



C A S P E RTM

SERVER EDITION 11

STARTUP DISK CREATOR GUIDE



Future Systems
SOLUTIONS

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Introduction

The Casper™ Startup Disk enables you to boot and run Casper Server Edition directly from a USB flash drive, CD-ROM or DVD disc with full access to external USB and Firewire hard disks.

While a Casper Startup Disk is often unnecessary, it may be needed to restore a backup in certain situations. For example, a Casper Startup Disk is required to restore an image file or restore-point backup from a disk that does not contain the Casper Startup and Recovery Environment. It may also be needed to restore a bootable backup from an external hard drive if Windows is unable to boot and run from the external hard drive.



A Casper Startup Disk is not required to restore the primary system drive from a bootable backup if the server supports booting and running directly from the backup disk. Likewise, a Casper Startup Disk is not needed to restore the primary system drive from a restore-point backup if you added the Casper Startup and Recovery Environment to your backup disk when creating the restore-point backup.

System Requirements

While the Casper Startup Disk is designed to run on virtually all Windows 2000 and later systems, installation and creation of the Casper Startup Disk must be performed on a system running Windows Vista or later.

Installation Requirements

- Windows Server 2019, Windows Server 2016, Windows Server 2012 R2, Windows Server 2012, Windows Server 2008 R2, Windows Server 2008, Windows 10, Windows 8.x, Windows 7, or Windows Vista
- 10GB available disk space
- 1GB RAM (2GB or more recommended)
- Windows 10 Assessment and Deployment Kit (ADK), Windows 8 / Windows 8.1 Assessment and Deployment Kit (ADK), Windows 7 Automated Installation Kit (AIK), or compatible version of Windows 8 / Windows 8.1 Recovery Environment
- Administrator rights

Startup Disk Run-time Requirements

- 500MB available disk space
- 2GB RAM (4GB or more recommended)

Creating and Using a Casper Startup Disk


The Startup Disk Creator wizard will prepare a USB flash drive, CD, or DVD disc to boot and run Casper Server Edition. It can also create an ISO disc image file that can be used to create a CD or DVD later.

Installing the Windows Preinstallation Environment

The Microsoft Windows Preinstallation Environment (WinPE) must be installed prior to creating a Casper Startup Disk. If a compatible version of WinPE is not available, the Casper Startup Disk Creator will automatically download and install a copy for you.

The Casper Startup Disk Creator is compatible with WinPE 3.x¹, WinPE 4.0, WinPE 5.x, and WinPE 10.0. When running on a computer containing a compatible copy of the Windows 8.x Recovery Environment (WinRE 4.0/5.0), the Casper Startup Disk Creator can obtain the necessary components of WinPE directly from the installed WinRE. In other cases, WinPE must be obtained by installing a compatible Windows Assessment and Deployment Kit (ADK) or the Windows 7 Automated Installation Kit (AIK). The Casper Startup Disk Creator will attempt to download and install the appropriate kit before creating a Startup Disk for the first time. Alternatively, you can download and install the Windows ADK or Windows AIK manually. For details, see <https://www.fssdev.com/link?105>.

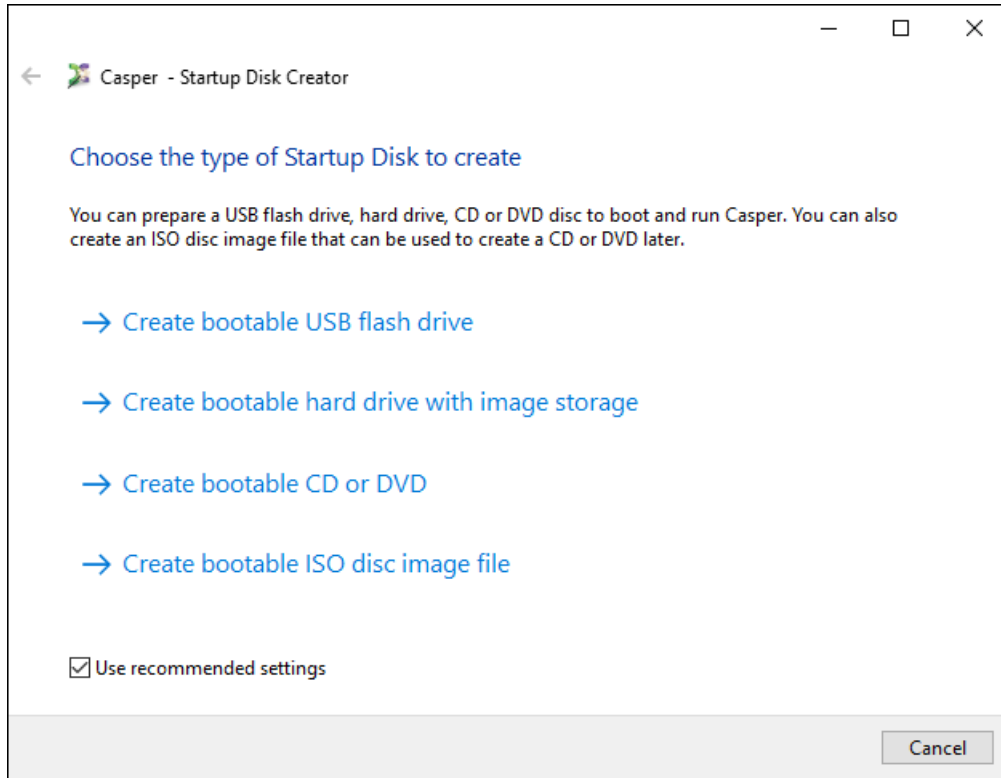
Starting the Casper Startup Disk Creator

1. Open **Casper Server Edition**
2. On the **Tools**  menu, click **Create Startup Disk**

¹ Casper does not support the VHDX image file format when running within WinPE 3.x (Windows 7 AIK).

Creating a Casper Startup Disk

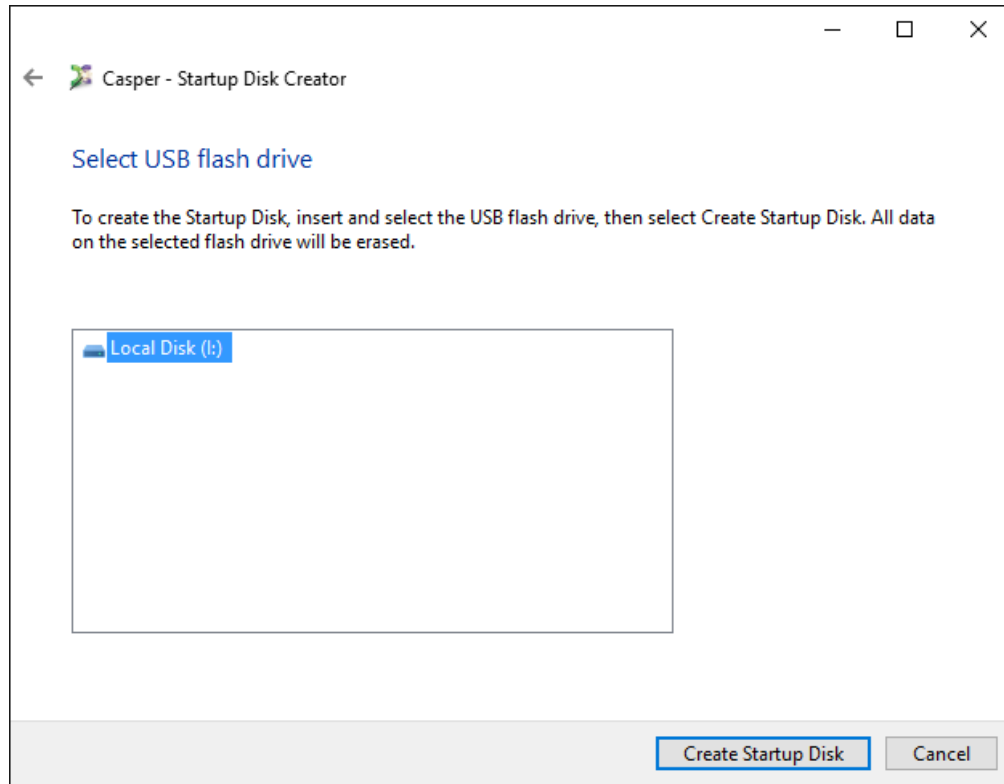
1. Open **Casper Startup Disk Creator**.
2. Check **Use recommended settings** and then choose the type of Startup Disk to create.



There are four options:

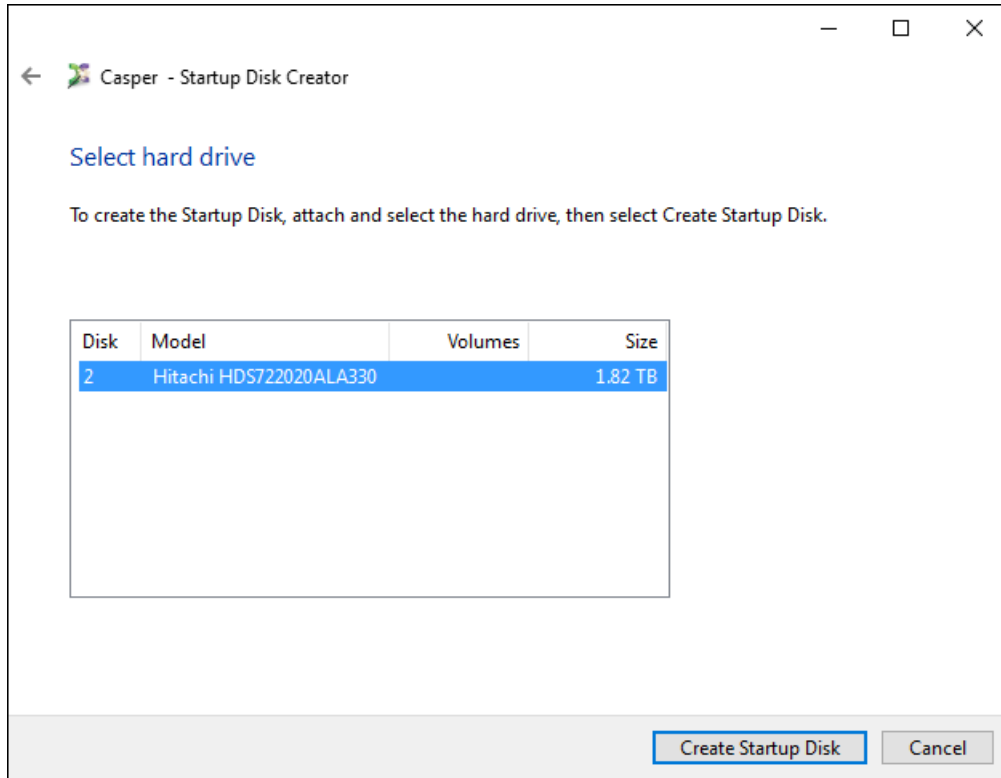
- **Create bootable USB flash drive.** This option will prepare a USB flash drive to boot and run Casper.
- **Create bootable hard drive with image storage.** This option will prepare a hard drive to boot and run Casper and also store image backups.
- **Create bootable CD or DVD.** This option will prepare a CD or DVD disc to boot and run Casper.
- **Create bootable ISO disc image file.** This option will create an ISO disc image file, which can be used to create a CD or DVD disc later or used to emulate a bootable Casper Startup Disk CD within a virtual environment.

3. If creating a bootable USB flash drive, insert and select the USB flash drive, then click **Create Startup Disk**. All data on the flash drive will be erased.



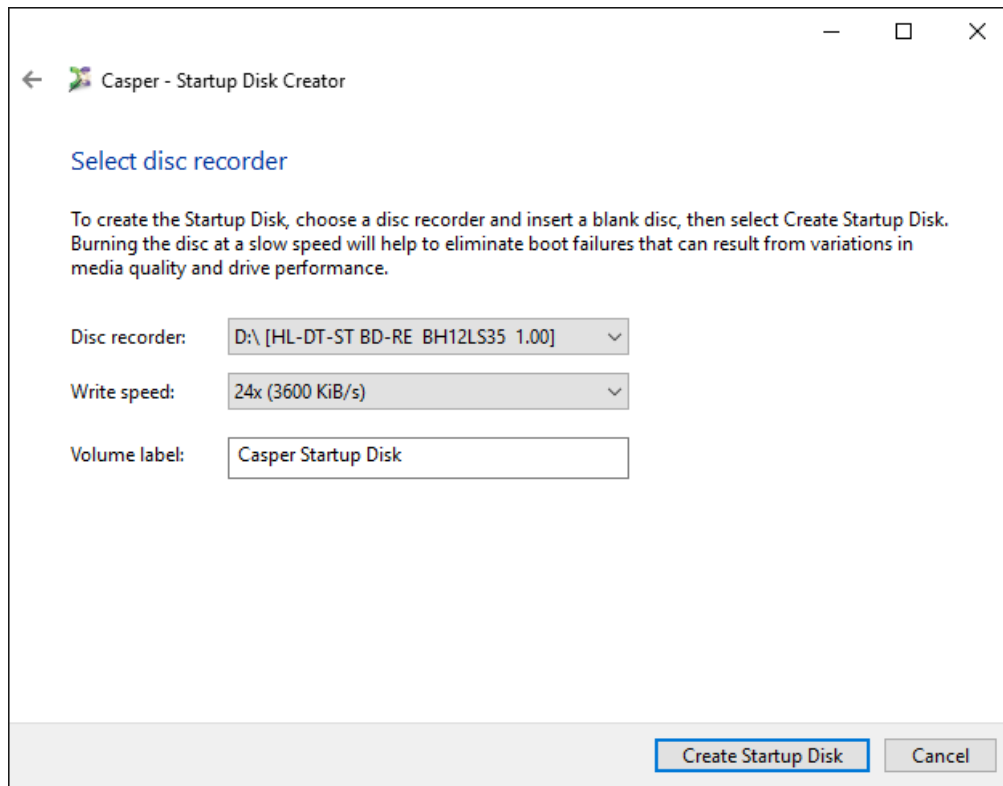
Except when selecting a USB flash drive that is presently configured as a Casper Startup Disk, all data on the flash drive will be erased. If the flash drive is currently configured as a Casper Startup Disk, only existing Casper settings will be preserved along with any files and folders located within the \Drivers and \Private folders.

If creating a bootable hard drive with image storage, select the hard drive to use and then click **Create Startup Disk**.

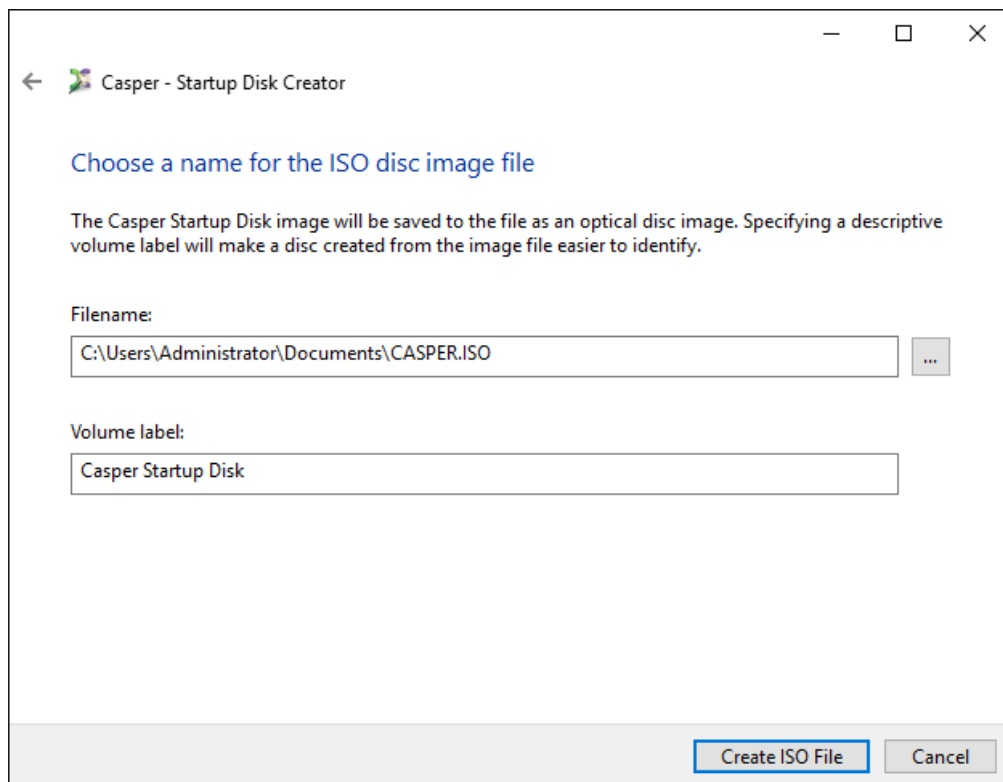


Only drives that are uninitialized, empty, or that have already been configured as a Casper Startup Disk or contain the Casper Startup and Recovery Environment will be listed.

If creating a bootable CD or DVD, select a disc recorder and insert a blank disc, and then click **Create Startup Disk**.



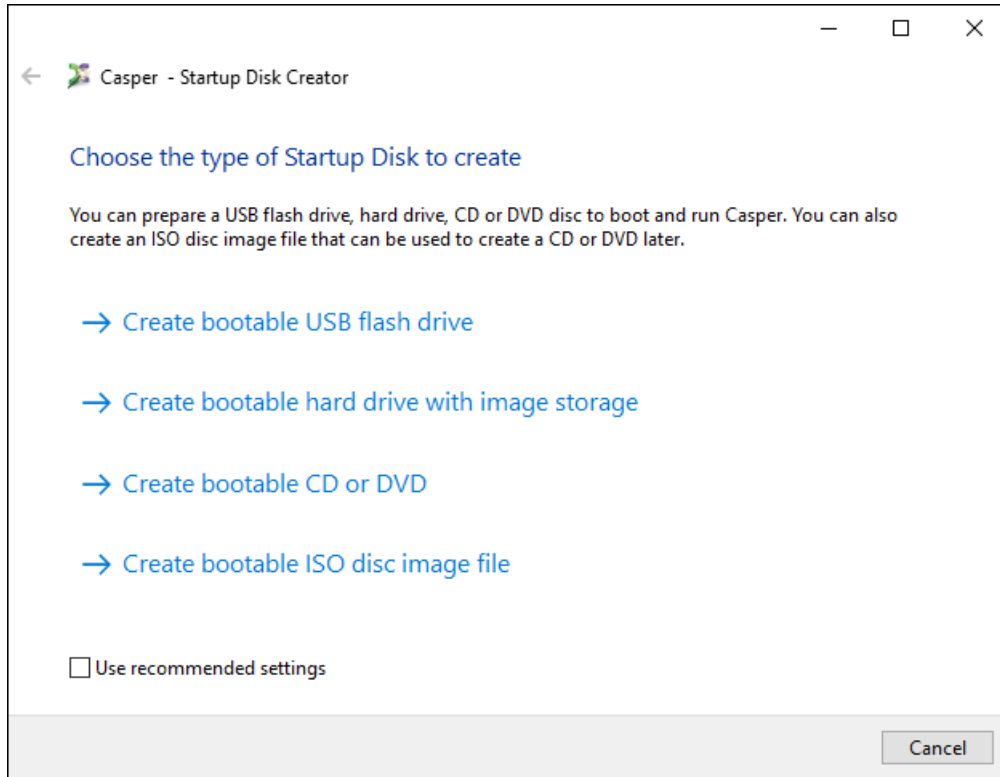
If creating a bootable ISO disc image file, type a name for the file and click **Create ISO File**.



Creating a Customized Casper Startup Disk (Advanced)

You can choose to use a specific version of Windows PE, add special drivers, and specify custom network settings by creating a customized Casper Startup Disk. Follow this procedure:

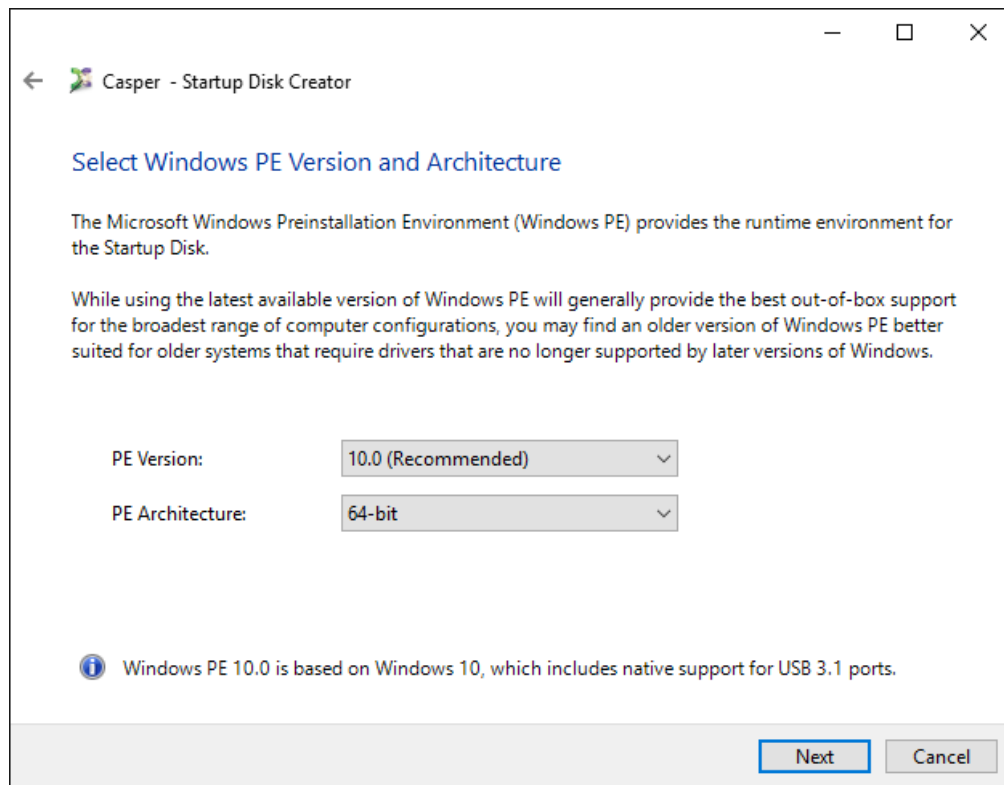
1. Open **Casper Startup Disk Creator**.
2. Uncheck **Use recommended settings** and then choose the type of Startup Disk to create.



There are four options:

- **Create bootable USB flash drive.** This option will prepare a USB flash drive to boot and run Casper.
- **Create bootable hard drive with image storage.** This option will prepare a hard drive to boot and run Casper and also store image backups.
- **Create bootable CD or DVD.** This option will prepare a CD or DVD disc to boot and run Casper.
- **Create bootable ISO disc image file.** This option will create an ISO disc image file, which can be used to create a CD or DVD disc later or used to emulate a bootable Casper Startup Disk CD within a virtual environment.

3. Choose the specific version and architecture of the Windows Preinstallation Environment to use for the runtime environment and then click **Next**.

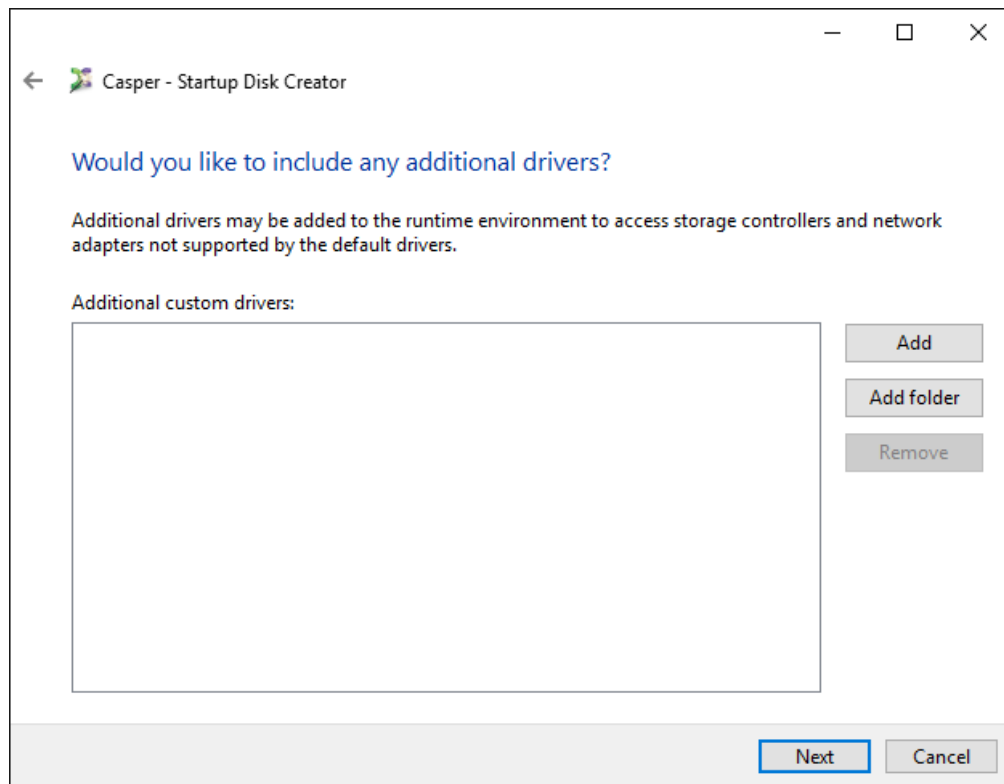


The PE version does need to be based on the same version of Windows running on the computer. For example, if the computer is running Windows 7, you may choose to use PE version 10.0, which is based on Windows 10.



The PE architecture best suited for the computer will be selected by default.

- Specify additional drivers to add to the runtime environment. Additional drivers may be required to provide access to storage devices and network resources not supported by the drivers included within the Windows ADK or Windows AIK.



Click **Add** and select the Setup Information File (INF) to include a specific driver. To add more than one driver at a time, click **Add folder** and select the folder containing the drivers. All drivers within the selected folder and within any subfolders will be added to the runtime environment. Incompatible drivers will be ignored.



*The **Include additional storage drivers** and **Include additional network drivers** options are available only when using WinPE 3.0. These options will not appear when using a later version of WinPE to create the Startup Disk.*



*Adding a large number of custom drivers with **Add** or **Add folder** can significantly increase the amount of time required to create the Startup Disk.*

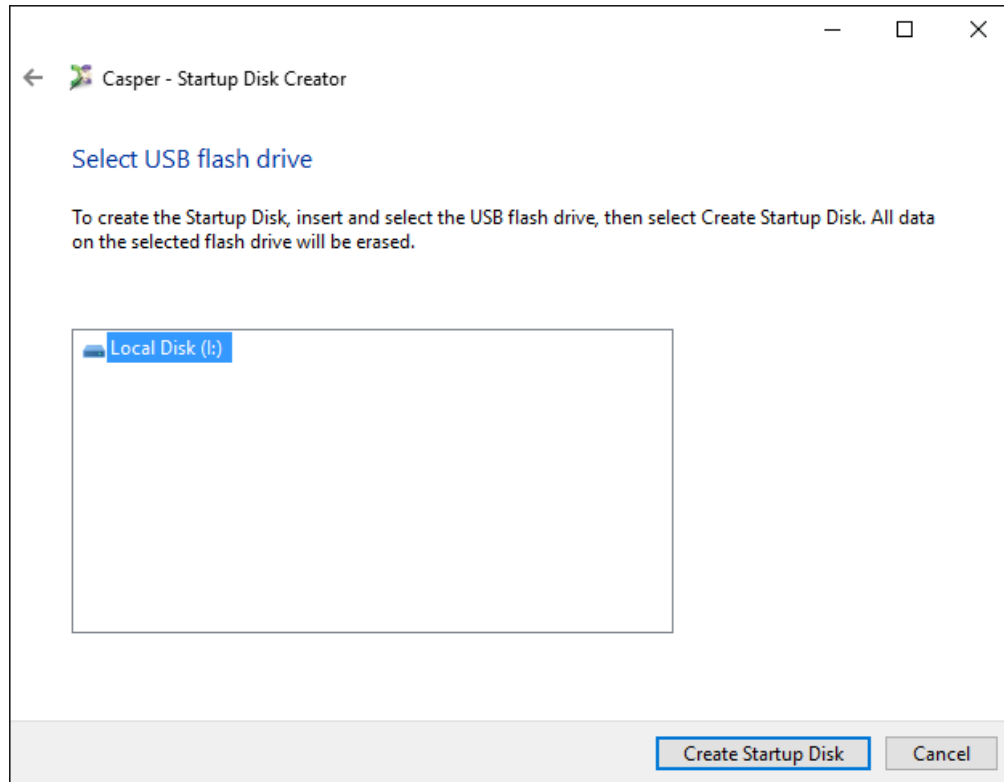
- Define the network configuration for the runtime environment. You can configure a specific network configuration for each adapter discovered within the runtime environment.

The screenshot shows the 'Define Network Settings' dialog box. At the top, it says 'Casper - Startup Disk Creator'. Below that, the title is 'Define Network Settings'. There is a 'Network adapter:' dropdown menu with '0' selected. Below this, there are two radio button options: 'Obtain an IP address automatically' (which is selected) and 'Use the following IP address:'. The 'Use the following IP address:' option has four input fields: 'IP address:', 'Subnet mask:', 'Default gateway:', and another 'Default gateway:' field. Below these, there are two more radio button options: 'Obtain DNS server address automatically' (selected) and 'Use the following DNS server addresses:'. The 'Use the following DNS server addresses:' option has two input fields: 'Preferred DNS:' and 'Alternate DNS:'. At the bottom right, there are 'Next' and 'Cancel' buttons.

- Choose whether to have a network drive mapped automatically at startup. The **User** and **Password** fields are optional and may be left blank. You will be prompted to provide the missing credentials if necessary at startup.

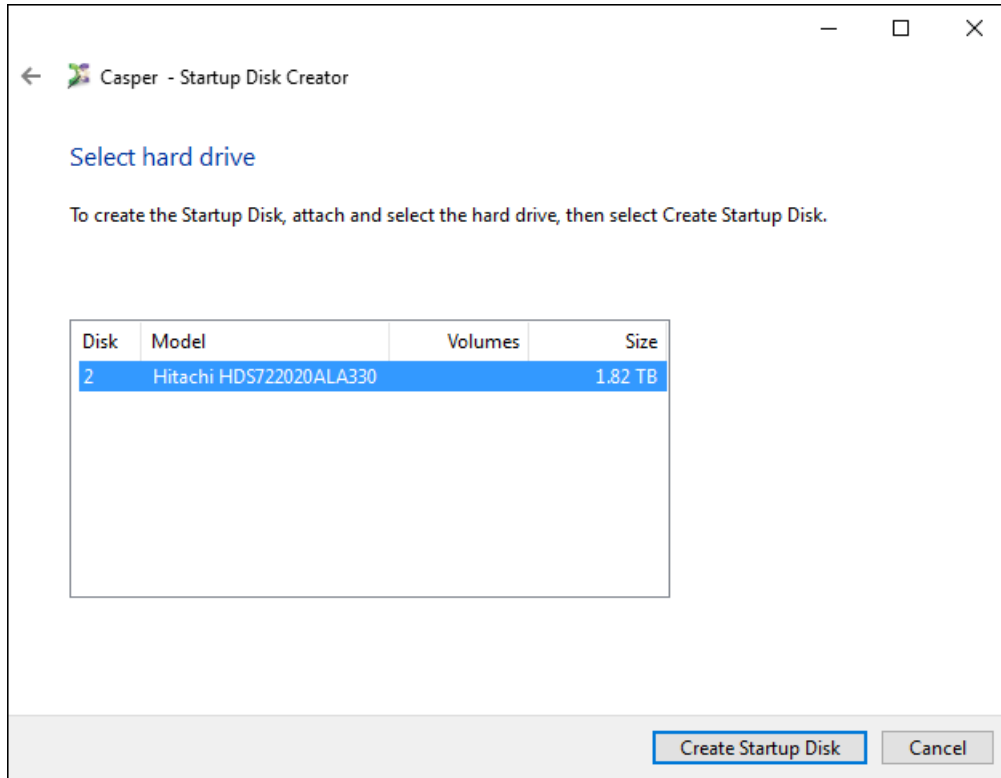
The screenshot shows the 'Would you like to map a network drive automatically at startup?' dialog box. At the top, it says 'Casper - Startup Disk Creator'. Below that, the title is 'Would you like to map a network drive automatically at startup?'. There is a checkbox labeled 'Map the following network drive at startup:'. Below this, there is a 'Drive:' dropdown menu with 'Z:' selected. Below that, there is a 'Folder:' input field with a dropdown arrow and a 'Browse' button. Below the 'Folder:' field, there is an example: 'Example: \\server\share'. Below this, there is a section titled 'Connect using the following credentials:'. This section has two input fields: 'User:' and 'Password:'. At the bottom right, there are 'Next' and 'Cancel' buttons.

7. If creating a bootable USB flash drive, insert and select the USB flash drive, then click **Create Startup Disk**. All data on the flash drive will be erased.



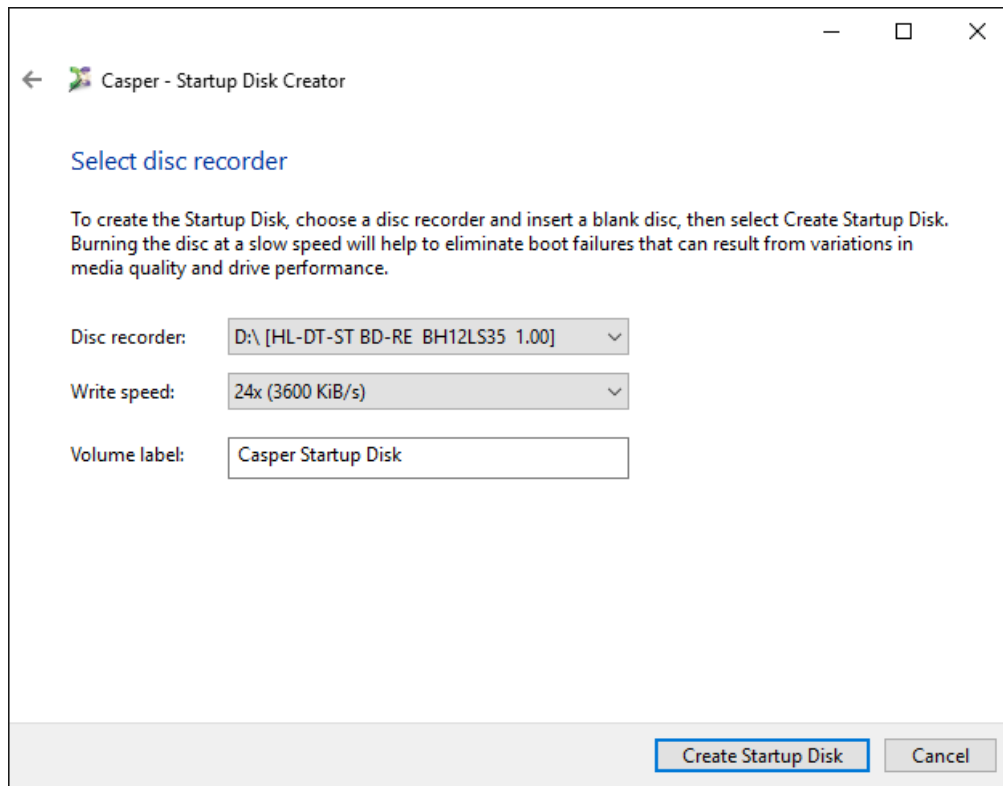
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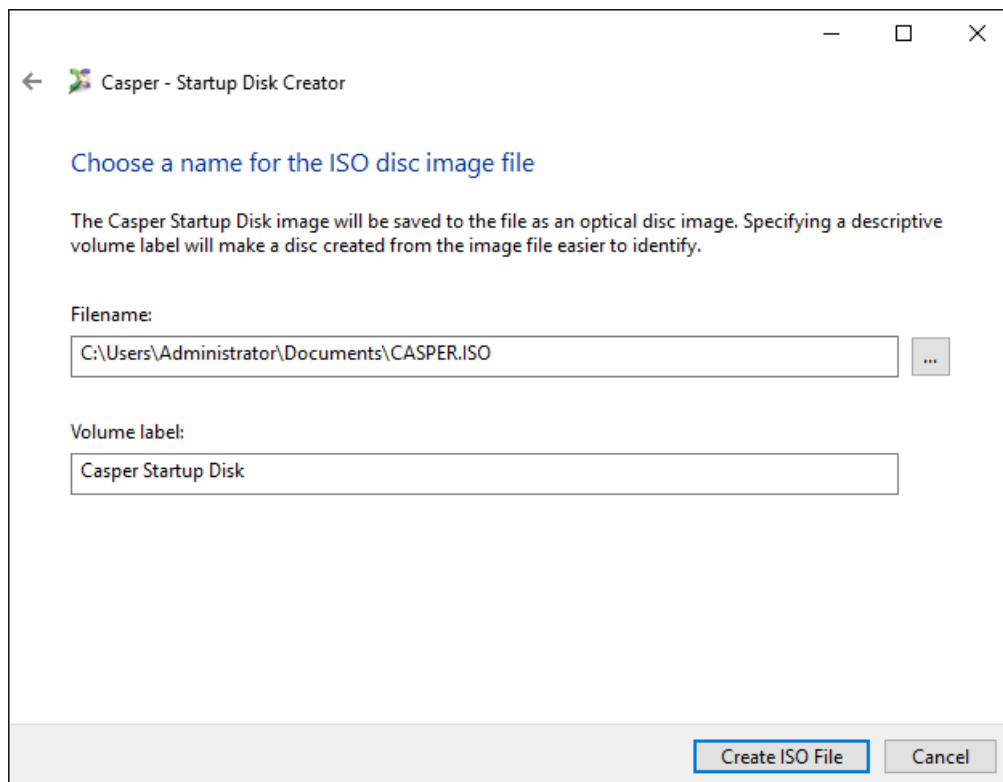


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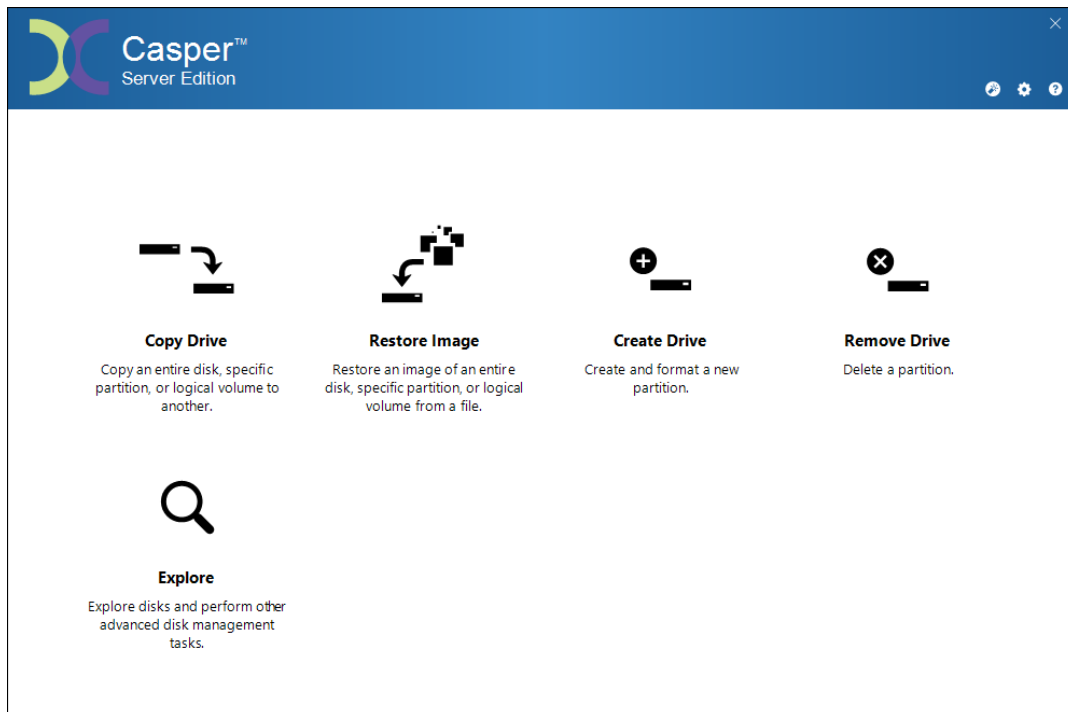
If creating a bootable ISO disc image file, type a name for the file and click **Create ISO File**.



Using the Casper Startup Disk

The Casper Startup Disk can be used to restore the Windows system disk from an image file or Casper restore-point backup. You can also use the Casper Startup Disk to restore the Windows system disk when you are unable to boot the computer directly from a Casper backup hard disk. For example, if you used an external hard disk to create a bootable backup, but the computer will not boot and run from an external hard disk, you can restore the computer by booting from the Casper Startup Disk.

Booting a computer from the Casper Startup Disk may take several minutes. Once it has completed the boot process, Casper SmartRestore™ will attempt to automatically identify your backup and prompt you to begin the restore. If SmartRestore is unable to locate your backup, the Casper console will display.



When running from the Casper Startup Disk, temporary disk unit numbers and drive letters will be assigned, which may be different than those assigned by Windows when the system is running normally.

Adding drivers to an existing Casper Startup Disk

The Casper Startup Disk boots and runs Casper within a self-contained Windows Preinstallation (WinPE) environment. You can add additional drivers to a Casper Startup Disk that was created with a USB flash drive or hard drive by copying the driver installation package(s) to the **Drivers** folder. This special folder located in the root of the USB flash drive or hard drive is scanned automatically when the computer is booted from the Casper Startup Disk. All compatible driver installation packages located within the **Drivers** folder tree will be loaded during the boot process. (Incompatible drivers located within the Drivers folder tree will be ignored.)



Adding a large number of driver installation packages to the Drivers folder can significantly increase the amount of time required to boot the Startup Disk.

Loading specific drivers after booting via the Casper Startup Disk

If you need to load a driver that was not included when the Casper Startup Disk was prepared, you can load the driver after booting the computer from the startup disk.

Follow this procedure:

1. Click **Explore** to open Casper Explorer
2. From the **Tools** menu, click **Load driver**
3. Browse to the Setup Information File (.INF) of the driver package that contains the hardware driver to load and click **Open**.



The driver must have the same architecture as the Casper Startup Disk. By default, the Casper Startup Disk Creator will match the architecture of Windows. For example, when run on a 64-bit version of Windows, the Casper Startup Disk Creator will create a startup disk that uses 64-bit drivers.
