. The .rpm file can be launched from a Linux console or from a command prompt.
- *Installing on Windows or Linux using the Double-Take Console* on page 19—Once you have the Double-Take Console installed on a Windows machine, you can use it to push the installation out to your other servers. The push installation is a full, client and server installation on Windows servers and a full server installation on Linux servers.



You must install a Linux virtual recovery appliance before you can push the Double-Take installation out to your Linux servers using the Double-Take Console.

Appliance installations

- *Installing a Linux virtual recovery appliance* on page 25—Install a Linux virtual recovery appliance by installing an OVF (Open Virtualization Format) pre-packaged virtual machine or installing the software on your own pre-formatted virtual machine.

Reporting Service installation

- *Installing Double-Take Reporting Service* on page 29—Install Double-Take Reporting Service on a Windows server, but not on your Double-Take source or target.



Although the installations are shared between Double-Take products, the requirements for each Double-Take product and each job type within each Double-Take product are unique. Be sure and review the requirements for your product and job type in that product's *User's Guide* or in the Double-Take Console help.

Installation and upgrade notes

Review the installation notes below before beginning an installation or upgrade.

- **Requirements**—Although the installations are shared between Double-Take products, the requirements for each Double-Take product and each job type within each Double-Take product are unique. Be sure and review the requirements for your product and job type in that product's *User's Guide* or in the Double-Take Console help.
- **Prerequisites**—Installation prerequisites depend on your operating system.
 - **Windows**—The Double-Take Windows installation will automatically install the following software, if they are not installed already.
 - **Microsoft .NET 4.5.1 Full Setup**—This package is installed on all supported Windows operating systems.
 - **Visual C++ 2013 Runtime**—The 12.0.21005 version (x64 or x86 version) of this package is installed on all supported Windows operating systems.
 - **Linux**—Each Linux server must have the following packages and services installed before you can install and use Double-Take. See your operating system documentation for details on these packages and utilities.
 - sshd (or the package that installs sshd)
 - parted
 - /usr/bin/which
 - /usr/sbin/dmidecode
 - /usr/bin/scp (only if you will be performing push installations from the Double-Take Console to your Linux servers)
 - /lib/lsb/init-functions (only if you are installing on Red Hat, Oracle Enterprise Linux, CentOS, or SUSE)
- **Operating system upgrade**—Because Double-Take has operating system dependent files, if you are upgrading your operating system (to a new major version, not a service pack) and have Double-Take installed, you must remove Double-Take prior to the operating system upgrade. Uninstall Double-Take, perform the operating system upgrade, and then reinstall Double-Take. Also, if you have upgraded the guest Windows operating system on a Hyper-V virtual machine that you intend to protect at the guest level or to migrate, you must also upgrade Integration Services on that virtual machine.
- **Windows servers**—The following notes are specific to Windows servers.
 - Since Double-Take installs device drivers, it is recommended that you update your Windows Recovery Disk, before installing or making changes to your servers. For detailed instructions on creating a recovery disk, see your Windows reference manuals. Make sure that you select the option to back up the registry when building the repair disks.
 - If you are installing to a drive other than the drive which contains your system TEMP directory, the Microsoft Windows Installer will still load approximately 100 MB of data to the TEMP directory during the installation. If you do not have enough disk space on the drive that contains the TEMP directory, you may need to change where it is located.
 - If during the installation you receive the message that the wizard was interrupted before the installation could be completed, you will need to delete the registry value DefaultAccessPermissions under the HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Ole key in order to install Double-Take. This registry

setting denies permissions for retrieving and setting property values. Deleting this registry setting will not have a negative impact on your server.

- **Linux servers**—The following notes are specific to Linux servers.
 - If you have a full server to ESX appliance job created in version 7.0, you will not be able to edit that job because of new functionality introduced in version 7.1. If you need to edit the job, you will have to delete the job and create a new one.
 - A full server to ESX appliance job will fail to start when upgrading from version 7.0 if your original job was created using a flat disk. To work around this issue, see knowledgebase article 45995 on the [support site](#).
- **Version interoperability**—Double-Take has different interoperability requirements for different products.
 - **Double-Take Availability**—Version 8.0 is interoperable back to version 7.0 but is restricted to the following limitations. The Double-Take clients can only control the same or older releases. To accommodate rolling upgrades, older sources can connect to newer targets, but newer sources cannot connect to older targets.
 - **7.0 console**—Supports 7.0 source and target, but does not support 7.1 or 8.0 source or target
 - **7.1 console**—Supports 7.0 or 7.1 source and target as long as the target is the same or newer than the source, but does not support 8.0 source or target
 - **8.0 console**—Supports 7.0, 7.1, or 8.0 source and target as long as the target is the same or newer than the source
 - **Double-Take Move**—Interoperability for this product is dependent on the type of job you will be creating.
 - **Files and folders and full server jobs**—These job types are not interoperable between versions. Each source, target, and Double-Take Console must be running the same version of Double-Take Move.
 - **Full server to ESX and full server to Hyper-V jobs**—These jobs are interoperable between versions. Version 8.0 is interoperable back to version 7.1.2 but is restricted to the following limitations. The Double-Take clients can only control the same or older releases. To accommodate rolling upgrades, older sources can connect to newer targets, but newer sources cannot connect to older targets.
 - **7.1.2 console**—Supports 7.1.2 source and target, but does not support 8.0 source or target
 - **8.0 console**—Supports 7.1.2 or 8.0 source and target as long as the target is the same or newer than the source
 - **Double-Take DR**—Version 8.0 is interoperable back to version 7.1 but is restricted to the following limitations. The Double-Take clients can only control the same or older releases. To accommodate rolling upgrades, older sources can connect to newer targets, but newer sources cannot connect to older targets.
 - **7.1 console**—Supports 7.1 source and target, but does not support 8.0 source or target
 - **8.0 console**—Supports 7.1 or 8.0 source and target as long as the target is the same or newer than the source
 - **Double-Take Console**—Options available in a newer console will not be functional when creating jobs for servers running older versions.

- **Upgrades**—Keep in mind the following caveats when upgrading.
 - **Rolling upgrade**—When performing a rolling upgrade, update the target servers first. After the upgrade is complete, the sources will automatically reconnect to the targets. Upgrade the sources when convenient.
 - **Chained upgrades**—If you are using a chained configuration, update the last target first, then update the middle server acting as both a source and target, and update the production source last.
 - **Restore and reverse**—If you are using a configuration where the source is an older version than the target, you will not be able to restore or reverse from the newer version target back to the older version source. You must upgrade the source to the same version as the target before restoring or reversing.
 - **Clusters**—If you are upgrading from 7.1, there are no upgrade restrictions for a cluster. If you are upgrading from 7.0, you must use one of the following procedures to upgrade Double-Take.
 - **Multi-node clusters**—If both your source and target are clusters, use the following procedure on the target cluster first, then on the source.
 1. Move all cluster resources to one node.
 2. Upgrade to the new version of Double-Take on all of the other nodes.
 3. Move the cluster resources to one of the upgraded nodes.
 4. Upgrade to the new version of Double-Take on the last node.
 5. If needed, move the cluster resources to the desired nodes.
 - **Single node clusters**—If both your source and target are clusters, use the following procedure on the target cluster first, then on the source.
 1. Take your cluster resources offline.
 2. Upgrade to the new version of Double-Take.
 3. After the upgrade is complete, bring the resources back online.
 - **GeoCluster**—During an installation or upgrade, if the GeoCluster Replicated Disk resource files fail to register with the cluster, use the DTResUtility, located in the \windows\cluster directory, to manually register the resources.
 - **Jobs no longer supported**—Beginning with version 8.0, V to ESX and V to Hyper-V jobs will be upgraded to Full server to ESX and Full Server to Hyper-V jobs, respectively. You may want to check your job settings to confirm they are as expected after the upgrade. For example, the old job has virtual switch mappings while the new job will have NIV to virtual switch mappings.

Installing the Double-Take Console

Use these instructions to install the Double-Take Console on a Windows machine.

1. Close any open applications.
2. Launch the .exe file that you downloaded from the web.
3. Select your installation language.
4. When the installation program begins, the Autorun appears allowing you to install software and view documentation and online resources. To install the console, select any of the product installation links.
5. Depending on your version of Windows and the components you have installed, you may be prompted to install one or more Visual C++ security updates. These components are required. If you do not see this screen, you already have these security updates.
6. Also depending on your version of Windows and the components you have installed, you may need to install or enable Microsoft .NET Framework. If you do not see this screen, your server already has the appropriate version of Microsoft .NET. You must install or enable Microsoft .NET before installing Double-Take. Select **Yes** to install or enable Microsoft .NET and click **Continue**.
7. You will be given the opportunity to check for a more recent version of the software.
 - If you do not want to check for a later version, select **No** and click **Next**.
 - If you want to check for a later version, select **Yes** and click **Next**. The installation program will establish an Internet connection from your server to the Double-Take Software web site.
 - If later versions are found, they will be listed. Highlight the version you want and either download that version and install it automatically or download that version and exit the installation. (If you exit the installation, you can run the updated installation later directly from the location where you saved it.)
 - If no later versions are found, continue with the current installation.
 - If an Internet connection cannot be established, continue with the current installation or install a previously downloaded version.
8. Review the Double-Take Software license agreement. You must accept the license agreement in order to continue with the installation program. Click **Next** to continue.
9. Review the activation notice. Most Double-Take licenses require activation after installation for full product functionality. Failure to activate licenses that require it will cause your Double-Take jobs to fail. Click **Next** to continue.
10. Select the **Client Components Only** installation option. The client components do not require a license key, but are required to administer Double-Take servers throughout the organization.
11. If desired, specify where the Double-Take files will be installed by clicking **Change**, specifying a location, and then clicking **OK**.
12. Click **Next** to continue.
13. If the machine where you are installing has Windows Firewall enabled, you will be given the opportunity to open and reassign any firewall ports for Double-Take use.
 - **Open only the ports that are not in use**—This option will open any firewall ports that are not in use. The ports that are opened will be assigned to Double-Take.
 - **Open all ports, reassigning the ports in use to Double-Take**—This option will open all necessary firewall ports, reassigning any to Double-Take as needed.

- **Do not configure the Windows Firewall at this time**—This option will not modify any firewall ports. If you select this option, you will have manually modify your firewall settings for Double-Take processing.
14. Click **Next** to continue.
 15. If you are satisfied with the selections you have made and are ready to begin copying the Double-Take files, click **Install**.
 16. After the files have completed copying, click **Finish** to exit the installation program.

Installing on Windows using the installation wizard

Use these instructions to install on a single Windows server using the installation wizard. The wizard will guide you step by step through the installation process.

1. Close any open applications.
2. Launch the .exe file that you downloaded from the web.



If you are installing on Server Core, copy the web download file to the Server Core machine using a UNC share, and then launch the installation program from the Server Core machine. The installation screens will display on the Server Core machine.

3. Select your installation language.
4. When the installation program begins, the Autorun appears allowing you to install software and view online resources. Select the appropriate link for the Double-Take product you want to install.
5. Depending on your version of Windows and the components you have installed, you may be prompted to install one or more Visual C++ security updates or Microsoft .NET Framework. These components are required. If you do not see this screen, your server already has them. Select **Install** to continue.
6. You will be given the opportunity to check for a more recent version of the software.
 - If you do not want to check for a later version, select **No** and click **Next**.
 - If you want to check for a later version, select **Yes** and click **Next**. The installation program will establish an Internet connection from your server to the Double-Take Software web site.
 - If later versions are found, they will be listed. Highlight the version you want and either download that version and install it automatically or download that version and exit the installation. (If you exit the installation, you can run the updated installation later directly from the location where you saved it.)
 - If no later versions are found, continue with the current installation.
 - If an Internet connection cannot be established, continue with the current installation or install a previously downloaded version.
7. Review the Double-Take Software license agreement. You must accept the license agreement in order to continue with the installation program. Click **Next** to continue.
8. Review the activation notice. Most Double-Take licenses require activation after installation for full product functionality. Failure to activate licenses that require it will cause your Double-Take jobs to fail. Click **Next** to continue.
9. Select the type of installation you would like to perform on this machine.
 - **Client and Server Components**—This option installs both the client and server components. The server components are required for systems that will function as a source or target. The server requires a license key for the service to run. The client does not require a license key, but it is required to administer this and other Double-Take servers throughout the organization.
 - **Client Components Only**—This option installs only the client components. The client components do not require a license key, but are required to administer Double-Take servers throughout the organization.

- **Server Components Only**—This option installs only the server components. The server components are required for systems that will function as a source or target. The server requires a license key for the service to run.



If you are installing on Server Core, you will only be able to select the **Server Components Only** installation. You will not be able to run the client components from the Server Core machine. The client will have to be run from another machine.

10. If desired, specify where the Double-Take files will be installed by clicking **Change**, specifying a location, and then clicking **OK**.
11. Click **Next** to continue.
12. If the machine where you are installing has Windows Firewall enabled, you will be given the opportunity to open and reassign any firewall ports for Double-Take use.
 - **Open only the ports that are not in use**—This option will open any firewall ports that are not in use. The ports that are opened will be assigned to Double-Take.
 - **Open all ports, reassigning the ports in use to Double-Take**—This option will open all necessary firewall ports, reassigning any to Double-Take as needed.
 - **Do not configure the Windows Firewall at this time**—This option will not modify any firewall ports. If you select this option, you will have manually modify your firewall settings for Double-Take processing.
13. Click **Next** to continue.



If you selected a client only installation, skip the remaining steps.

14. You will be prompted to enter your license key information. Your license key is a 24-character, alpha-numeric license key which applies the appropriate license to your installation. Enter your key and click **Add**.



If you are installing Double-Take for the first time, you will not be required to add a license key, however the product will not work without one. If you are upgrading an existing version, you must have a license key to continue the installation.

15. You can activate your license key at the end of the installation. The activation requires Internet access. If you choose not to have the installation activate your licenses, you will have to activate them through the Double-Take Console.
16. Click **Next** to continue.
17. Double-Take uses system memory for Double-Take processing. The maximum amount is dependent on the server hardware and operating system. **Specify the Amount of system memory to use**, which is the maximum amount of system memory that Double-Take can use.
18. When the allocated Double-Take system memory is exhausted, Double-Take will queue to disk. If you want to disable disk queuing, select **Do not use disk queue**. Ideally, you should use disk queuing. Specify the **Queue folder**, which is the location of the disk queue. By default, the size of the disk queue is set to **Unlimited disk queue**, which will allow the queue usage to automatically expand whenever the available disk space expands. If desired, you can select **Limit disk space for queue** and specify a fixed disk space amount. You can also specify the **Minimum free disk space**, which is the minimum amount of disk space in the specified **Queue folder** that must be

available at all times. This amount should be less than the amount of physical disk space minus the disk size specified for **Limit disk space for queue**.

19. Click **Next** to continue.
20. The Double-Take security information screen appears next. Review this information and click **Next** to continue with the installation.
21. If you are satisfied with the selections you have made and are ready to begin copying the Double-Take files, click **Install**.
22. After the files have completed copying, click **Finish** to exit the installation program.

Installing on Windows using the command line utility

Use these instructions to install on a single or multiple Windows server using the command line utility. This utility automates the installation process by running an unattended, or silent, installation. It allows you to pass parameters through to the installation program instead of entering information manually through the wizard.

Since the automated process does not prompt for settings, the settings are manually defined in a configuration file called DTSetup.ini. By default, DTSetup.ini contains two sections. The second section can be duplicated as many times as necessary. The first section, [Config], applies to any server not defined in the second (or duplicate of second) sections. The second (or duplicate of second) section, [MachineName], allows you to specify unique settings for individual servers. You have to modify the heading name (case-sensitive) to identify the server.

Sample DTSetup.ini

```
[Config]
DTSETUPTYPE=DTNT
DTACTIVATIONCODE=123456789012345678901234
DOUBLETAKFOLDER="C:\Program Files\Vision Solutions\Double-Take"
QMEMORYBUFFERMAX=1024
DISKQUEUEFOLDER="C:\Program Files\Vision Solutions\Double-Take"
DISKQUEUEMAXSIZE=UNLIMITED
DISKFREESPACEMIN=50
PORT=6320
WINFW_CONFIG_OPTION=NOT_INUSE_ONLY
LICENSE_ACTIVATION_OPTION=1

[Alpha]
DTSETUPTYPE=DTNT
DTACTIVATIONCODE=987654321098765432109876
DOUBLETAKFOLDER="C:\Program Files\Vision Solutions\Double-Take"
QMEMORYBUFFERMAX=2048
DISKQUEUEFOLDER="C:\Program Files\Vision Solutions\Double-Take"
DISKQUEUEMAXSIZE=UNLIMITED
DISKFREESPACEMIN=5000
PORT=6320
WINFW_CONFIG_OPTION=NOT_INUSE_ONLY
LICENSE_ACTIVATION_OPTION=1

[Beta]
DTSETUPTYPE=DTNT
DTACTIVATIONCODE=567890123456789012345678
DOUBLETAKFOLDER="C:\Program Files\Vision Solutions\Double-Take"
QMEMORYBUFFERMAX=2048
DISKQUEUEFOLDER="C:\Program Files\Vision Solutions\Double-Take"
DISKQUEUEMAXSIZE=UNLIMITED
DISKFREESPACEMIN=2500
PORT=6320
WINFW_CONFIG_OPTION=NOT_INUSE_ONLY
LICENSE_ACTIVATION_OPTION=1
```

In the sample DTSetup file, the server Alpha would use the parameters defined under the [Alpha] heading. The server Beta would use the parameters defined under the [Beta] heading. All other servers would use the configuration under the [Config] section.



Do not leave any parameter blank in the Config or MachineName sections. Otherwise, a hard-coded default stored in a Double-Take .dll file will be used.

Review the following table to understand the different parameters available in DTSetup.ini.

DTSetupType

- **DTNT**—Both the Double-Take server and client components will be installed.
- **DTCO**—Only the Double-Take client components will be installed.
- **DTSO**—Only the Double-Take server components will be installed.

If you are installing on Server Core or Windows Hyper-V Server (standalone), the setup type will be server components only regardless of your setting.

DTActivationCode

A 24 character, alpha-numeric license key which applies the appropriate license to the server. Multiple license keys can be separated by a semi-colon.

DoubleTakeFolder

Any valid path specifying the location of the Double-Take files

QMemoryBufferMax

Any integer representing the amount of system memory, in MB, that Double-Take can use

DiskQueueFolder

Any valid path to the location of the disk-based queue

DiskQueueMaxSize

Any integer representing the amount of disk space, in MB, to use for disk-based queuing or the keyword **UNLIMITED** which will allow the queue usage to automatically expand whenever the available disk space expands

DiskFreeSpaceMin

Any integer representing the amount of disk space, in MB, that must remain free at all times

Port

Any integer between 1024 and 65535 that identifies the primary port used for Double-Take communications

WINFW_CONFIG_OPTION=NOT_INUSE_ONLY

- **NOT_INUSE_ONLY**—Open any firewall ports that are not in use. The ports that are opened will be assigned to Double-Take
- **ALL**—Open all necessary firewall ports, reassigning any to Double-Take as needed.
- **NONE**—Do not modify any firewall ports. You will have manually modify your firewall settings for Double-Take processing.

LICENSE_ACTIVATION_OPTION

- **1**—Activate the specified license keys at the end of the installation. You must have Internet access from the machine where you are running this installation
 - **0**—Do not activate the specified license keys at the end of the installation. You will have to activate your licenses through the Double-Take Console.
-



You must have Microsoft .NET installed or enabled (depending on your operating system) on the server before starting the automatic installation.

If you are not using the built-in administrator account, User Access Control will prompt you to confirm you want to install Double-Take. To work around this issue, use the built-in administrator account when you are installing to each server. You may also disable User Access Control, if that is acceptable for your environment.

Installing or upgrading automatically to a local machine

1. Create a temporary installation directory on the server. For example, create c:\temp_install.
2. If you downloaded your software from the web, unzip the .exe file that you downloaded to another temporary directory.
3. Copy the files from the \setup\dt\x64 directory to your temporary installation directory.
4. Remove the read-only attributes from the files in the temporary installation directory.
5. Make a backup copy of the default DTSetup.ini file in the temporary installation directory.
6. Edit DTSetup.ini as needed using the values described in the previous table.
7. Run the following case-sensitive command from the temporary installation directory.

```
setup /s /v"DTSETUPINI=\\"c:\temp_install\DTSetup.ini\\" /qn"
```



The command must be run from the temporary installation directory as well as specifying the temporary installation directory for the .ini file.

Spacing is critical with this command. A space should precede /s, /v, and /qn but should not appear anywhere else for the command to work correctly.

Installing or upgrading automatically to a remote machine

1. Create a temporary installation directory on the primary site server. For example, create z:\temp_install.
2. Share the temporary installation directory.
3. If you downloaded your software from the web, unzip the .exe file that you downloaded to another temporary directory.
4. Copy the files from the \setup\dt\x64 directory to your temporary installation directory.
5. Remove the read-only attributes from the files in the shared temporary installation directory.
6. Make a backup copy of the default DTSetup.ini file in the shared temporary installation directory.
7. Edit DTSetup.ini as needed using the values described in the previous table.
8. From each server where you want to install Double-Take, map a drive to the shared temporary installation directory. For example, you might map your m: drive to the share.
9. Run the following case-sensitive command from the mapped drive.

```
setup /s /v"DTSETUPINI=\"m:\DTSetup.ini\" /qn"
```



The command must be run from the shared drive as well as specifying that shared drive for the .ini file.

Spacing is critical with this command. A space should precede /s, /v, and /qn but should not appear anywhere else for the command to work correctly.

```
C:\>net use m: \\server_name\share
The command completed successfully
C:\>M:
M:\>setup /s /v"DTSETUPINI=\"m:\DTSetup.ini\" /qn"
```

Installing on Windows or Linux using the Double-Take Console

Once you have the Double-Take Console installed on a Windows machine, you can use it to push the installation out to your other servers. The push installation is a full, client and server installation on Windows servers and a full server installation on Linux servers.



The push installation process will not work on cluster nodes.

Keep in mind the following items for Windows servers.

- If you are using the Double-Take Console to push installations out to your Windows servers, you will have to open firewall ports for WMI (Windows Management Instrumentation), which uses RPC (Remote Procedure Call). By default, RPC will use ports at random above 1024, and these ports must be open on your firewall. RPC ports can be configured to a specific range by specific registry changes and a reboot. See the [Microsoft Knowledge Base article 154596](#) for instructions. Additionally, you will need to open firewall ports for SMB (server message block) communications which uses ports 135-139 and port 445, and you will need to open File and Printer Sharing. As an alternative, you can disable the Windows firewall temporarily until the push installations are complete.
- Because the installation is pushed to your server using an administrative share, you must perform the installation with a domain administrator account. You will get access denied errors if you are using a local account.

Keep in mind the following items for Linux servers.

- The push installation process uses a combination of SSH (secure shell) and SCP (secure copy) to copy the installation binary files and execute them. SCP is not installed by default on certain configurations of version 6.x of Red Hat Enterprise Linux, Oracle Enterprise Linux, and CentOS. You will need to install it manually to use the push installation process. See your Linux documentation for installation details.
- You can use a non-root user to perform the push installation, as long as the account has sudo permissions to dpkg.
- You can only push the installation process. You cannot push an upgrade.

-
1. If you are going to be installing on Linux servers, you have a pre-requisite step. There are two options for this step.
 - Copy the Linux .deb or .rpm files from your download to a \Linux subdirectory in your Double-Take Console installation location. By default the console installation location is \Program Files\Vision Solutions\Double-Take. Make sure you only have a single version of Linux installation files. The push installation cannot determine which version to install if there are multiple versions in the \Linux subdirectory.
 - Deploy your Linux virtual recovery appliance, which contains the Linux server installation files, and use the appliance to push the installation out to your Linux servers.
 2. Add the servers where you want to install Double-Take to your console session.
 3. From the **Servers** page, highlight all of the servers where you want to install Double-Take, and select **Install** from the toolbar.

4. Each server needs a license key before you can create a job. If you are upgrading and your server already has a license key that is valid for the current version, you can either skip this step to use the existing license key or you can complete this step to replace the existing license key.
 - a. If you have a single license key that can be used on multiple servers, such as a site license or an evaluation key, highlight all of the servers where you want to apply the same license key and click **Set License keys**. If you have unique license keys for each of your servers, highlight just one server and click **Set License keys**.
 - b. Type in your license key or click **Choose from inventory** to open the **License Keys** dialog box where you can select the license key you want to apply.
 - c. Click **OK** to configure the installation or upgrade for the selected license key.
 - d. Repeat steps a-c for any additional servers that are using unique license keys.
5. Set your **Default Installation Options**, which are used for both Windows and Linux installations.
 - **Activate online after install completes**—Specify if you want to activate your Double-Take licenses at the end of the installation. The activation requires Internet access from the console machine or the machine you are installing to. Activation will be attempted from the console machine first and if that fails, it will be attempted from the machine you are installing to. If you choose not to have the installation activate your licenses, you will have to activate them through the console license inventory or the server's properties page.
 - **Location of install folders**—Specify the parent directory location where the installation files are located. The parent directory can be local on your console machine or a UNC path.
 - **Windows**—Specify the parent directory where the Windows installation file is located. The default location is where the Double-Take Console is installed, which is `\Program Files\Vision Solutions\Double-Take`. The console will automatically use the `\x64` subdirectory which is populated with the Windows installation files when you installed the console. If you want to use a different location, you must copy the `\x64` folder and its installation file to the different parent directory that you specify.
 - **Linux**—For Linux servers, you have two choices.
 - If you copied the Linux installation files from your download to your Double-Take Console installation location, you must make sure they are in a `\Linux` subdirectory under the parent directory you specified for **Location of install folders**. Copy the Linux `.deb` or `.rpm` files from your download to the `\Linux` subdirectory. Make sure you only have a single version of the Linux installation files in that location. The push installation cannot determine which version to install if there are multiple versions in the `\Linux` subdirectory.
 - If you have already deployed your Linux virtual recovery appliance, specify the UNC path to the installers share on the appliance. For example, if your appliance is called `DTAppliance`, use the path `\\DTAppliance\installers` for the **Location of install folders**. The console will automatically use the installation files in the `\Linux` subdirectory of this share location. (This option is only available if you deployed an appliance from an `.ova` file. There are no installers available if you installed Double-Take on your appliance manually.)
6. If you are installing on Windows servers, specify your **Default Windows Installation Options**.
 - **Temporary folder for installation package**—Specify a temporary location on the server where you are installing Double-Take where the installation files will be copied and run.

- **Installation folder**—Specify the location where you want to install Double-Take on each server. This field is not used if you are upgrading an existing version of Double-Take. In that case, the existing installation folder will be used.
- **Queue folder**—Specify the location where you want to store the Double-Take disk queue on each server.
- **Amount of system memory to use**—Specify the maximum amount of memory, in MB, that can be used for Double-Take processing.
- **Minimum free disk space**—This is the minimum amount of disk space in the specified **Queue folder** that must be available at all times. This amount should be less than the amount of physical disk space minus the disk size specified for **Limit disk space for queue**.
- **Do not use disk queue**—This option will disable disk queuing. When system memory has been exhausted, Double-Take will automatically begin the auto-disconnect process.
- **Unlimited disk queue**—Double-Take will use an unlimited amount of disk space in the specified **Queue folder** for disk queuing, which will allow the queue usage to automatically expand whenever the available disk space expands. When the available disk space has been used, Double-Take will automatically begin the auto-disconnect process.
- **Limit disk space for queue**—This option will allow you to specify a fixed amount of disk space, in MB, in the specified **Queue folder** that can be used for Double-Take disk queuing. When the disk space limit is reached, Double-Take will automatically begin the auto-disconnect process.



If the servers you are pushing to do not have a C drive, make sure you update the folder fields because the Double-Take Console will not validate that the fields are set to a volume that does not exist and the installation will not start.

7. If you are installing on Linux servers, specify your **Default Linux Installation Options**.
 - **Temporary folder for installation package**—Specify a temporary location on the server where you are installing Double-Take where the installation files will be copied and run.
8. Linux installations will occur immediately. If you are installing on Windows servers, specify your **Installation Schedule**.
 - **Install now**—Select this option to complete the installation immediately.
 - **Install later**—Select this option and specify a date and time to complete the installation then.
 - **Reboot automatically if needed**—If selected, the server will automatically reboot after the installation, if a reboot is required.
9. After you have configured your installation options, click **Install**.



During an upgrade, any existing jobs on the **Jobs** page may disappear and then reappear. This is expected while certain Double-Take files are updated.

If there are errors with the push installation before the installation is executed on the server, check the console log on the machine where you are pushing the installation from. Once the installation execution has started, the installation log will be written on the server where you are installing and then copied back to the console machine. The installation log file will contain the

server name, date, and time in the following format: servername YYYY-MM-DD_HH-mm.ss.log. The date and time is when the installation was attempted.

You can set your own default settings for the three default installation sections from the console's **Options** page. To access these console options, select **Options** from the toolbar. The defaults you set on the **Options** page will appear each time you open the **Install** page. You can then modify any of the settings on the **Install** page before beginning the installation.

Installing on Linux

Use these instructions to install on a single Linux server using the .rpm file. The .rpm file can be launched from a Linux console or from a command prompt.



The instructions below are formatted for Red Hat and similar operating systems. You may need to modify the commands to fit your operating system. For example, on Ubuntu you should use `dpkg -i` to install the .deb file. See your operating system reference documentation for appropriate installation commands for your server.

1. Determine the installation package that is appropriate for your operating system. There are separate .rpm installation packages for 32-bit and 64-bit architectures. Make sure you are installing the correct .rpm file. If you are uncertain about the architecture of your machine, you can use the `uname -m` command to determine it. Additionally, the version_numbers in the installation file name will vary and will correspond to the version of Double-Take Availability you are installing.
 - 32-bit architecture—DoubleTake-version_numbers.i386.rpm
 - 64-bit architecture—DoubleTake-version_numbers.x86_64.rpmFor example, if you are installing version 8.0.0.0.1124, the installation files would be DoubleTake-8.0.0.0-1124.i386.rpm or DoubleTake-8.0.0.0-1124.x86_64.rpm.
2. If you are upgrading an existing Double-Take Availability server, you should complete the following steps before upgrading.
 - Shutdown the protected application(s)
 - Stop DT, the Double-Take daemon
 - Detach DTLOOP, if it is being used
3. Once you have determined the appropriate installation package to use, you can install the software from the user interface or from the command line.
 - **UI installation**—Double-click the .rpm file from the UI and confirm the installation or upgrade.
 - **Command line installation**—Use the following steps to install from a command line.
 - a. Make sure you are a root/uid 0 user. You can also use a non-root user to perform the installation, as long as the account has sudo permissions to dpkg.
 - b. Go to a shell prompt by launching a terminal application from your UI or logging in via the Linux virtual console.
 - c. If you are installing from a DVD, mount the file ISO 9660 or UDF file system.
 - d. To run the installation use `rpm -i` with the installation file name to install the software or `rpm -U` with the installation file name to upgrade the software. For example, if you were installing on a 32-bit operating system, you would use the command `rpm -i DoubleTake-8.0.0.0-1124.i386.rpm`.A successful installation returns you to the shell prompt.
4. After the installation on the Linux server is complete, you will need to review and accept the license agreement.
 - a. Run the DTSetup command from the shell prompt to start DTSetup. The command is case-sensitive.



Do not run DTSetup using the sudo command. Use a real root shell to launch DTSetup instead, either by logging in as root on the console or by using the login session of a non-privileged user to run `su -` to start a root shell.

- b. Review the license agreement and accept the terms of agreement by typing yes.

Once the license has been accepted, you can exit DTSetup. For more information, on DTSetup, see the *Double-Take Availability for Linux User's Guide*.



If you need to uninstall Double-Take from your Linux server, make sure you are a root/uid 0 user and remove (erase) Double-Take by using the command `rpm - e DoubleTake`. A successful uninstall returns you to the shell prompt. After completing the uninstall, some files may not be completely removed until the server has been rebooted.

Installing a Linux virtual recovery appliance

Use these instructions to install a Linux virtual recovery appliance by installing an OVF (Open Virtualization Format) pre-packaged virtual machine or installing the software on your own pre-formatted virtual machine.



If you already have an existing Linux virtual recovery appliance that you want to upgrade, use the instructions *Installing the appliance manually* on page 27 to install the latest .deb files on your existing appliance.

Deploying the OVF virtual machine

1. Locate the .ova installation file. For example, for version 8.0, the installation file name might be dtvra_8.0.0.1124.0.ova. If necessary, copy this file to a location that is accessible from your vSphere client.
2. From your vSphere client, select the root of your tree, select **File, Deploy OVF Template**, and specify the dtvra_<version_number>.ova file. Click **Next** to continue.
3. Review the OVF template details and click **Next** to continue.
4. If you are connected to a vCenter, review the Double-Take Software license agreement. You must accept the license agreement by clicking **Accept**. If you do not have vCenter, you will need to accept the license agreement when the appliance first starts. Click **Next** to continue.
5. Specify the name and location where you want to install the appliance. This should be the same datacenter where your target ESX host is located. Click **Next** to continue.
6. Select the ESX host where you want to install the appliance. This is your target ESX host. Click **Next** to continue.
7. If desired, select the resource pool where you want to install the appliance. You will not have this option if you do not have resource pools. Click **Next** to continue.
8. Select the datastore where you want to store the appliance files. Make sure the datastore has at least 16 GB of space available. Click **Next** to continue.
9. Select the type of disk to create. The names you see displayed will be dependent on your vSphere client.
 - **Flat or Thick Provision Lazy Zeroed**—This disk type allocates the full amount of the disk space immediately, but does not initialize the disk space to zero until it is needed. This option is only available for ESX version 5 and later.
 - **Thick or Thick Provision Eager Zeroed**—This disk type allocates the full amount of the disk space immediately, initializing all of the allocated disk space to zero.
 - **Thin Provision**—This disk type does not allocate the disk space until it is needed.
10. Click **Next** to continue.
11. If your selected ESX host has multiple networks, map the network on the appliance to a network on your ESX host, and click **Next** to continue.
12. If you are connected to a vCenter, assign the virtual machine and networking properties. If you do not have vCenter, you will need to configure these settings after the appliance starts.

- **Root password**—Set a password for the root login. If you do not make a change, the default password will be used. The default password is vision.
- **Time zone setting**—Select the virtual machine's time zone. The default setting is UTC.
- **Hostname**—Specify the hostname or full qualified domain name to assign to the virtual machine. If you leave this option blank, Double-Take will use reverse DNS lookup for the identification.
- **Default gateway**—Specify the virtual machine's default gateway.
- **DNS server**—Specify the virtual machine's DNS server.
- **Network IP address**—Specify the IP address to assign to the virtual machine. You must use an IPv4 address.
- **Network subnet mask**—Specify the subnet mask for the assigned IP address.



vCenter 4.x will display your deployment password in visible text. To avoid a security risk, you should use the default password or set a temporary password, and then after the appliance deployment is complete, you should change the default or temporary password to a new secure password.

13. Click **Next** to continue.
14. Review the **Deployment settings**. If you want to make any changes, click **Back**. If not, enable the **Power on after deployment** option (which is only available for ESX version 5 and later), and click **Finish**.
15. After the appliance deployment is complete, click **Close**.

After the appliance has been installed, you will need to install the Double-Take Console on a Windows machine, if you haven't already. You can use the .exe file located in the service/uvra/installers/windows/ directory on your appliance, or see the instructions *Installing the Double-Take Console* on page 9 to install the console from the DVD or a web downloaded file. In either case, make sure you select the **Client Components Only** installation option.



Once the appliance has been installed and configured, you should not need to access or use it. However, if you need to change any network settings, you can modify them using the **Configure Network** menu on the appliance or by using the web interface by going to https://ip_address:5480, where ip_address is the current IP address of the appliance. Keep in mind if you change the network settings using the web interface, you will lose your connection to that interface because it will still be using the original IP address.

You should not change the hostname after deployment because the name change will not be persisted if the appliance is rebooted.

The appliance menu runs as root, so make sure you take advantage of VMware security to restrict access to the appliance. See your VMware documentation for details on limiting access to the appliance's console.

Installing the appliance manually

Before you begin the manual appliance installation, you must have an existing VMware hosted virtual machine that meets the following requirements.

- **Operating system**—The virtual machine must be running on of the following operating systems.
 - Ubuntu 14.04.x AMD64
 - Red Hat Enterprise Linux version 7.0, 7.1 or 7.2
 - CentOS 7 (1406), 7 (1503), or 7 (1511)



The Red Hat and CentOS operating systems must be x86_64.

You cannot protect Btrfs to a Red Hat or CentOS appliance.

- **Memory**—The virtual machine must have at least 4 GB of virtualized physical RAM.
- **CPUs**—The virtual machine must have at least two CPUs (two virtual sockets, not two virtual cores).
- **Disk space**—The virtual machine must have at least 16 GB of disk space available.
- **Networking**—The virtual machine must have a valid, working network configuration, including DNS.
- **Function**—The virtual machine must be dedicated to Double-Take processing only. Do not use the virtual machine for any other activity (web server, database server, and so on).
- **Volume group name**—If your virtual machine is running Red Hat or CentOS and is using an LVM setup, you must make sure the volume group on the virtual machine is using a unique name. If the same volume group name is used as any volume group name from a protected source, failover will fail because of a name conflict. Refer to your Red Hat documentation for details on renaming a volume group.
- **Packages**—You will need specific packages installed on your appliance depending on the operating system of your source servers.
 - **Ext**—If the source server you will be protecting has the ext file system, you must have the e2fsprogs package on your appliance.
 - **Xfs**—If the source server you will be protecting has the xfs file system, you must have the xfsprogs package on your appliance.
 - **LVM**—If the source server you will be protecting has an LVM setup, you must have the lvm2 package on your appliance.
 - **Btrfs**—If the source server you will be protecting has the Btrfs file system, you can only use an Ubuntu appliance and it must have the btrfs-tools package. You cannot protect Btrfs to a Red Hat or CentOS appliance.

Make sure you review the *Double-Take for Linux User's Guide* for any other requirements not specifically defined here.

1. Locate the .deb or .rpm installation file either on your Double-Take DVD or from the location where you downloaded it. For example, for version 8.0, the installation file might be doubletake_8.0.0.1124.0_amd64.deb If necessary, copy the installation file to a location that is accessible

from your virtual machine.

2. Install the .deb or .rpm file on your virtual machine.

After the appliance has been installed, you will need to install the Double-Take Console on a Windows machine, if you haven't already. You can use the .exe file located in the `service/uvra/installers/windows/` directory on your appliance (if you installed the installers package), or see the instructions *Installing the Double-Take Console* on page 9 to install the console from the DVD or a web downloaded file. In either case, make sure you select the **Client Components Only** installation option.

Installing Double-Take Reporting Service

Install Double-Take Reporting Service on a Windows server, but not on your Double-Take source or target.

1. Close any open applications.
2. Launch the Double-Take Reporting Service .exe installation file.



If you are installing on Server Core, copy the .exe file to the Server Core machine using a UNC share, and then launch the installation program from the Server Core machine. The installation screens will display on the Server Core machine.

3. At the Welcome page, click **Next** to continue.
4. Review and accept the Double-Take Software license agreement to continue with the installation program. Click **Next** to continue.
5. If desired, specify where the Double-Take Reporting Service files will be installed by clicking **Change**, specifying a location, and then clicking **OK**.
6. Click **Next** to continue.
7. If the server where you are installing has Windows Firewall enabled, you will be given the opportunity to open and reassign any firewall ports for Double-Take Reporting Service use.
 - **Open only the ports that are not in use**—This option will open any firewall ports that are not in use. The ports that are opened will be assigned to Double-Take Reporting Service.
 - **Open all ports, reassigning the ports in use to Double-Take Reporting Service**—This option will open all of the necessary firewall ports, reassigning any to Double-Take Reporting Service as needed.
 - **Do not configure the Windows Firewall at this time**—This option will not modify any firewall ports. If you select this option, you will have manually modify your firewall settings for Double-Take Reporting Service processing.
8. The Double-Take security information screen appears next. Review this information and click **Next** to continue with the installation.
9. If you are satisfied with the selections you have made and are ready to begin copying the files, click **Install**.
10. After the files have completed copying, click **Finish** to exit the installation program.

Uninstalling Double-Take

There are multiple processes you can use to uninstall Double-Take.

- **Windows installations**—Use one of the following methods for uninstalling Double-Take on Windows.
 - **Windows Programs and Features**—You can uninstall Double-Take from individual servers using Windows Control Panel, Programs and Features. Highlight **Double-Take** and click **Uninstall**. Follow the on-screen prompts to keep or remove components as desired.
 - **Double-Take Console**—You can uninstall Double-Take from one or more servers using the Double-Take Console. On the **Servers** page, highlight the servers you want to uninstall Double-Take from and click **Uninstall** in the toolbar.
 - **Double-Take PowerShell**—You can use the Double-Take PowerShell module to uninstall Double-Take from one or more servers using the cmdlet `Uninstall-DoubleTake -RemoteServer <Server_Name>`. See the latest PowerShell documentation on the Double-Take SDK site at <https://sdk.doubletake.com/double-take-sdk-resource-guide/>.
 - **Command line**—You can uninstall Double-Take from a command line using the original `setup.exe` that you used to install with or using the Windows Installer command line.
 - **Double-Take setup**—Use this option if you want to uninstall using the same `setup.exe` that you used to install Double-Take.
 1. Open a command prompt and go to the \X64 directory where you have Double-Take installed. By default, this will be \Program Files\Vision Solutions\Double-Take\X64.
 2. Enter the command `setup.exe /x /s /v /qn`. Spacing is critical with this command. A space should precede /x /s, and /v. There should be no space before /qn.
 - **Windows Installer**—Use this option if you want to uninstall using Windows Installer and the Double-Take unique installation ID.
 1. Open the Windows registry and locate HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall.
 2. Right-click on that registry folder and select **Find**.
 3. Search for the name Double-Take. The search results should locate a registry key with an entry called **DisplayName** with the value Double-Take.
 4. In that same registry key where you found the Double-Take **DisplayName**, locate the **ModifyPath** entry.
 5. Copy the value of the **ModifyPath** entry. For example, you might have the following **ModifyPath** value.
`MsiExec.exe /X{5F728CBD-52DA-4B9F-AB20-172C5D025F8C}`
 6. Once you have copied the value of the **ModifyPath** entry, go to **Start, Run** and enter the following command using the copied text and appending a space followed by /qn. For example, your command might be the following.
`MsiExec.exe /X{5F728CBD-52DA-4B9F-AB20-172C5D025F8C} /qn`

You can reuse the same command on other Double-Take servers as long as the other servers have the same major and minor version number (the first two numbers of the Double-Take version, for example 8.0).



If you want to use either of the command line options remotely, you can pass in the command to the Invoke-Command PowerShell cmdlet, which allows you to specify a remote machine. For example, you may use `Invoke-Command -ComputerName <computer_name> -ScriptBlock { Invoke-expression "C:\Program Files\Vision Solutions\Double-Take\X64\setup.exe /x /s /v /qn"` or `Invoke-Command -ComputerName <computer_name> -ScriptBlock { Invoke-expression "MsiExec.exe /X'{5F728CBD-52DA-4B9F-AB20-172C5D025F8C}' /qn"`. (The ID used in the second example must be escaped with ' in order for the curly brace to be evaluated properly.)

- **Linux installations**—Use one of the following methods for uninstalling Double-Take on Linux.
 - **Linux shell prompt**—You can uninstall Double-Take from individual servers from the Linux shell prompt. Determine your package by using `rpm -qa | grep DoubleTake` or `dpkg -l | grep DoubleTake`. Then use the resulting package name to remove Double-Take. Use a superuser and uninstall using `rpm -e package_name` or `dpkg -P package_name`. For example, you may use `rpm -e DoubleTake-8.0.0.1557.0-1.x86_64` or `dpkg -P doubletake_8.0.0.1557.0_amd64`.
 - **Double-Take Console**—You can uninstall Double-Take from one or more servers using the Double-Take Console. On the **Servers** page, highlight the servers you want to uninstall Double-Take from and click **Uninstall** in the toolbar.
 - **Double-Take PowerShell**—You can use the Double-Take PowerShell module to uninstall Double-Take from one or more servers using the cmdlet `Uninstall-DoubleTake -RemoteServer <Server_Name>`. See the latest PowerShell documentation on the Double-Take SDK site at <https://sdk.doubletake.com/double-take-sdk-resource-guide/>.

Chapter 3 Licensing and activation

If you choose not to license and activate your servers during the installation, you will have to license and activate them using the Double-Take Console (Appliances are not licensed during appliance deployment.) There are several licensing and activation methods that depend on the Double-Take product you are using, the type of license you have purchased, and your Internet connection (or lack thereof).

- **Licensing**—You can manage your licenses as well as apply them to servers using the Double-Take Console.
 - *Managing the Double-Take license inventory* on page 36—You can centrally manage your Double-Take licenses through the license inventory feature in the Double-Take Console. Ideally, you should select one machine in your organization where you want to maintain the license inventory because the license inventory does not communicate between machines.
 - *Licensing a server or appliance* on page 39—If you did not license your server during the installation (appliances are not licensed during deployment), you can apply a Double-Take license using the console.
- **Activation**—Review *Licensing and activation terminology* on page 33 for details on the amount of time you have to activate your license. When you are ready to activate your licenses, you can choose to activate them one at a time or in groups.
 - *Activating a single license* on page 41—Activate a license on a single server or appliance. You can repeat this process for other servers and appliances.
 - *Activating multiple licenses* on page 44—Activate licenses on more than one server or appliance.



If you are participating in the Double-Take Software Metered Usage program, your licensing and activation is different. For basic information, see *Preparing a target server for Metered Usage* on page 46. For complete details, see the help link in the Metered Usage Web Portal.

Licensing and activation terminology

Review the following lists to help you understand the licensing and activation terminology that Double-Take uses. You will also find activation information below.

- **Terminology**—The following licensing and activation terms are used in the Double-Take products. For definitions of other Double-Take terms, such as source, target, appliance, and so on, see the Double-Take documentation for your product.
 - **Serial number**—This is a unique identifier assigned to your organization. It associates your organization to your license keys.
 - **License Key**—This is the key that you receive when you buy or upgrade Double-Take. You may receive one or more keys depending on the Double-Take product you have purchased and your server operating systems.
 - **Activation Key**—This is the key that activates the license on a particular server. Once a license key is activated, it cannot be used on any other server without first deactivating from the server where it is currently activated.
- **Servers and appliances that need to be licensed**—Licensing depends on the Double-Take product you are using.
 - **Double-Take Availability for Windows**—Your source and target servers must both be licensed, including a Windows target virtual recovery appliance on an ESX host.
 - **Double-Take Availability for Linux**—Your source and target servers must both be licensed, including a Linux target virtual recovery appliance on an ESX host.
 - **Double-Take DR**—Your source, repository server, and your recovery server must all be licensed.
 - **Double-Take Move**—Your source and target must both be licensed, including a Windows target virtual recovery appliance on an ESX host.
 - **Double-Take Reporting Service**—A Double-Take Reporting Service server does not need to be licensed.
- **Licenses that need to be activated**—Not all licenses require activation. For example, an evaluation license does not need to be activated. For those licenses that do require activation, review the following list to see which license requires activation for the Double-Take product you are using.
 - **Double-Take Availability for Windows**—The licenses on your source and target must both be activated. This includes a Windows target virtual recovery appliance on an ESX host.
 - **Double-Take Availability for Linux**—The licenses on your source and target must both be activated. This includes a Linux target virtual recovery appliance on an ESX host.
 - **Double-Take DR**—Only the license on your source (called an agent license) must be activated. The repository and recovery target licenses do not have to be activated.
 - **Double-Take Move**—Only your source licenses must be activated. Double-Take Move target licenses do not have to be activated.
- **Time required for activation**—The amount of time you have to activate your license depends on the product you are using.
 - **Double-Take Availability**—For those Double-Take Availability licenses that require activation, you have 14 days to activate the license. Any jobs created with a license that has not been activated will automatically stop after the 14 day grace period has expired.

- **Double-Take DR**—Only a source Double-Take DR license (called an agent license) may need to be activated. If it does require activation, you have 14 days to activate it. Double-Take DR repository and recovery target licenses do not have to be activated. Any jobs created with a license that has not been activated will automatically stop after the 14 day grace period has expired.
- **Double-Take Move**—Double-Take Move licenses do not have a grace period. Only your source licenses must be activated and they must be activated before they can be used to create a job. Double-Take Move target licenses do not have to be activated. Once a source license is activated, you will have a specific number of days to complete your migration, depending on your license type.
- **Valid licenses by job**—You must have a valid license on your source, target, or appliance for the type of job you want to create. The various job types are listed along the left side of the following table. Licenses that can be used for that job type are checked in the remaining columns.

		Availability							DR			Move		
		Double-Take Availability for Windows	Double-Take Availability Virtual Guest *	Double-Take Availability for Windows Vsphere Recovery Appliance *	Double-Take Availability for Windows Hyper-V Recovery Appliance *	Double-Take Availability for Linux	Double-Take Availability for Linux Virtual Edition	Double-Take Availability for Linux vSphere Recovery Appliance	Double-Take DR for Windows Agent	Double-Take DR for Windows Repository	Double-Take DR For Windows Recovery Target	Double-Take Move Source	Double-Take Premium Migration	Double-Take Move Target
Files and folders (Windows)	source target	✓	✓										✓	✓
Files and folders (Linux)	source target					✓	✓							
Full server (Windows)	source target	✓	✓										✓	✓
Full server (Linux)	source target					✓	✓						✓	✓
SQL	source target	✓	✓										✓	✓
Full server to Hyper-V	source target host	✓	✓		✓								✓	✓
Full server (Windows) to ESX	source target appliance	✓	✓	✓									✓	✓
Full server (Linux) to ESX	source target appliance					✓	✓	✓					✓	✓
GeoCluster	source cluster target cluster	✓												
DR data protection	source repository								✓					
DR full server protection	source repository								✓	✓				
DR data recovery	repository recovery								✓	✓	✓			
DR full server recovery	repository recovery								✓	✓	✓			
Data migration	source target	✓	✓									✓	✓	✓
Full server migration (Windows)	source target	✓	✓									✓	✓	✓
Full server migration (Linux)	source target					✓	✓					✓	✓	✓
Full server to Hyper-V migration	source target host	✓	✓									✓	✓	✓
Full server (Windows) to ESX migration	source target appliance	✓	✓									✓	✓	✓
Full server (Linux) to ESX migration	source target appliance					✓	✓					✓	✓	✓

- The three Double-Take Availability licenses marked with an asterisk will all be identified as Double-Take Availability for Windows Virtual Edition once they are entered into the Double-Take Console.
- Some Double-Take licenses have editions that correspond to your operating system edition. For example, Double-Take Availability for Windows Standard Edition and Double-Take Availability for Windows Premium Edition are for Windows 2012 Standard and Windows 2012 Datacenter, respectively. Be sure you have the correct Double-Take edition for your operating system.

Managing the Double-Take license inventory

You can centrally manage your Double-Take licenses through the license inventory feature in the Double-Take Console. Ideally, you should select one machine in your organization where you want to maintain the license inventory because the license inventory does not communicate between machines.

By default, the license inventory feature is enabled. You can, and should, disable it on machines that are not maintaining your license inventory. To disable the license inventory, select **Options** from the console toolbar, deselect **Enable license inventory**, and click **Save**.

To manage your license inventory, select **License Inventory** in the toolbar.



The license inventory feature may not appear in your console if your service provider has restricted access to it.

On the **License Inventory** page, you can sort the data within a column in ascending and descending order. You can also move the columns to the left or right of each other to create your desired column order. The list below shows the columns in their default left to right order.

Warning or error icon

Warnings indicate the license has not been activated, or it is temporary and will expire. Errors indicate the license has expired.

Serial Number

The serial number associated with the license

Product

The Double-Take product associated with the license

License Type

A short description of the type of license, including any expiration date or quantity information

Version

The product version number associated with the license

Server

The name of the server the license has been applied to, if any. If the same license key is used on multiple servers, for example with evaluation licenses, you will see multiple entries in the license inventory for each server that is using that license key.

Use the following toolbar controls to manage your licenses.

Import Licenses

Imports all of the license keys from a license inventory file into the license inventory. This is a file you may have received from Double-Take Software, or it may be from another Double-Take Console. Depending on the information contained in the file, you may be prompted to activate some of the servers in your license inventory.

Export Licenses

Exports all of the license keys in the license inventory to a license inventory file. This is a file that you may want to send to Double-Take Software when upgrading keys for a newer release or when activating licenses. You may also want this file so you can store and back up your license keys.

Add Licenses

Adds license keys into your license inventory. Enter the license keys in the Add Licenses dialog box in the space provided, separating multiple keys by a comma or by putting each key on a separate line.

Remove License

Removes the selected license key from the license inventory. You can only remove license keys that are not being used by any server in the console.

Reclaim License

Returns a deactivated license key (or license keys that have not been activated or do not need activation but are no longer in use on a server) back into the console's license inventory. Reclaimed licenses can then be activated or used on another server. This process does not perform the deactivation process. See *Deactivation and host-transfers* on page 48 for that process.

Activate

Activates the license keys in the license inventory.

The activation process will automatically deactivate any licenses that have been uninstalled using the Double-Take Console.

The activation process will automatically upgrade any Double-Take Move version 7.0 or 7.1 license keys in your license inventory.

Group By

Allows you to group the list of licenses by product, version, serial number, or server. If you do not want any grouping, select **Do not group**.

Search

Allows you to search all of the columns for items in the list that match the criteria you have entered.

Licensing a server or appliance

If you did not license your server during the installation (appliances are not licensed during deployment), you can apply a Double-Take license using the console.

1. Make sure you have your server or appliance inserted in the console.
2. From the **Servers** page, double-click on the server to view the server's details.
3. From the **View Server Details** page, click on the **Edit server properties** link.
4. Expand the **Licensing** section.
5. Licensing identifies your Double-Take license keys.



The fields and buttons in the **Licensing** section will vary depending on your Double-Take Console configuration and the type of license keys you are using.

Licensing

Add license keys and activation keys:

Choose...

Add

Current license keys:

	Product	Serial Number	Expiration Date
⚠	Double-Take Availability for Windows...	7323	10/12/2014

RemoveCopy

ⓘ

Changes to licensing are applied immediately.

⚠

Activation

This server has one or more licenses that require activation. To fully activate your software you can use the activate-online feature to complete the activation process using your internet connection. Alternatively using the link below, you may obtain activation keys from our activation website and add them above to activate your software.

Server information:

tmax74pava8f5epfn7juk1kc6ebz761f7vbqmwpg

Copy

[Get an activation key from our website](#)

Activate Online

- **Add license keys and activation keys**—Your license key or activation key is a 24 character, alpha-numeric key. You can change your license key without reinstalling, if your license changes. To add a license key or activation key, type in the key or click **Choose from inventory** and select a key from your console's license inventory. Then click **Add**.



The license inventory feature cannot be enabled if your service provider has restricted access to it.

- **Current license keys**—The server's current license key information is displayed. To remove a key, highlight it and click **Remove**. To copy a key, highlight it and click **Copy**. To replace a key, enter a new key and click **Add**. If you are replacing an unexpired key with the same version and serial number, you should not have to reactivate it and any existing jobs will continue uninterrupted. If you are replacing an unexpired key with a new version or new serial number or replacing an expired key, you will have to reactivate and remirror.
6. Once you have completed your licensing, click **OK** to return to the **Servers** page.

Activating a single license

You have two options for activating a license on a single server or appliance.

1. If you have not already done so, add your server to the Double-Take Console.
 - a. Click **Servers** in the toolbar.
 - b. Click **Add Servers** in the **Servers** page toolbar.
 - c. Specify the name of your server and the credentials of the account used to install Double-Take, and click **Add**.
 - d. Click **OK**.
2. After your server has been added to the **Servers** page, you can highlight a server and click **Activate Online**. This activates the license on the selected server and applies the activated licenses to the selected server in one step. You must have Internet access for this process. You will not be able to activate a license that has already been activated. If you need to reuse a license, see *Deactivation and host-transfers* on page 48.
3. As an alternative, you can activate the license through a server's properties.
 - a. Highlight a server on the **Servers** page and click **View Server Details** in the toolbar.
 - b. On the **View Server Details** page, click **Edit server properties** under **Tasks**.
 - c. Expand the **Licensing** section.

Licensing

Add license keys and activation keys:

Choose...

Add

Current license keys:

	Product	Serial Number	Expiration Date
⚠	Double-Take Availability for Windows...	7323	10/12/2014

RemoveCopy

ℹ

Changes to licensing are applied immediately.

⚠

Activation
This server has one or more licenses that require activation. To fully activate your software you can use the activate-online feature to complete the activation process using your internet connection. Alternatively using the link below, you may obtain activation keys from our activation website and add them above to activate your software.

Server information:

tmax74pava8f5epfn7juk1kc6ebz761f7vbqmwpg

Copy

[Get an activation key from our website](#)

Activate Online

d. **Activation**—If your license key needs to be activated, you will see an additional **Activation** section at the bottom of the **Licensing** section. To activate your key, use one of the following procedures.

- **Activate online**—If you have Internet access, you can activate your license and apply the activated license to the server in one step by selecting **Activate Online**.



You will not be able to activate a license that has already been activated. If you need to reuse a license, see *Deactivation and host-transfers* on page 48.

- **Obtain activation key online, then activate**—If you have Internet access, click the hyperlink in the **Activation** section to take you to the web so that you can submit your activation information. Complete and submit the activation form, and you will receive an e-mail with the activation key. Activate your server by entering the activation key in the **Add license keys and activations keys** field and clicking **Add**.
- **Obtain activation key offline, then activate**—If you do not have Internet access, go to <https://activate.doubletake.com> from another machine that has Internet access. Complete and submit the activation form, and you will receive an e-mail with the activation key. Activate your server by entering the activation key in the **Add license keys and activations keys** field and clicking **Add**.

The activation key is specific to this server. It cannot be used on any other server. If the activation key and server do not match, Double-Take will not run.



If your Double-Take Availability license keys needs to be activated, you will have 14 days to do so.

If you need to rename a server that already has a Double-Take license applied to it, you should deactivate that license before changing the server name. That includes rebuilding a server or changing the case (capitalization) of the server name (upper or lower case or any combination of case). If you have already rebuilt the server or changed the server name or case, you will have to perform a host-transfer to continue using that license. (Deactivation and host transfers are only available for Double-Take Availability and Double-Take DR licenses.) See *Deactivating a license* on page 49 for complete details on deactivation and host-transfers.

The activation key is specific to each server and cannot be used on any other server. If the activation key and server do not match, Double-Take will not run.



You will not be able to activate a license that has already been activated. If you need to reuse a license, see *Deactivation and host-transfers* on page 48.

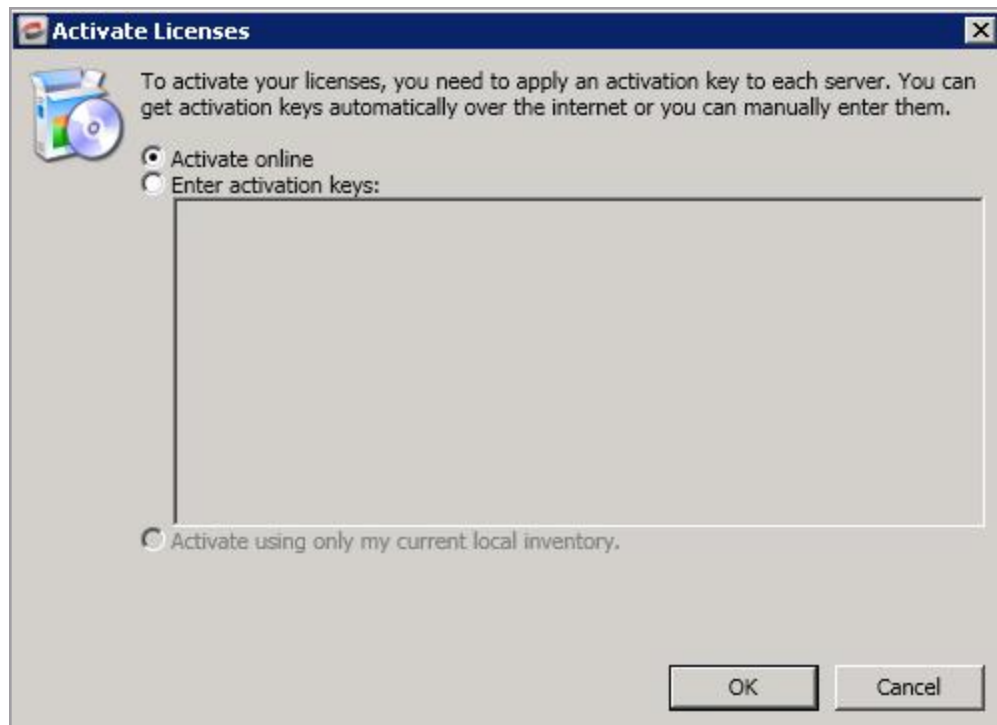
If your Double-Take Availability license keys needs to be activated, you will have 14 days to do so. If your Double-Take DR license keys needs to be activated, you will have 14 days to do so. For Double-Take Move, license keys do not have a grace period and must be activated in order to be used, and once the license has been activated, you will have a specific number of days to complete your migration process, depending on your license type.

If you need to rename a server that already has a Double-Take license applied to it, you should deactivate that license before changing the server name. That includes rebuilding a server or changing the case (capitalization) of the server name (upper or lower case or any combination of case). If you have already rebuilt the server or changed the server name or case, you will have to perform a host-transfer to continue using that license. (Deactivation and host transfers are only available for Double-Take Availability licenses.) See *Deactivating a license* on page 49 for complete details on deactivation and host-transfers.

Activating multiple licenses

You have two options for activating a license on more than one single server or appliance.

1. If you have not already done so, add your servers to the Double-Take Console.
 - a. Click **Servers** in the toolbar.
 - b. Click **Add Servers** in the **Servers** page toolbar.
 - c. Specify the name of your server and the credentials of the account used to install Double-Take, and click **Add**.
 - d. Add each server and then click **OK**.
2. After your servers have been added to the **Servers** page, you can highlight multiple servers and click **Activate Online**. This activates the license on the selected servers and applies the activated licenses to the selected servers in one step. You must have Internet access for this process. You will not be able to activate a license that has already been activated. If you need to reuse a license, see *Deactivation and host-transfers* on page 48.
3. As an alternative, you can activate the licenses through the **License Inventory** page.
 - a. Select **License Inventory** in the toolbar.
 - b. Click **Activate** in the toolbar.



- **Activate online**—If you have Internet access, you can activate all of the licenses in your license inventory in one step by selecting **Activate Online** and then click **OK**.
- **Enter activation keys**—If you do not have Internet access, you will have to use the following process.
 1. Gather the server information for each server. You can do this using either of the following methods.

- Manually record the server information text displayed in the server properties **Licensing** section for each server. (From the **Servers** page, highlight a server, click **View Server Details**, then **Edit server Properties**.)
 - Export your license inventory. (Select **License Inventory** in the toolbar and then click **Export Licenses**.)
2. From a machine with Internet access, go to <https://activate.doubletake.com>.
 3. Enter your server information manually or upload your exported license inventory file.
 4. You will receive an email with your activation keys. Manually enter the activation keys in the space provided, separating keys by a comma or by entering them on separate lines.
 5. Click **OK**.
- **Activate using only my current local inventory**—Select this option to use the current license inventory without accessing the Internet. For example, you may want to use this option if you selected not to activate the servers when you imported a license inventory file.

The activation key is specific to each server and cannot be used on any other server. If the activation key and server do not match, Double-Take will not run.



You will not be able to activate a license that has already been activated. If you need to reuse a license, see *Deactivation and host-transfers* on page 48.

The activation process through the **License Inventory** page will also automatically deactivate any licenses that have been uninstalled using the Double-Take Console.

The activation process through the **License Inventory** page will also automatically upgrade any Double-Take Move version 6.0 or 7.0 license keys in your license inventory.

If your Double-Take Availability license keys need to be activated, you will have 14 days to do so. If your Double-Take DR license keys need to be activated, you will have 14 days to do so. For Double-Take Move, license keys do not have a grace period and must be activated in order to be used, and once the license has been activated, you will have a specific number of days to complete your migration process, depending on your license type.

If you need to rename a server that already has a Double-Take license applied to it, you should deactivate that license before changing the server name. That includes rebuilding a server or changing the case (capitalization) of the server name (upper or lower case or any combination of case). If you have already rebuilt the server or changed the server name or case, you will have to perform a host-transfer to continue using that license. (Deactivation and host transfers are only available for Double-Take Availability licenses.) See *Deactivating a license* on page 49 for complete details on deactivation and host-transfers.

Preparing a target server for Metered Usage

Double-Take Software Metered Usage is a licensing program that enables service providers the ability to offer Double-Take products on a subscription basis. Metered Usage automates the process for activating and renewing metered Double-Take licenses and tracks pay-as-you-go usage. Double-Take Software hosts and manages all of the Metered Usage components except the Double-Take source and target. The service provider configures and maintains the target. Depending on the Service Level Agreement (SLA) between the service provider and their end user, the server provider or the end user may configure and maintain the source.

In order to use this program, the service provider must have a specific metered usage license on each Double-Take target. Use the following instructions to prepare a target server for Metered Usage. The instructions are dependent on your target server operating system.



For the latest and complete details on Metered Usage, see the help link in the Metered Usage Web Portal.

1. Install Double-Take on the target server. When you are prompted for a license key, you can leave it blank.
2. Access the Metered Usage web portal from the target, and click **Prepare Target Server**.
3. Click on the configuration tool appropriate for the target operating system. If you are using Windows, follow step 4. If you are using Linux, follow step 5.
4. On a Windows target server, run the .exe file when prompted.
 - a. Follow the on-screen instructions to install the program.
 - b. When the installation is complete, select **Start, Programs, Vision Solutions, Double-Take Metered Usage Configurator**.
 - c. Specify your **Service provider account number**. The account number is displayed in the upper right corner of the metered usage portal.
 - d. Specify the **Customer name**. Use the customer name configured on the Customers list.
 - e. Select the appropriate **Product** that corresponds with the Double-Take product being used.
 - f. Click **OK** to activate the metered usage license on the target.
 - g. When prompted, click **Yes** to stop Double-Take on the target. After processing is complete, Double-Take will automatically be restarted.
 - h. Once Double-Take has been restarted, click **Exit**.
5. On a Linux target server, extract the .tar.gz file and run the setup script in a terminal window.
 - a. Select option **1** and specify the service provider account number and customer name. The account number is displayed in the upper right corner of the metered usage portal. Use the customer name configured on the Customers list.
 - b. Select option **2** to activate the metered usage license on the target.
 - c. Once the license has been retrieved, press any key to continue.
 - d. Once the license has been entered into the configuration file, press any key to return to the main menu.

- e. If Double-Take is already running on the target, select option **3** to restart it with the new configuration file.
- f. Select option **Q** to exit the configuration tool.

Chapter 4 Deactivation and host-transfers

There are two ways to reuse a Double-Take Availability or Double-Take DR license. (Double-Take Move licenses cannot be reused.)

- *Deactivating a license* on page 49—This process allows you to automatically deactivate a license from a server, making it available to be used on another server. In order to complete this process, you must be able to uninstall Double-Take from the server you want to deactivate using the Double-Take Console or the Windows uninstall applet. You can complete an unlimited number of deactivations.
- *Completing a host-transfer* on page 50—This process allows you to manually deactivate a license through the Double-Take Software host-transfer web page. You will have to use this process if you cannot uninstall Double-Take using the Double-Take Console or the Windows uninstall applet. You can complete two host transfers without intervention. Additional, host transfer will require assistance from Double-Take Software.

Deactivating a license





This process allows you to automatically deactivate a license from a server, making it available to be used on another server. In order to complete this process, you must be able to uninstall Double-Take from the server you want to deactivate using the Double-Take Console or the Windows uninstall applet. You can complete an unlimited number of deactivations.



If you failed over a full server job but did not enable reverse protection when you configured the job, you will lose the activated target license. To workaround this situation, uninstall Double-Take on the failed over source (currently on the target hardware) using the Double-Take Console or Windows uninstall applet, and the uninstall process will deactivate both the source and target licenses. You can then reinstall Double-Take on the failed over source (currently on the target hardware) and reactivate the source's original license.

If you are using the Windows uninstall applet, select to deactivate your licenses when prompted. You must have Internet access for the deactivation process.

Use the following instructions to uninstall using the Double-Take Console.

1. Open the Double-Take Console.
2. From the **Jobs** page, confirm that there are no jobs currently using the server that you want to uninstall from. If there are, stop and delete those jobs.
3. From the **Servers** page, highlight the server you want to uninstall from and click **Uninstall**  from the toolbar.
4. When the uninstallation is complete, select **License Inventory** in the toolbar.
 - **Internet access**—If you have Internet access, click **Activate** . Select **Activate online** and click **OK**. This option will contact the Double-Take Software activation web site to automatically deactivate the licenses that have been uninstalled through the Double-Take Console.
 - **No Internet access**—If you do not have Internet access, use the following procedure.
 1. Click **Export Licenses**  and save your license inventory to a file.
 2. From a machine with Internet access, go to <https://activate.doubletake.com> and upload your exported license inventory file. You will receive an email with an updated license inventory file.
 3. Click **Import Licenses**  and specify the updated license inventory that you received. Confirm that you want to activate the licenses, which in this case is actually deactivating the licenses.

After your license has been deactivated, you can reuse it on another Double-Take server.

Completing a host-transfer

This process allows you to manually deactivate a license through the Double-Take Software host-transfer web page. You will have to use this process if you cannot uninstall Double-Take using the Double-Take Console or the Windows uninstall applet. You can complete two host transfers without intervention. Additional, host transfer will require assistance from Double-Take Software.

1. From your Double-Take Console, select **License Inventory** in the toolbar.
2. Click **Export Licenses** and save your license inventory to a file.
3. From a machine with Internet access, go to <https://activate.doubletake.com/hosttransferfile.aspx> and upload your exported license inventory file.

After your license has been deactivated, you can reuse it on another Double-Take server.