

Introduction

The MS Windows System Backup module of idrive A-CLICK provides you with a set of tools to protect your personal computers on Windows operating system platforms.

This includes an image-based / bare-metal backup feature, that leverages Microsoft's native Wbadmin command-line tool (<http://go.microsoft.com/fwlink/?LinkId=140216>), and recovery feature, to ensure that your computers are protected even if they are lost or destroyed entirely. The image can be recovered onto a new device if necessary.

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1 Requirements and Limitations

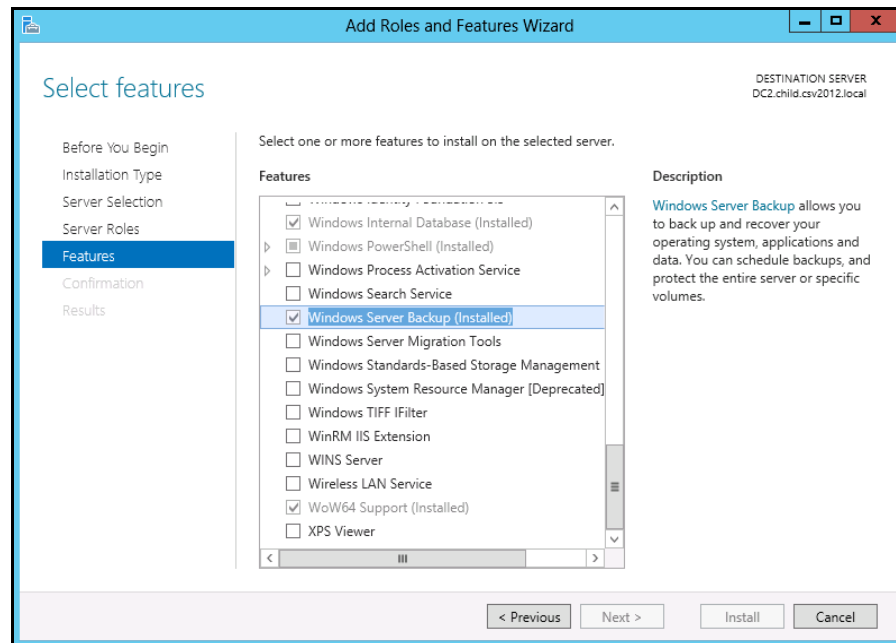
Ensure that the following requirements are met:

- 1 **idrive A-CLICK Installation**

Make sure that idrive A-CLICK is installed on the computer to be backed up.

- 2 **Add-on Module Requirement**

Make sure that the Windows System Backup add-on module is enabled for your idrive A-CLICK user account.



- 3 **Backup Quota Requirement**

Make sure that your idrive A-CLICK user account has sufficient backup storage quota assigned to accommodate the storage for the system backup.

- 4 **Latest Service Packs from Microsoft**

Ensure that you have the latest service packs installed.

Updates to the Windows operating system improve its performance and resolve known issues with Windows Server Backup.

- 5 **Temporary Storage Location**

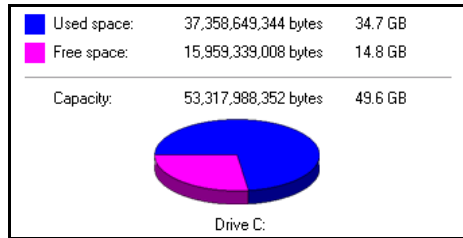
Make sure that the storage location configured for the system image is set to a supported location.

- 6 **Disk Space Available in Temporary Storage Location**

Make sure that there are sufficient disk spaces available in the storage location for the backup set.

For a system backup, it will typically require disk space of the total used size of all volumes selected for backup.

Note: Used space, not free space of all volumes selected for backup.

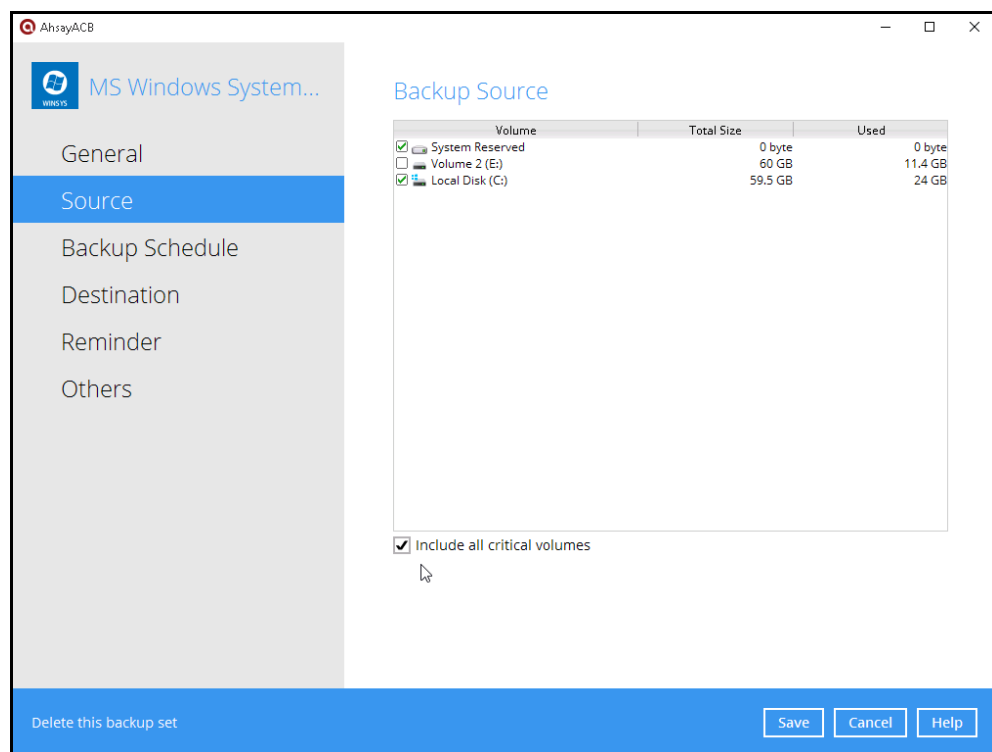


Maximum Supported Disk Size

For Windows Vista / 7, source volumes with size greater than 2 TB (e.g. 2040 GB - 2 MB = 2088958 MB) are not supported.

This limitation is related to the .vhd file size limit.

Note: This limitation does not apply to Windows 8 or newer releases of Windows.



This will ensure that the backup image can be used for full-system / bare-metal recovery.

Memory setting

For best performance, consider to increase the memory allocation setting for idrive A-CLICK (Java heap space)

Not a Replacement for File Backup

An image-based / bare-metal backup should never be considered a replacement for a nightly data backup plan.

Firstly, image-based backups do not lend themselves easily to recovery of a single file. The nature of image-based backup requires a complete restore of the system image file, even if you only want to recover a single file.

1.1 Restore Consideration

Please consider the following before performing a restore:

- ▶ **Windows Account Permission**

To perform a full-system recovery, the operating system account that you use, must be a member of the Backup Operators or Administrators group.

- ▶ **Disk Size**

For recovery of operating system to a new hard disk, ensure that the disk that you restore to is at least the size of the disk that contained the volumes that were backed up, regardless of the size of those volumes within.

For example, if there was only one volume of size 100 GB created on a 1 TB disk during backup, then you should use a disk that is at least 1 TB when recovering.

- ▶ **Caution on Recovery to Dissimilar Hardware**

This recovery method requires the restore target system to have similar hardware and the exact same boot type as the source system from which the backup was taken. Disk adapters are especially sensitive. If dissimilar hardware is used, the restored system might not be boot.

For example, if the system backup image was taken from a BIOS-based system, the recovery environment must be booted in BIOS mode.

- ▶ **BitLocker Drive**

For computer with BitLocker Drive Encryption enabled, make sure to re-apply BitLocker Drive Encryption to the volume after a restore.

This will not happen automatically, it must be enabled explicitly.

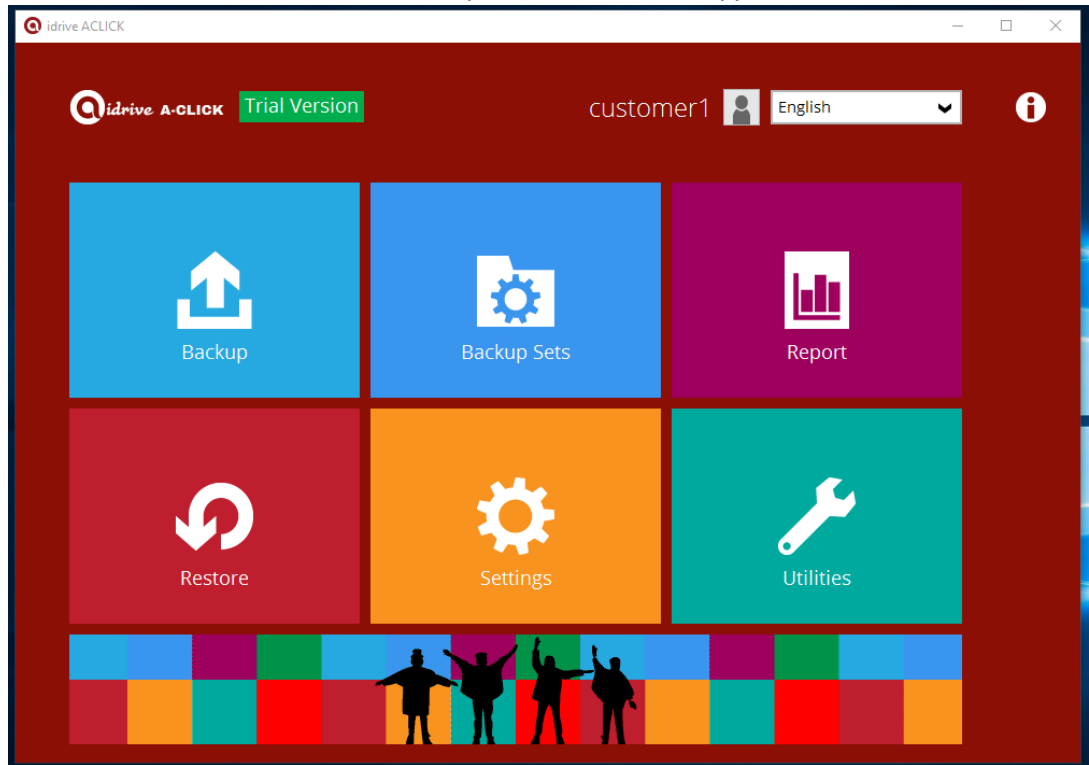
For instructions, refers to the following: <http://go.microsoft.com/fwlink/?LinkID=143722>

2 Starting idrive A-CLICK

2.1 Login to idrive A-CLICK

1. Login to the idrive A-CLICK application user interface.

Double click the idrive A-CLICK desktop icon to launch the application.



2. Enter the **Login name** and **Password** of your idrive A-CLICK account.
3. Click **OK** afterward to login to idrive A-CLICK.

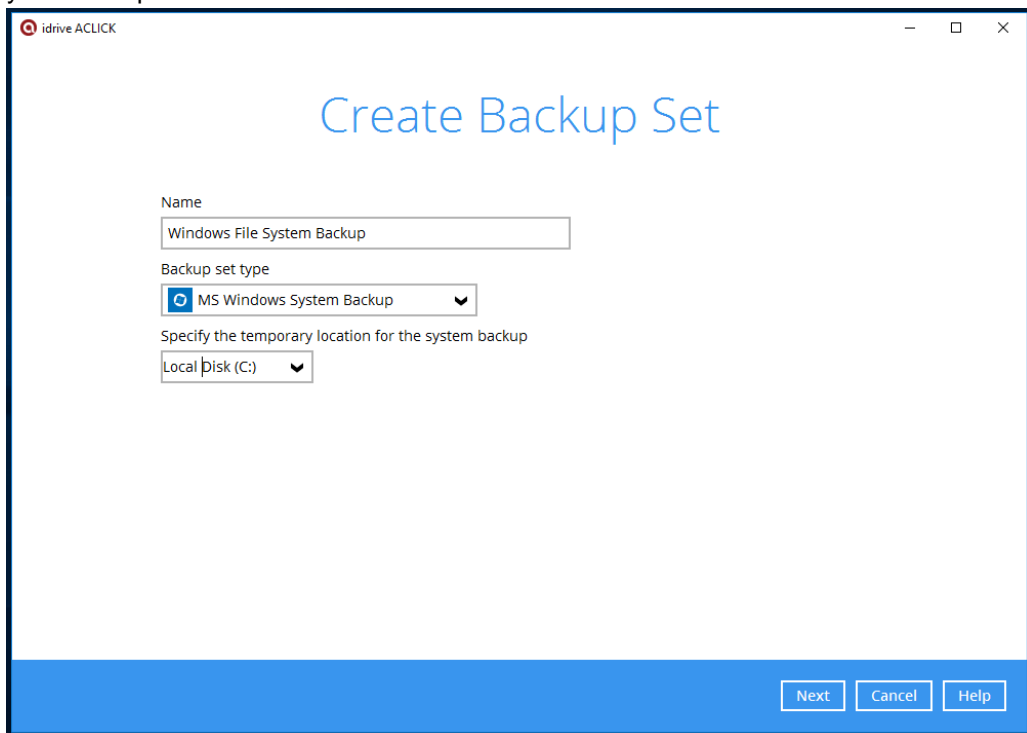
3 Configuring a MS Windows System Backup Set

3.1 Create a MS Windows System Backup Set

1. In the idrive A-CLICK main interface, click **Backup Sets**.



2. Create a MS Windows System backup set by clicking the “+” icon next to **Add new backup set**.
3. Select **MS Windows System Backup** as the **Backup set type**; then enter a **Name** for your backup set.

A screenshot of a window titled 'idrive A-CLICK' with standard window controls. The main heading is 'Create Backup Set'. Below it, there are three input fields: a text box for 'Name' containing 'Windows File System Backup', a dropdown for 'Backup set type' with 'MS Windows System Backup' selected, and a dropdown for 'Specify the temporary location for the system backup' with 'Local Disk (C:)' selected. At the bottom right, there are three buttons: 'Next', 'Cancel', and 'Help'.

4. Select the location where you would like to store the system image before generating the backup data.

Select a local volume from the dropdown menu. Click **Next** to proceed.

The screenshot shows the 'Create Backup Set' wizard. The title 'Create Backup Set' is at the top in blue. Below it, the 'Name' field contains 'MS Windows System Backup Set'. The 'Backup set type' dropdown is set to 'MS Windows System Backup'. The 'Specify the temporary location for the system backup' section shows a dropdown menu with 'Local Disk (C:)' selected, and a list of available locations: 'Local Disk (C:)' and 'Volume 2 (E:)', with 'Volume 2 (E:)' highlighted. At the bottom right, there are 'Next', 'Cancel', and 'Help' buttons.

-OR-

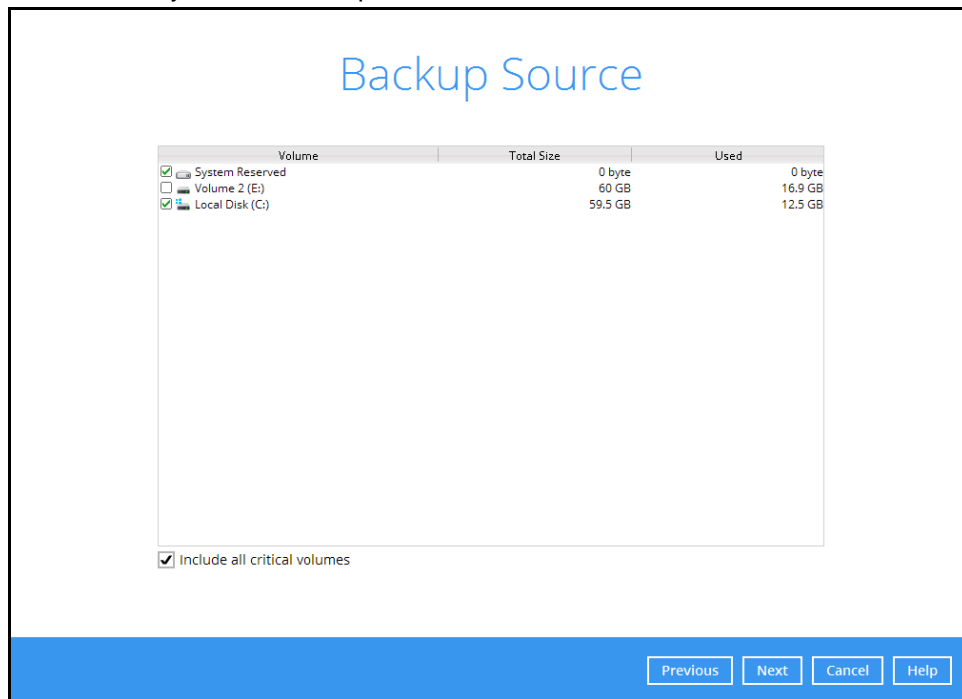
Enter the UNC path to a network volume that is accessible to the client computer. Click **Next** to proceed.

The screenshot shows the 'Create Backup Set' wizard. The title 'Create Backup Set' is at the top in blue. Below it, the 'Name' field contains 'MS Windows System Backup Set'. The 'Backup set type' dropdown is set to 'MS Windows System Backup'. The 'Specify the temporary location for the system backup' section shows a dropdown menu with '\unc_path\share' selected. At the bottom right, there are 'Next', 'Cancel', and 'Help' buttons.

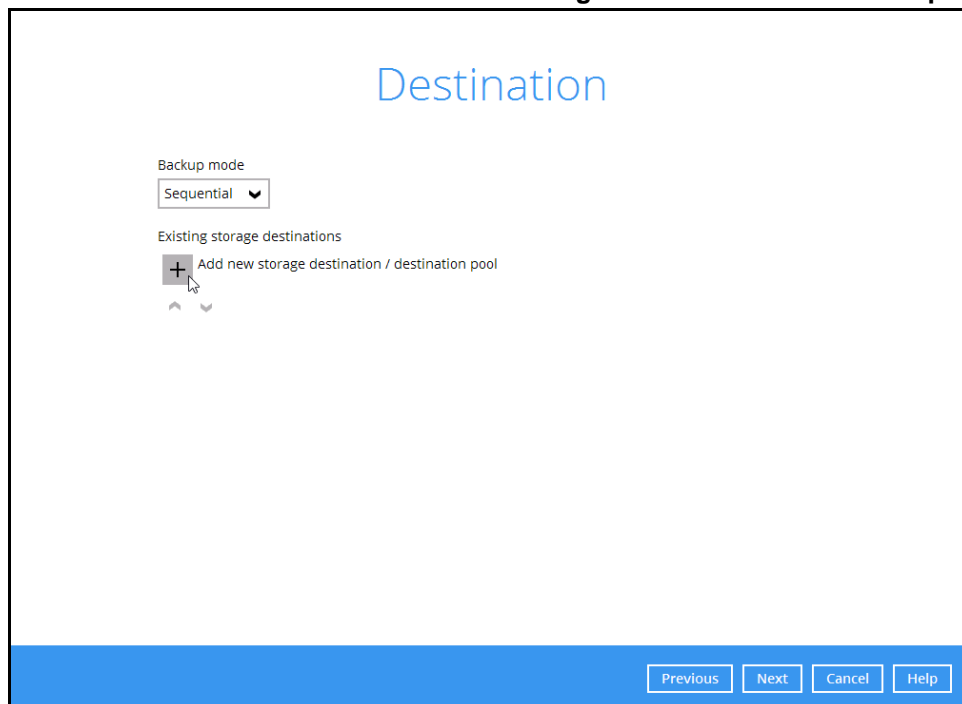
Note: Make sure that the storage location configure for the system image is set to a supported location.

5. In the Backup Source menu, select the volume(s) which you would like to backup.

Enable the **Include all critical volumes** option to select all critical volumes for backup automatically. This will ensure that the backup image can be used for full-system / bare-metal recovery. Click **Next** to proceed.



6. In the Schedule menu, configure a backup schedule for backup job to run automatically at your specified time interval. Click **Add** to add a new schedule, then click **Next** to proceed afterward.
7. In the Destination menu, select a backup destination where the backup data will be stored. Click the "+" icon next to **Add new storage destination / destination pool**.



8. Enter a **Name** for the backup destination, and select the **Type** and **Destination storage**.

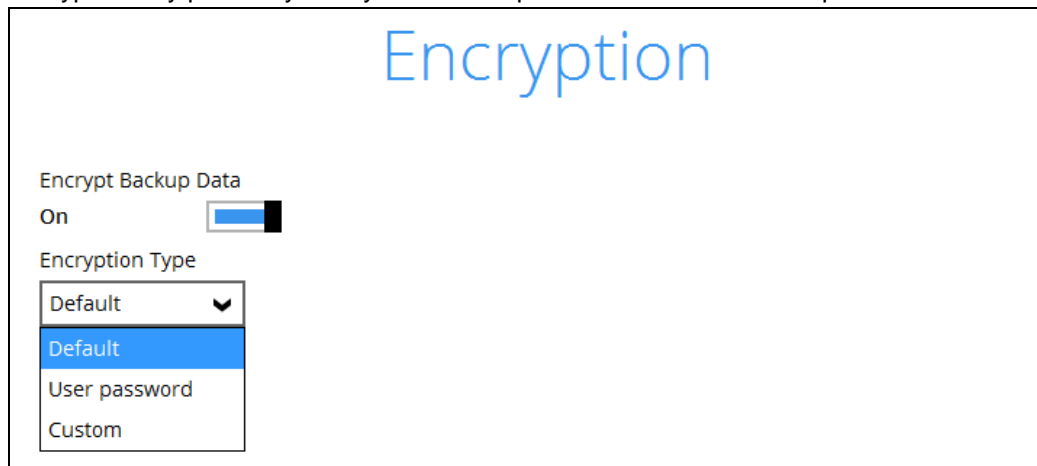
The screenshot shows a dialog box titled "New Storage Destination / Destination Pool". It contains a text input field for "Name" with the value "idrivestoragepool1". Below it is a "Destination storage" dropdown menu with a cloud icon and the text "idrivestoragepool1". There is an unchecked checkbox labeled "Access the Internet through proxy". At the bottom right are three buttons: "OK", "Cancel", and "Help".

9. Continue by adding another destination for the backup set, or click **Next** to proceed.

The screenshot shows a screen titled "Destination". It features a "Backup mode" dropdown menu set to "Sequential". Below this is a section titled "Existing storage destinations" which lists "idrivestoragepool1" with a cloud icon. There is an "Add" button and two small up/down arrow icons. At the bottom right are four buttons: "Previous", "Next", "Cancel", and "Help".

Note: Multiple backup destinations can be configured for a single backup set.

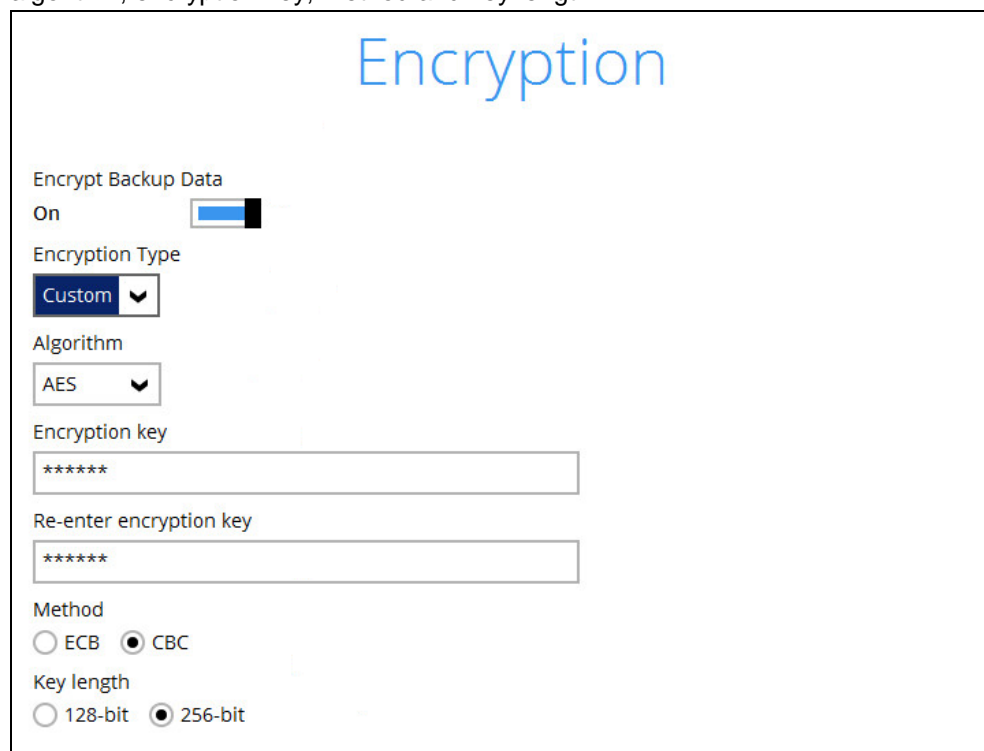
10. In the Encryption window, the default **Encrypt Backup Data** option is enabled with an encryption key preset by the system which provides the most secure protection.



The screenshot shows the 'Encryption' window. At the top, the word 'Encryption' is displayed in a large blue font. Below it, the 'Encrypt Backup Data' section has a toggle switch set to 'On'. The 'Encryption Type' section features a dropdown menu with 'Default' selected. The dropdown list is open, showing three options: 'Default' (highlighted in blue), 'User password', and 'Custom'.

You can choose from one of the following three Encryption Type options:

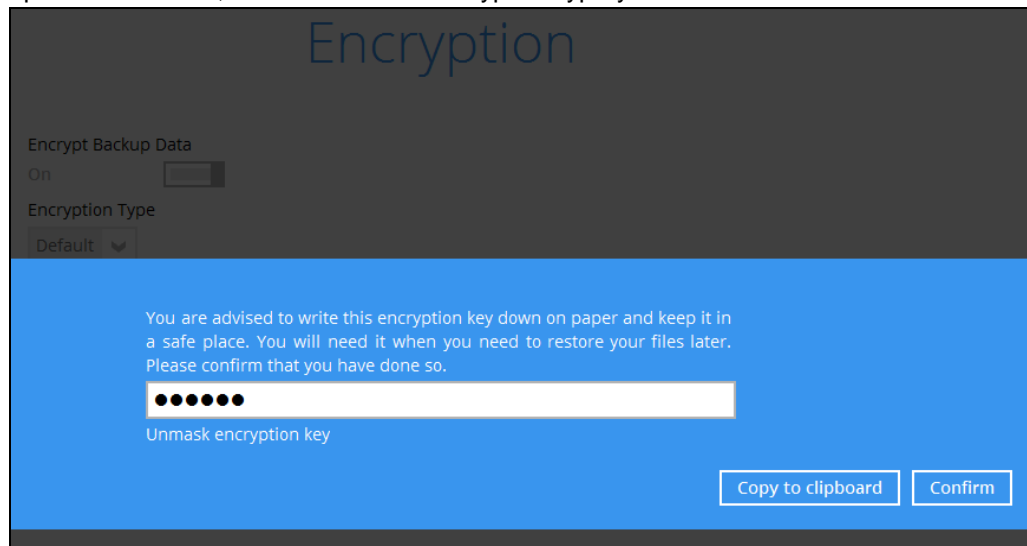
- **Default** – an encryption key with 44 alpha numeric characters will be randomly generated by the system
- **User password** – the encryption key will be the same as the login password of your idrive A-CLICK at the time when this backup set is created. Please be reminded that if you change the idrive A-CLICK login password later, the encryption keys of the backup sets previously created with this encryption type will remain unchanged.
- **Custom** – you can customize your encryption key, where you can set your own algorithm, encryption key, method and key length.



This screenshot shows the 'Encryption' window with the 'Custom' encryption type selected. The 'Encrypt Backup Data' toggle is still 'On'. The 'Encryption Type' dropdown is set to 'Custom'. Below this, the 'Algorithm' dropdown is set to 'AES'. There are two text input fields for the 'Encryption key', both containing six asterisks (*****). The 'Method' section has two radio buttons: 'ECB' and 'CBC', with 'CBC' selected. The 'Key length' section has two radio buttons: '128-bit' and '256-bit', with '256-bit' selected.

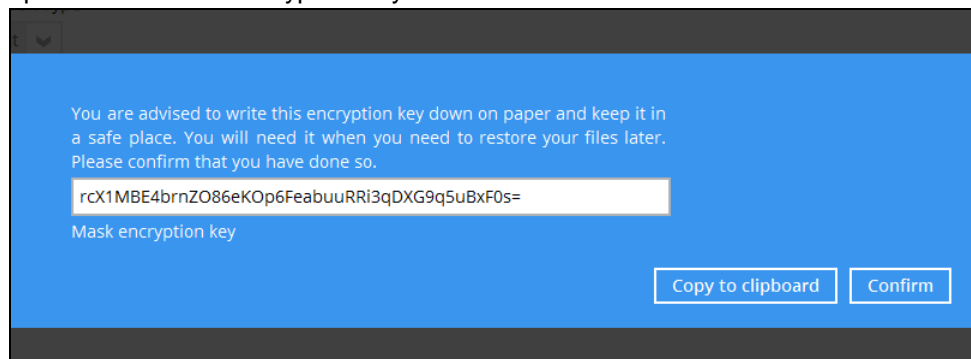
Click **Next** when you are done setting.

11. If you have enabled the Encryption Key feature in the previous step, the following pop-up window shows, no matter which encryption type you have selected.



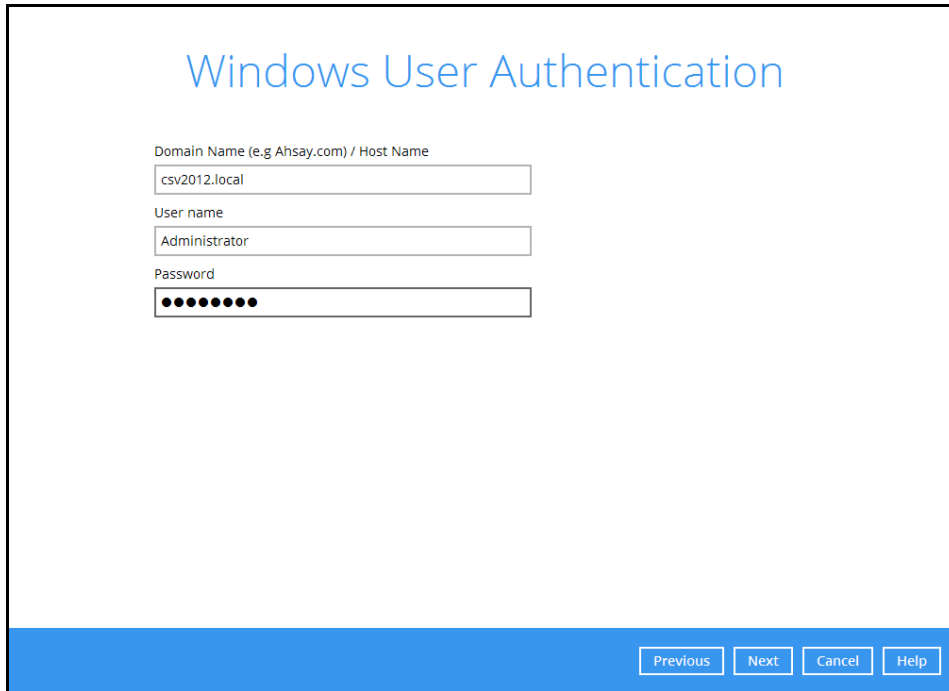
The pop-up window has the following three options to choose from:

- **Unmask encryption key** – The encryption key is masked by default. Click this option to show the encryption key.



- **Copy to clipboard** – Click to copy the encryption key, then you can paste it in another location of your choice.
- **Confirm** – Click to exit this pop-up window and proceed to the next step.

12. Enter the **Domain Name / Host Name** of the computer, **User Name** and **Password** of the Windows account that will be running the backup.



Windows User Authentication

Domain Name (e.g. Ahsay.com) / Host Name
csv2012.local

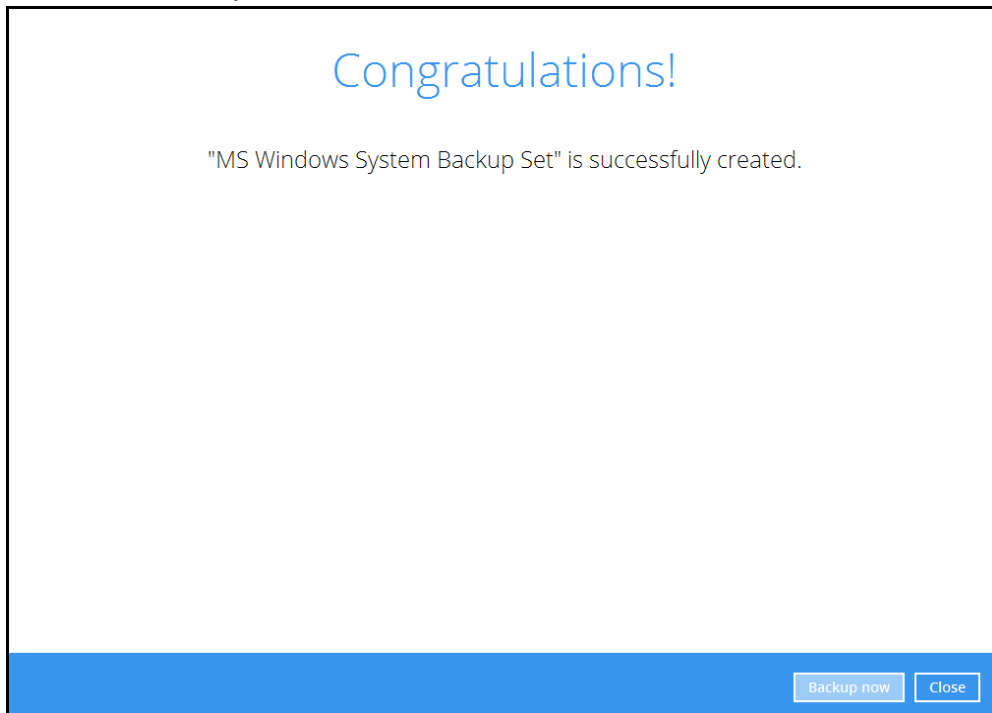
User name
Administrator

Password
●●●●●●●●

Previous Next Cancel Help

Note: This menu will only be displayed if a backup schedule is configured in the previous step.

13. Click **Next** to create the backup set.
14. The following screen is displayed when the new MS Windows System backup set is created successfully.



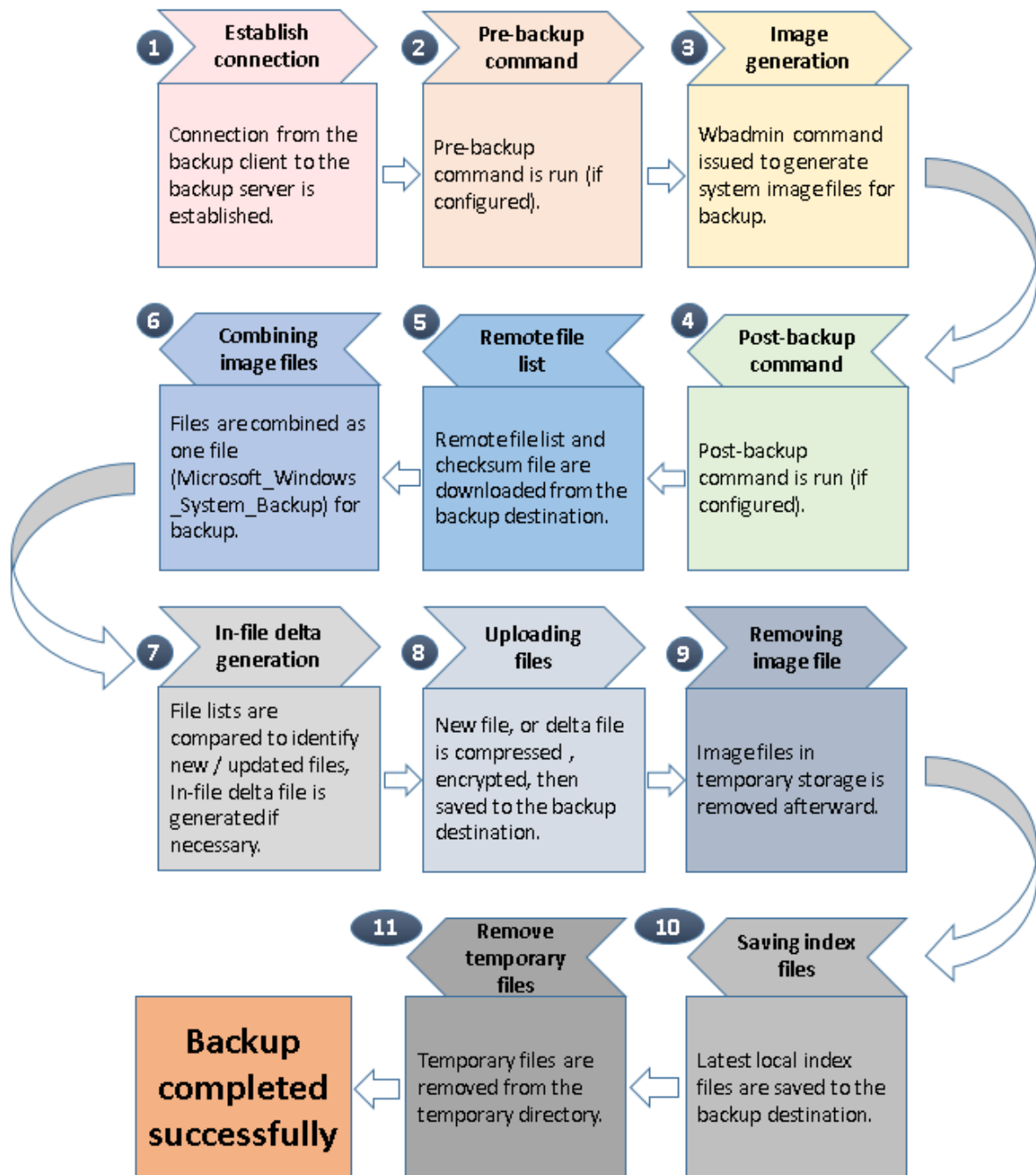
Congratulations!

"MS Windows System Backup Set" is successfully created.

Backup now Close

4 Overview on the Backup Process

The following steps are performed during a MS Windows System backup job.



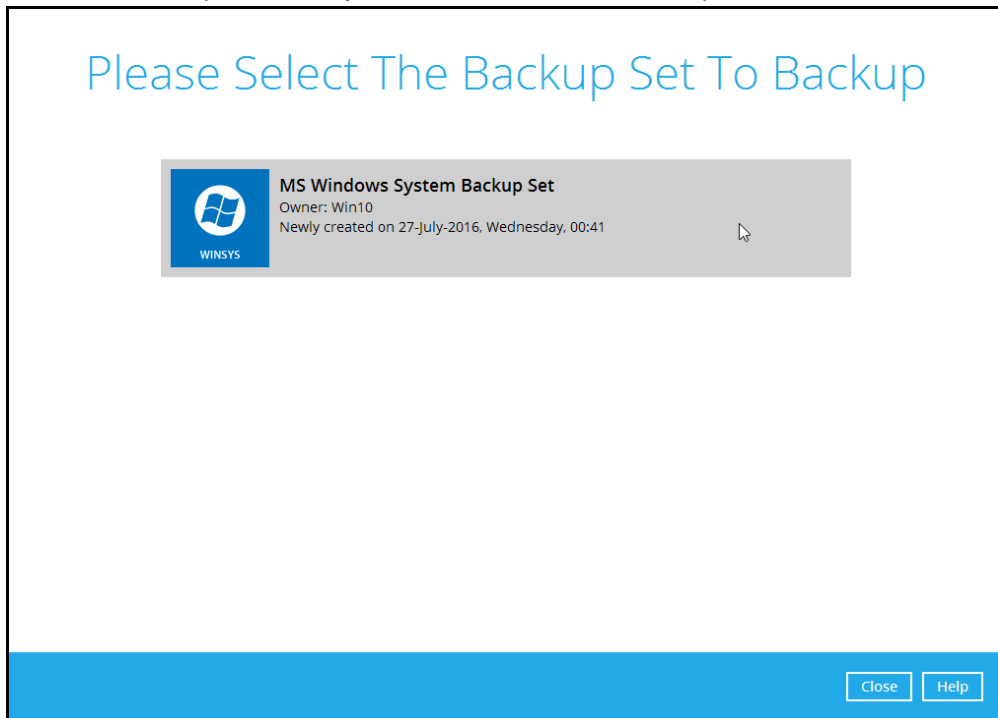
5 Running a Backup

5.1 Start a Manual Backup

1. Click the **Backup** icon on the main interface of idrive A-CLICK.



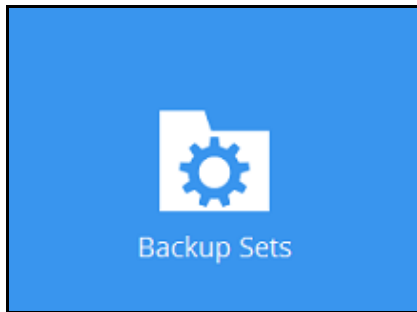
2. Select the backup set which you would like to start a backup for.



3. If you would like to modify the In-File Delta type, Destinations and Retention Policy Settings, click **Show advance option**.
4. Click **Backup** to start the backup.

5.2 Configure Backup Schedule for Automated Backup

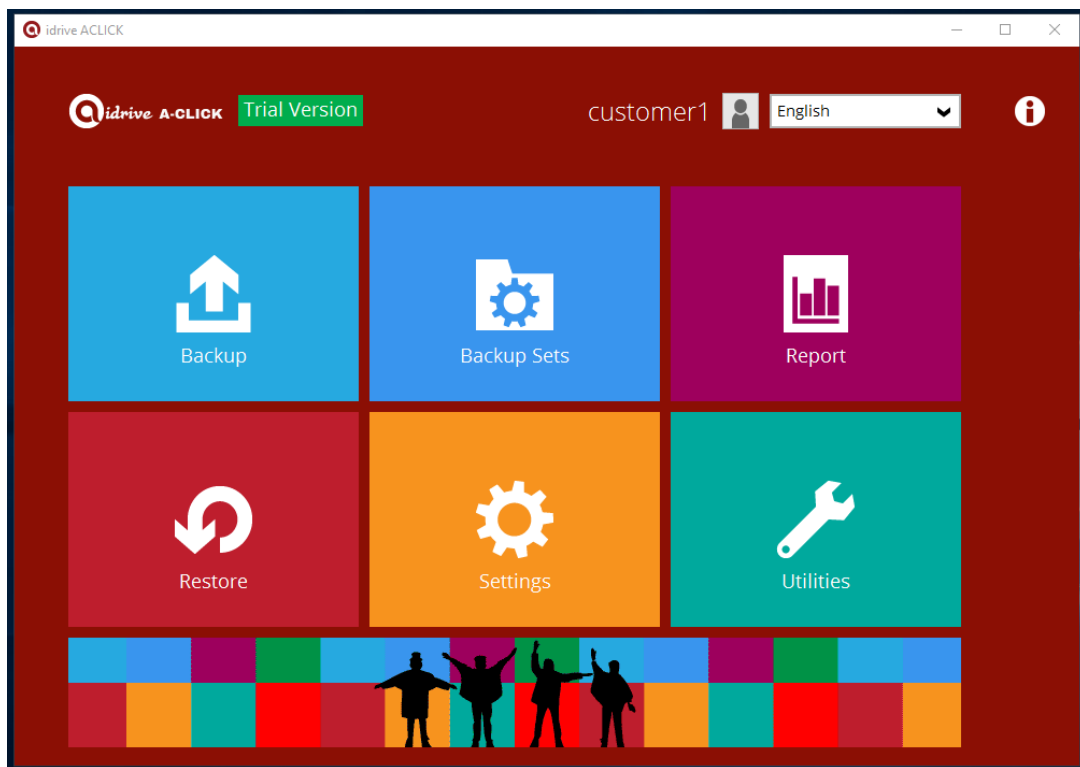
1. Click the Backup Sets icon on the idrive A-CLICK main interface.



2. Select the backup set that you want to create a backup schedule for.
3. Click **Backup Schedule**, then create a new backup schedule by clicking **Add**.
4. Configure the backup schedule settings, then click **OK** to proceed.
5. Click **Save** to confirm your settings.

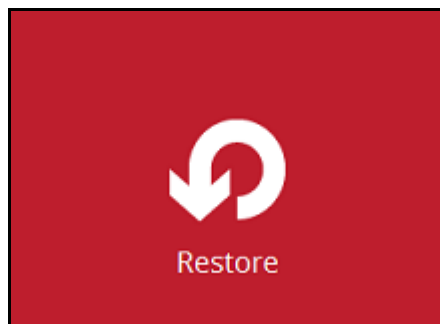
6 Restore with a MS Windows System Backup Set

6.1 Login to idrive A-CLICK

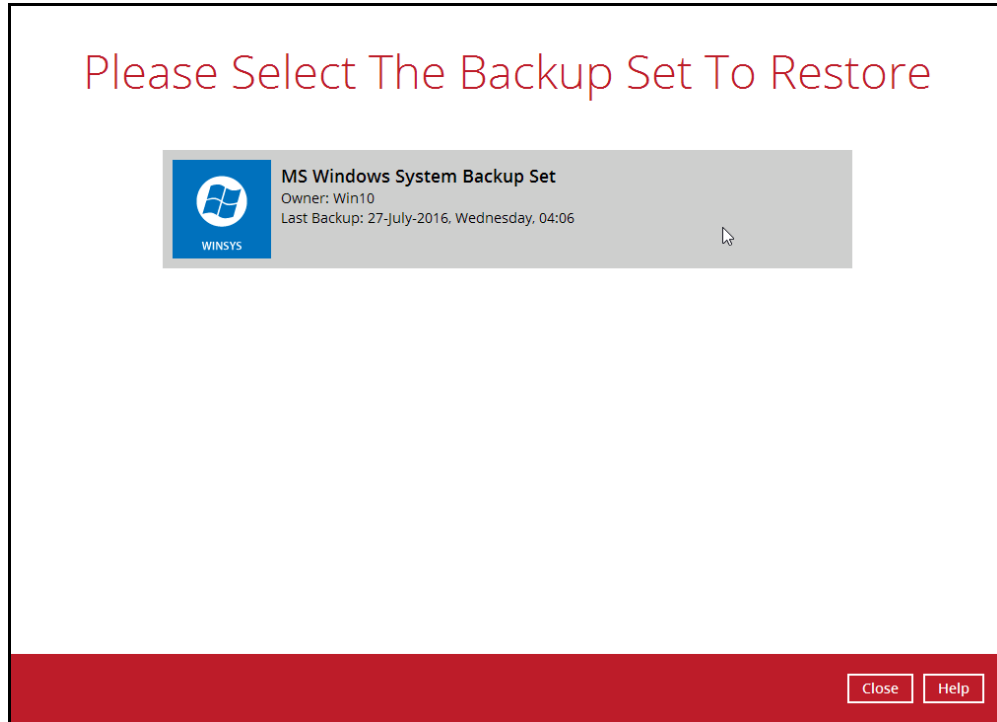


6.2 Restore the System Image

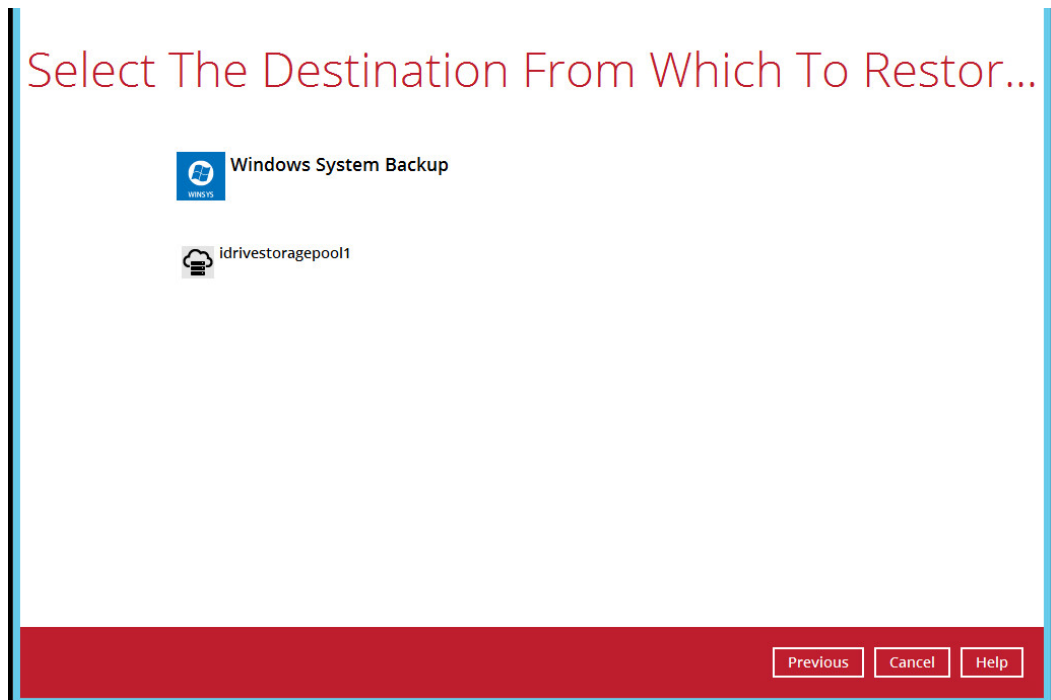
6. Click the **Restore** icon on the main interface of idrive A-CLICK.



7. Select the backup set that you would like to restore the system image from.



8. Select the backup destination that contains the system image that you would like to restore.



9. Select to restore from a specific backup job, or the latest job available from the **Select what to restore** drop down menu.

10. Select Microsoft_Windows_System_Backup, then click Next to proceed.

Select Your Files To Be Restored

Select what to restore

Choose from files as of job

11/20/2017

Latest

Show filter

Folders	Name	Size	Creation Time
<div><div>idrivestoragepool1</div><div>WIN-7D9FL8AB8TF</div></div>	<input checked="" type="checkbox"/> Microsoft_Windows_System_B...	8,588,992 KB	11/20/2017 19:02

Search

Items per page 50

Page 1 / 1

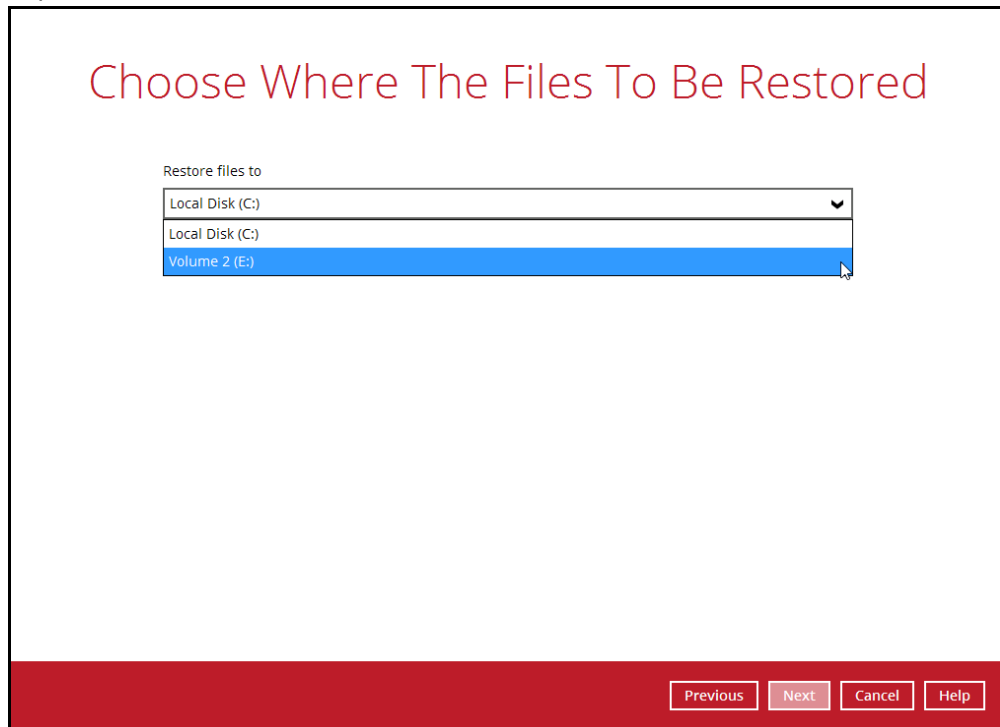
Previous

Next

Cancel

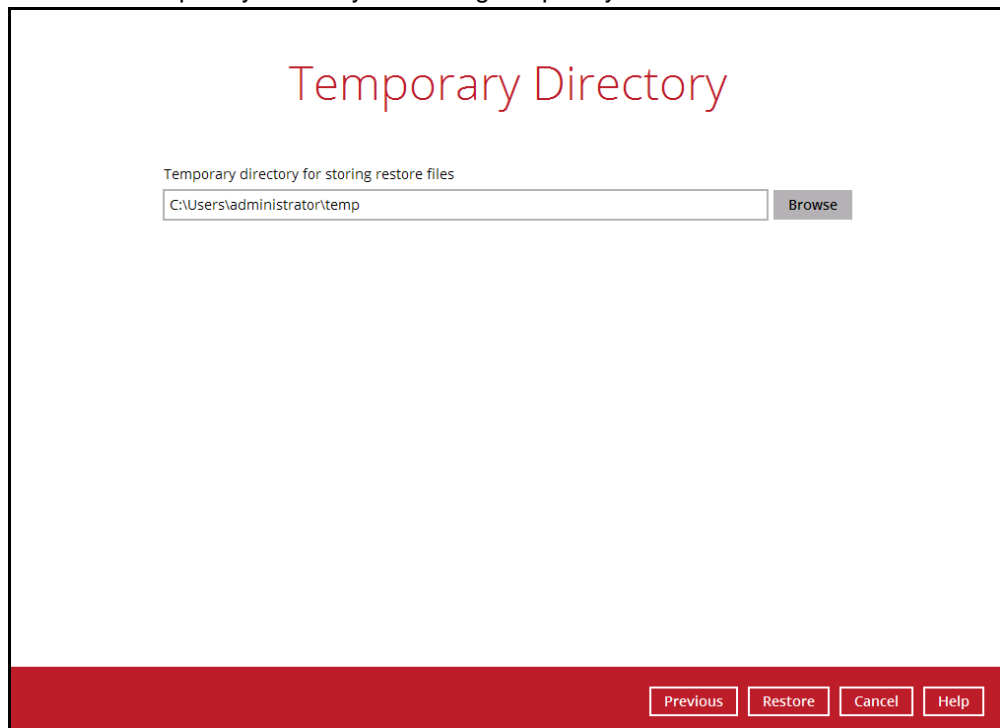
Help

11. Select to restore the system image to a local volume or to a removable drive. Click **Next** to proceed.



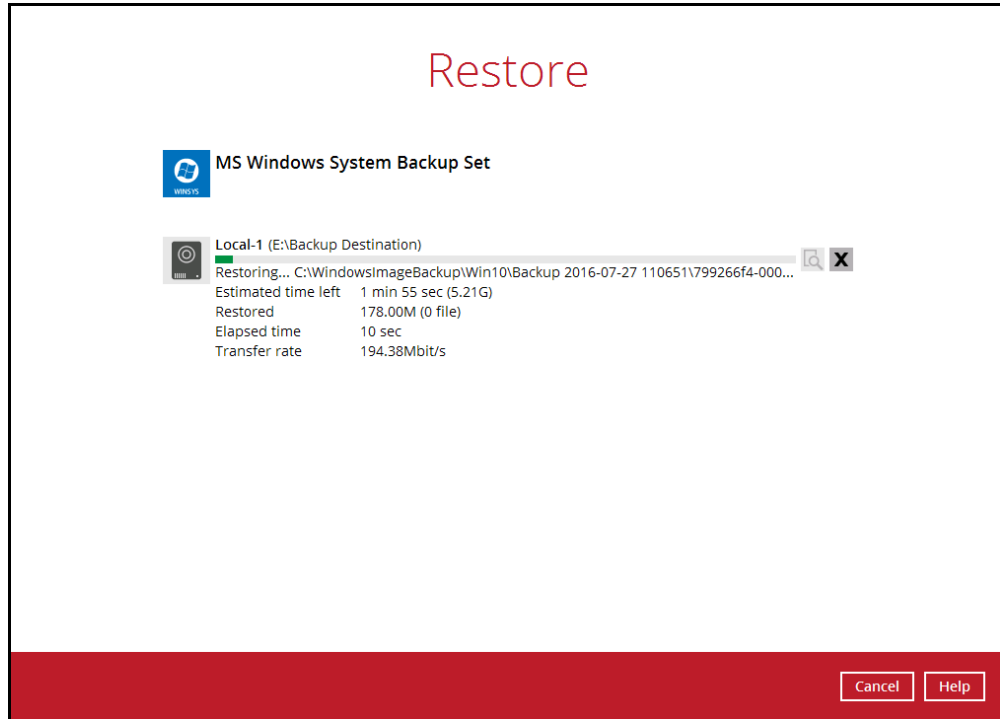
The screenshot shows a window titled "Choose Where The Files To Be Restored". It features a dropdown menu labeled "Restore files to" with three options: "Local Disk (C:)", "Local Disk (C:)", and "Volume 2 (E:)". The "Volume 2 (E:)" option is highlighted in blue. At the bottom of the window, there is a red bar containing four buttons: "Previous", "Next", "Cancel", and "Help".

12. Select the temporary directory for storing temporary files.

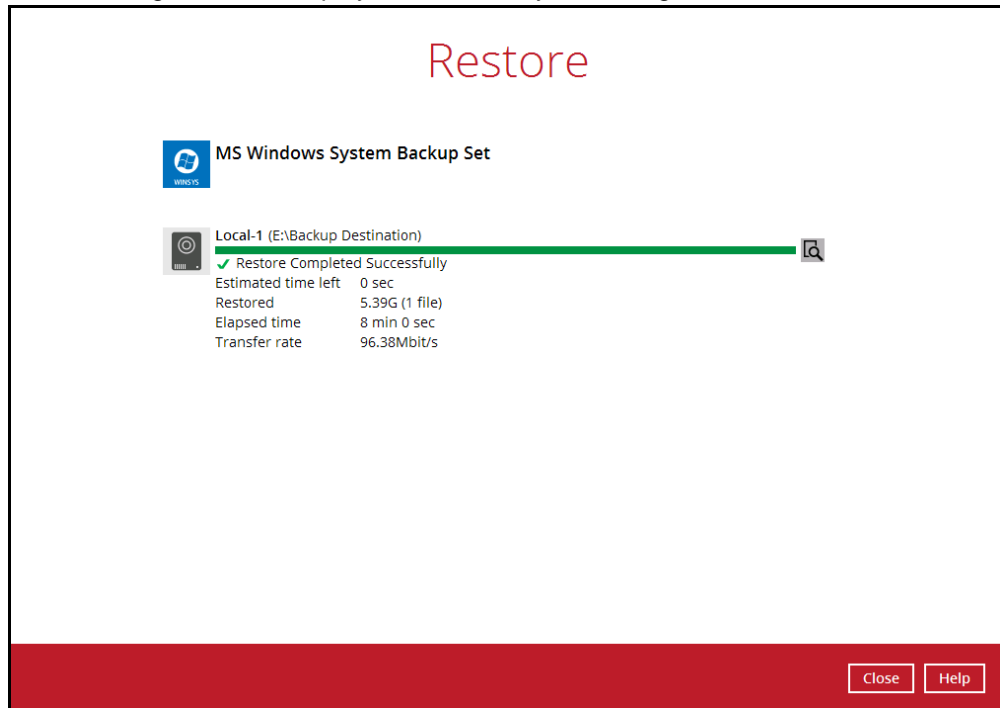


The screenshot shows a window titled "Temporary Directory". It features a text box labeled "Temporary directory for storing restore files" with the path "C:\Users\administrator\temp" entered. To the right of the text box is a "Browse" button. At the bottom of the window, there is a red bar containing four buttons: "Previous", "Restore", "Cancel", and "Help".

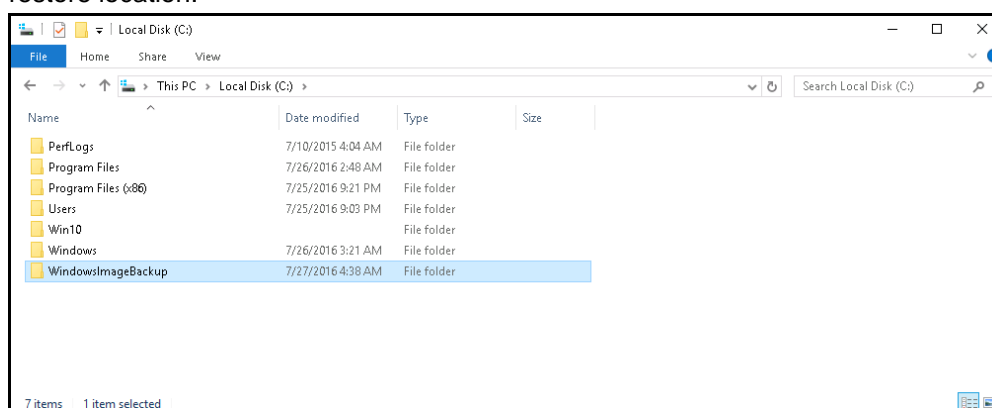
13. Click **Restore** to start the restoration.



14. The following screen is displayed when the system image files are restored successfully.



15. The restored system image files are stored in the **WindowsImageBackup** folder in the restore location.



Important: In addition to the system image files, the **WindowsImageBackup** folder includes catalog files that contain information about all backups in there up to the current backup, and MediaID, that contains the identifier for the backup storage location.

This information is required to perform a recovery. Do not alter the directory structure or delete any file / folder within the **WindowsImageBackup** folder.

16. Copy the **WindowsImageBackup** folder with its content to the server that you want to perform the restore for, or copy the folder to a network drive that is accessible to the server that you want to perform the restore for.

WindowsImageBackup folder must be stored at the root level of a volume (e.g. top-most level), unless you are copying the folder to a network drive.

17. Continue to the next section of the guide.

6.3 Recovering Your Server

You can recover perform a full-system (bare-metal) with the following tools:

Tool	What you can recover
Advanced startup option (in safe mode)	Full system recovery.
Advanced startup option (Windows installation media)	Full system recovery.

Note: You can also perform the above tasks using `wbadmin` command. For the syntax of the command, refer to the following: <http://go.microsoft.com/fwlink/?LinkId=140216>

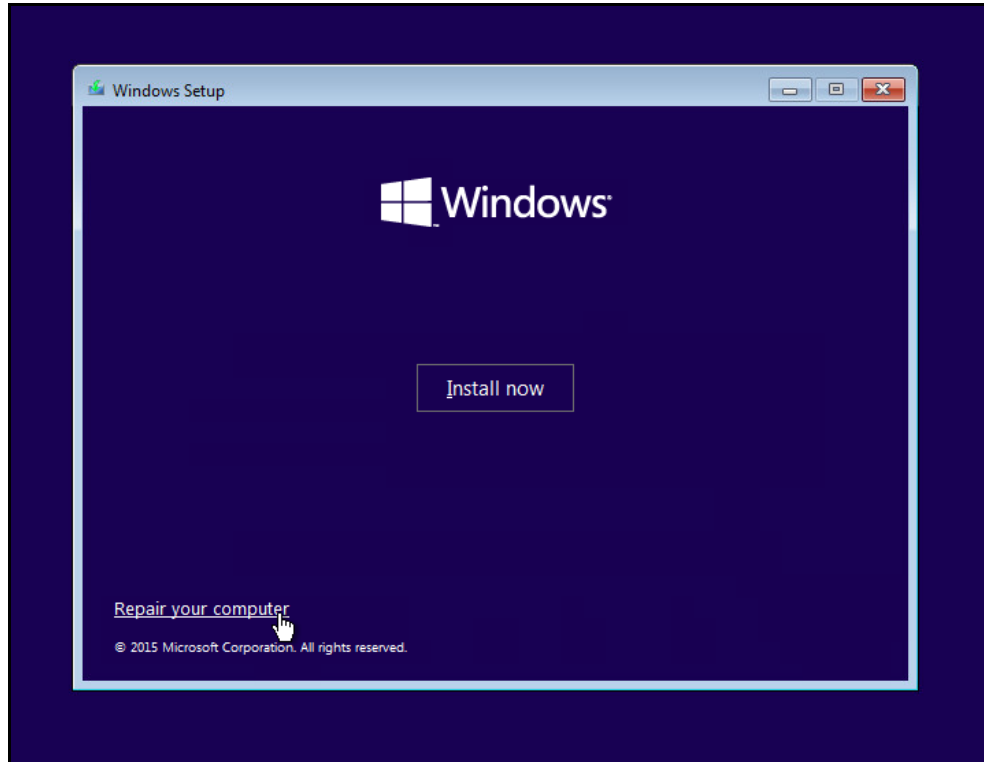
6.3.1 Recover a Full System

You can recover a full system using the advanced startup option by:

- ▶ **Booting from a Windows installation media**

Insert the installation media that has the same architecture of the system that you are recovering, and restart your computer. Press the required key to boot from the disc.

When you see the **Windows Setup** page, click **Next**, then click **Repair your computer**.

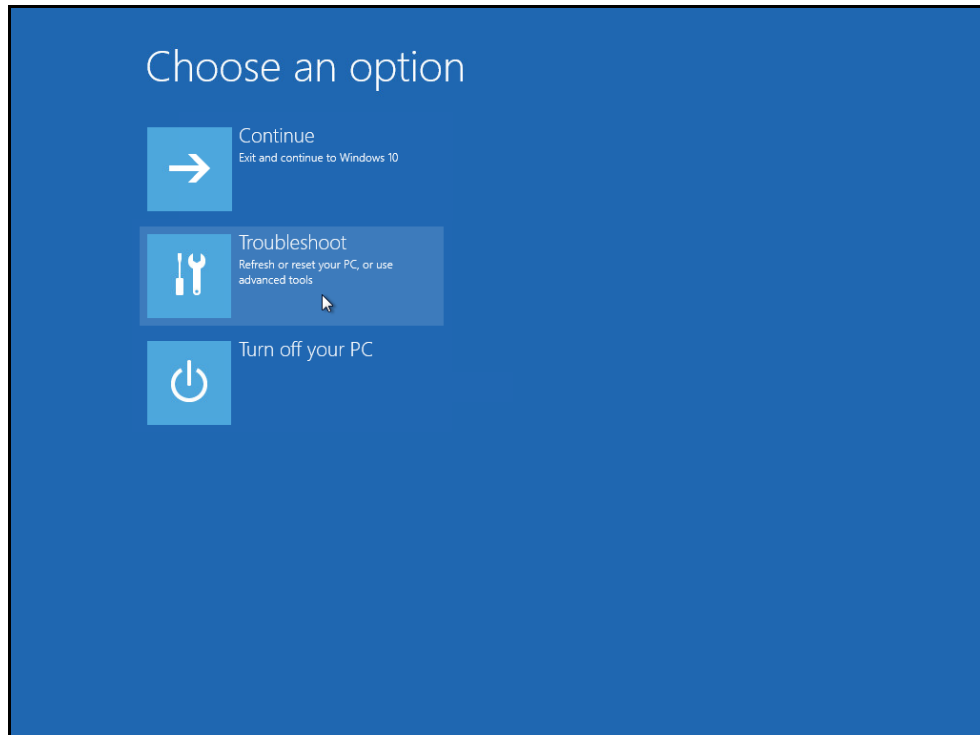


- ▶ **Starting Windows in safe mode**

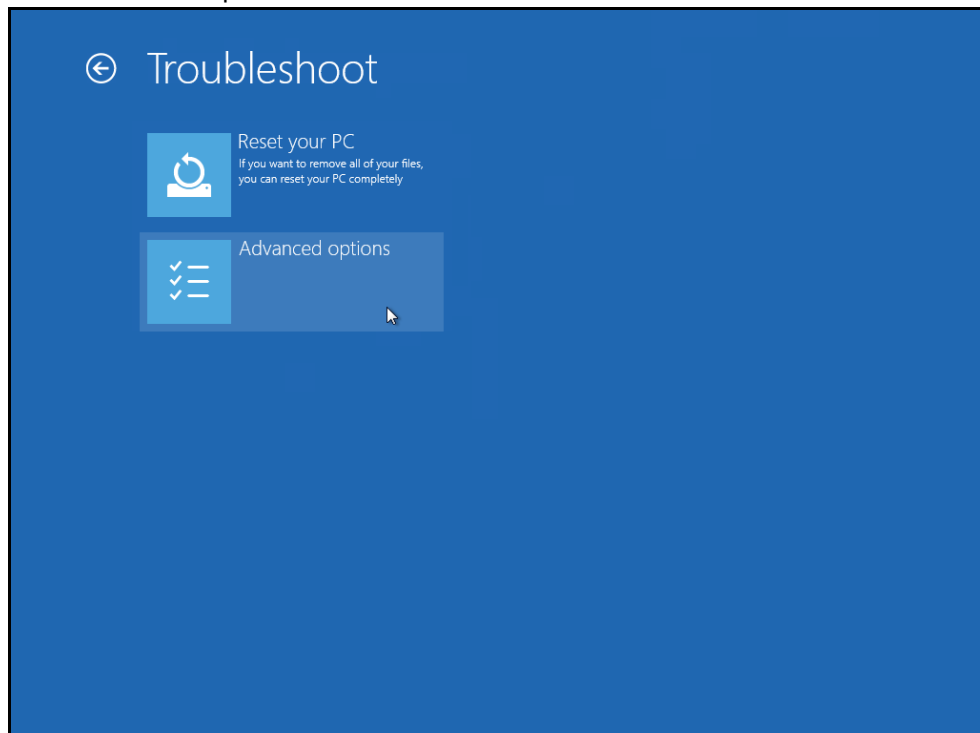
Press the **Power** button at the Windows login screen. In the Start menu or in the Setting screen, press and hold the SHIFT key on the keyboard and click **Restart**.

Once you are in the Startup Option menu, perform the following steps.

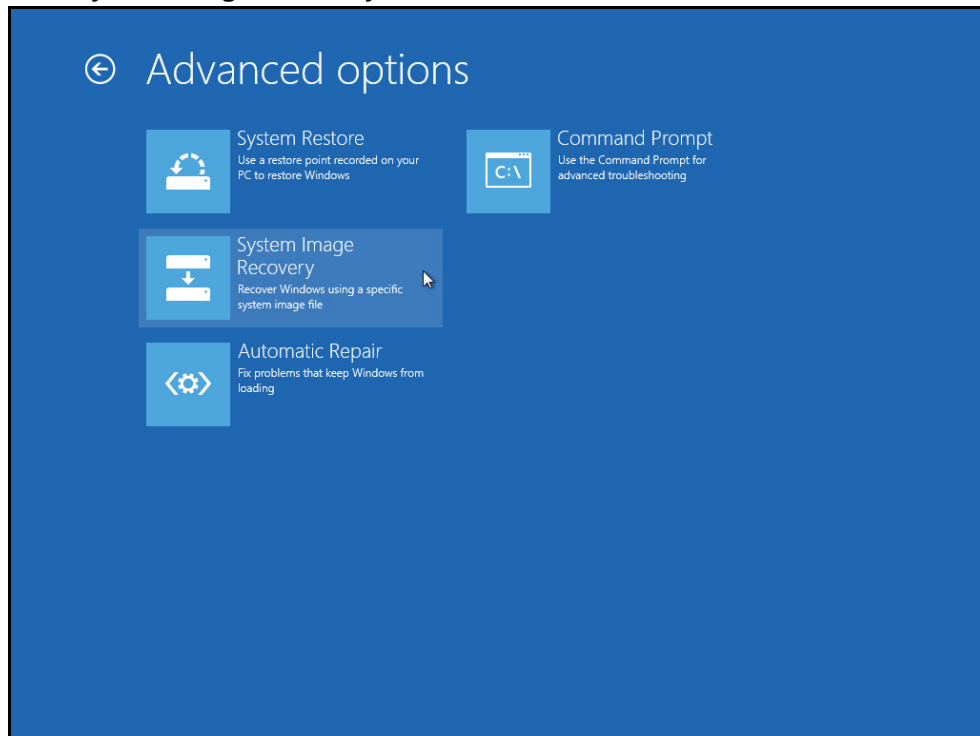
18. Click **Troubleshoot**.



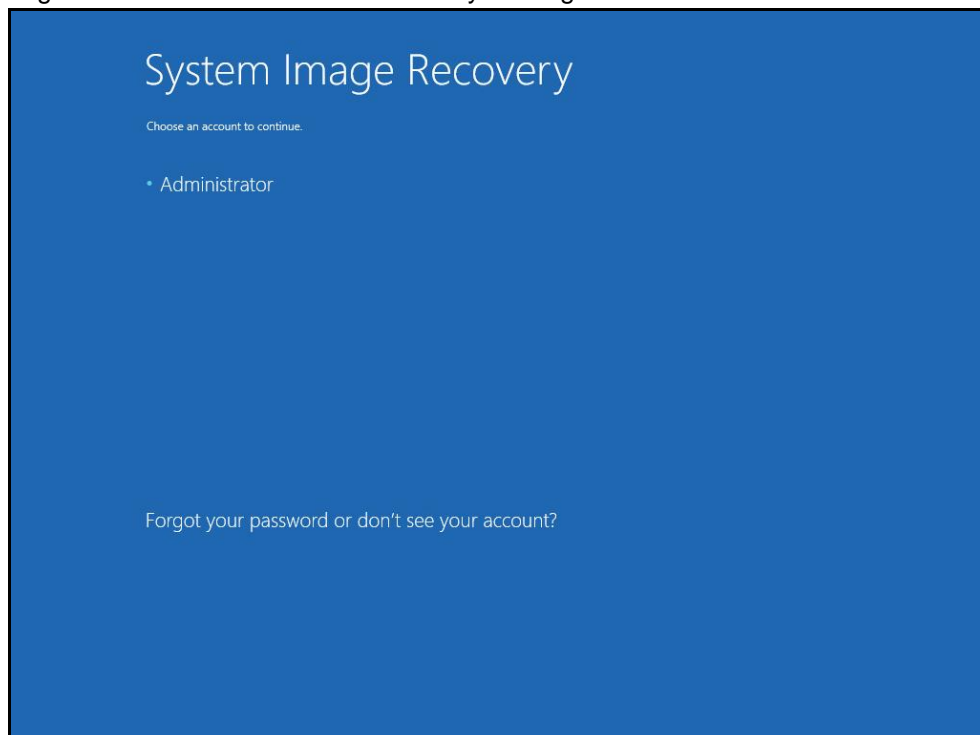
19. Click **Advanced options**.



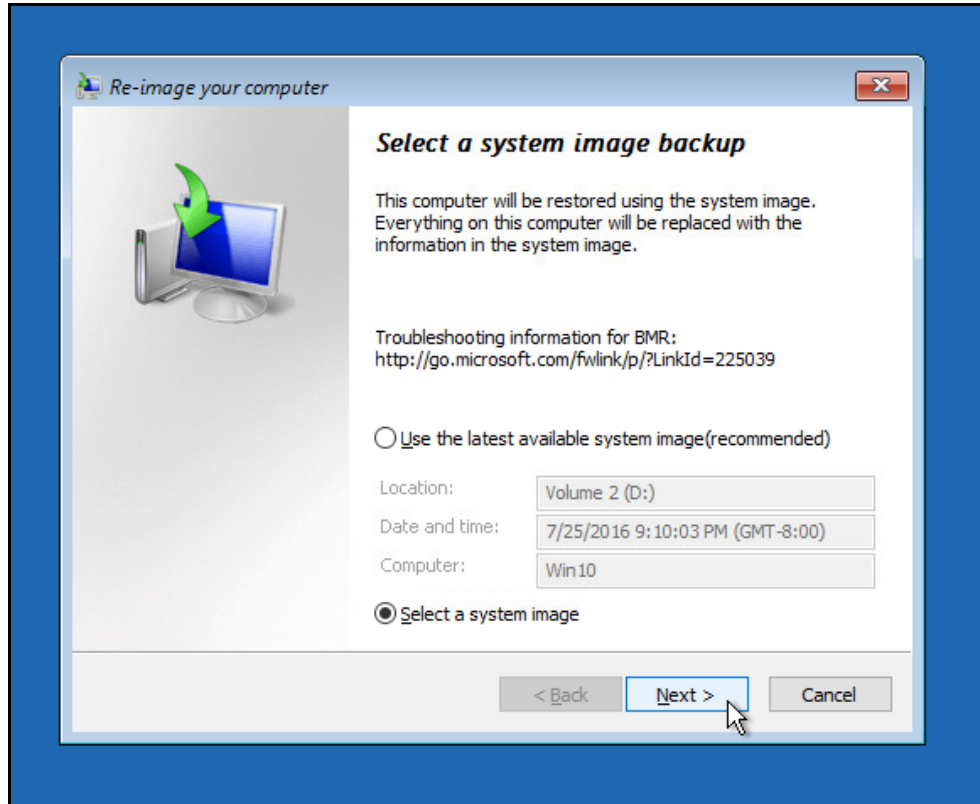
20. Click **System Image Recovery**.



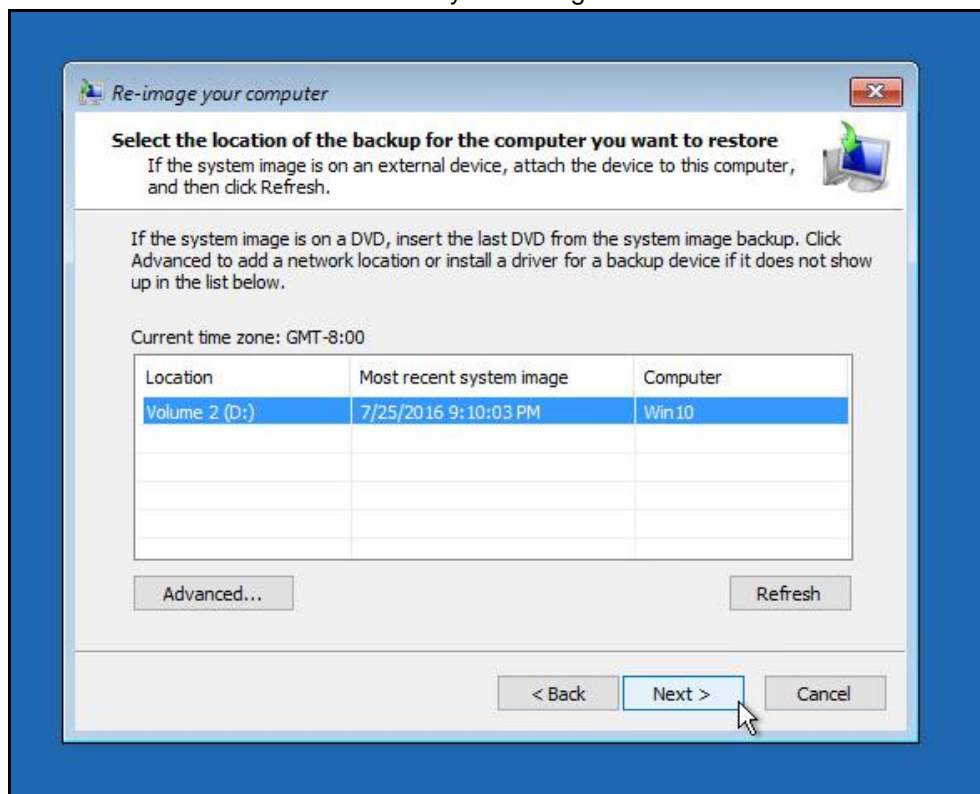
21. Log in with an administrative account by clicking on **Administrator**.



22. Click **Select a system image**, then click **Next**.



23. Select the location that contains the system image to restore from.



If you do not see the image available, then

- 1. Click **Advanced**, and install the required driver for the removable drive to be accessed, if the system image was copied to a removable drive attached to the server.

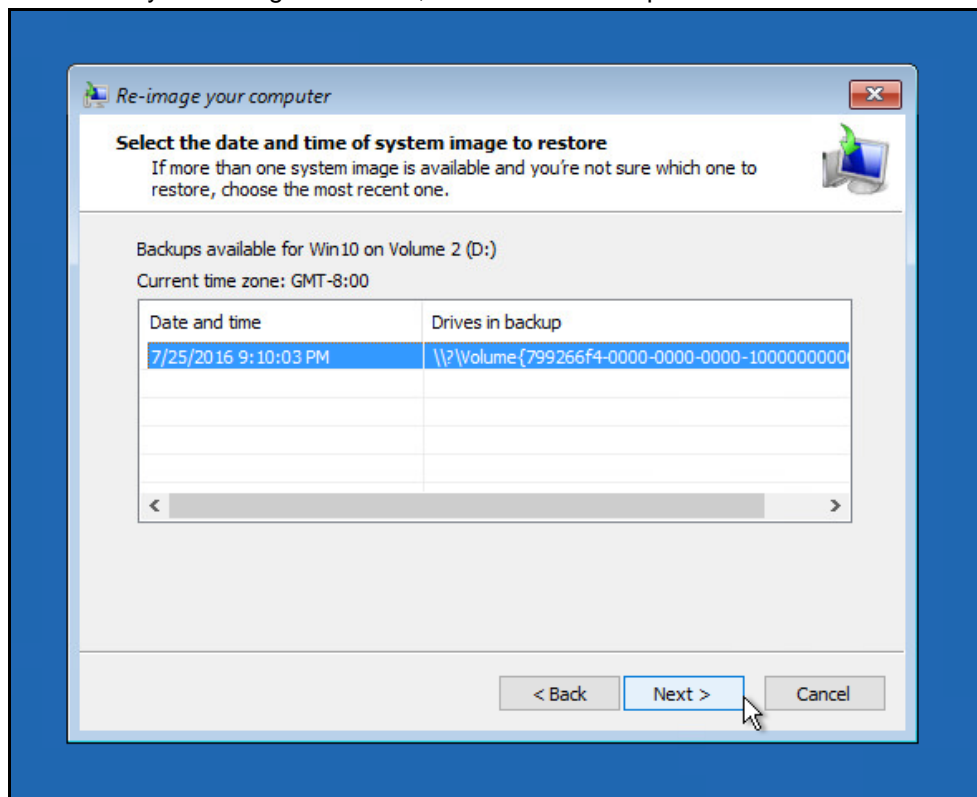
To install a driver, the driver must be located on the local system. You cannot install a driver from the network.

- 2. Click **Advanced**, and browse to the remote shared folder which contains the system image, if the system image was copied to a network path.

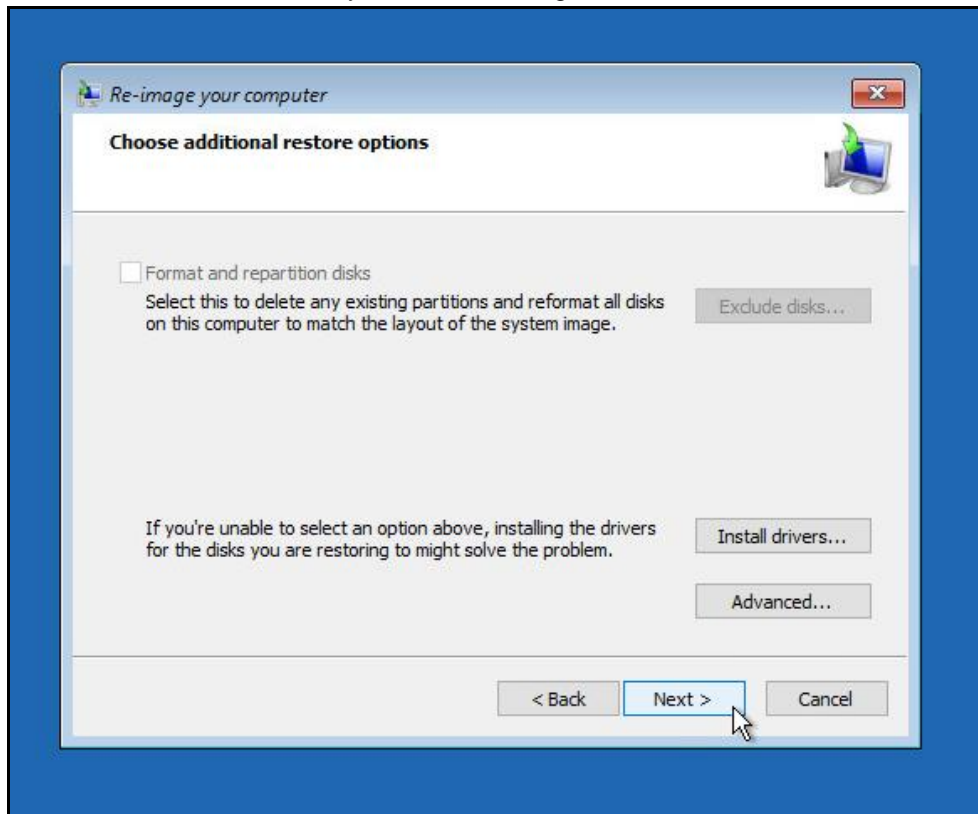
For domain environment, if the backup storage location is on a computer that is a member of that domain, then the computer containing the storage location should be on the IPsec boundary, to be accessible by non domain computer.

When a computer boots into Windows Recovery Environment, it becomes a non domain computer, therefore, cannot access the usual network shares. Only those computers that allow non domain computers to access the share can be used as a backup storage location in this way.

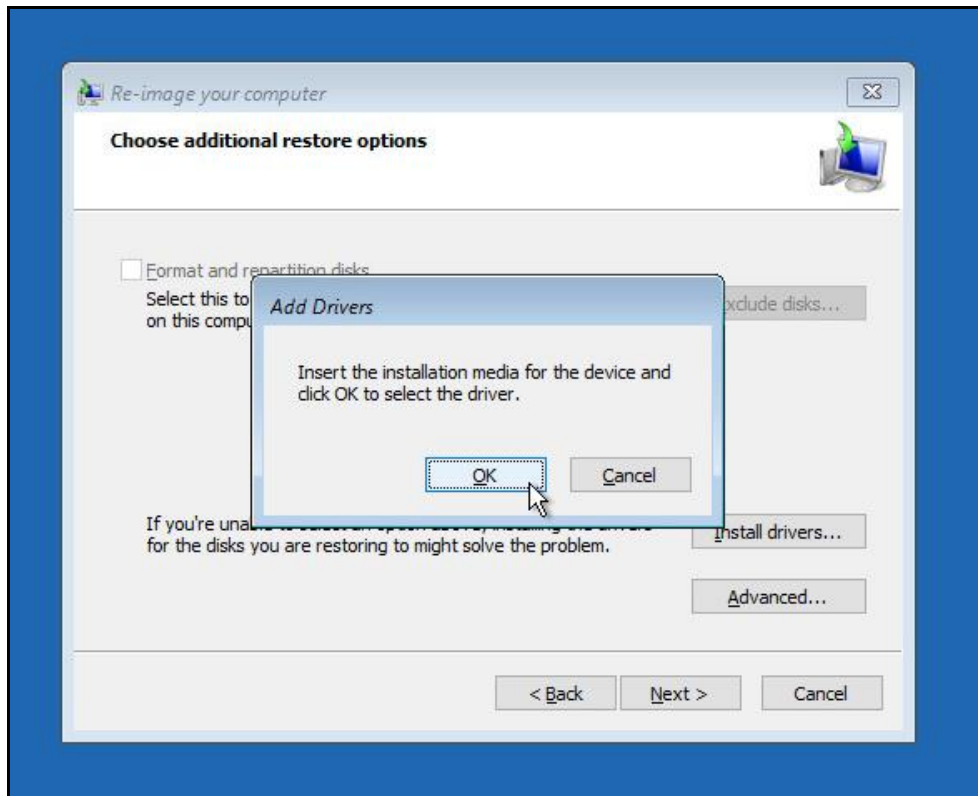
24. Select the system image to restore, then click **Next** to proceed.



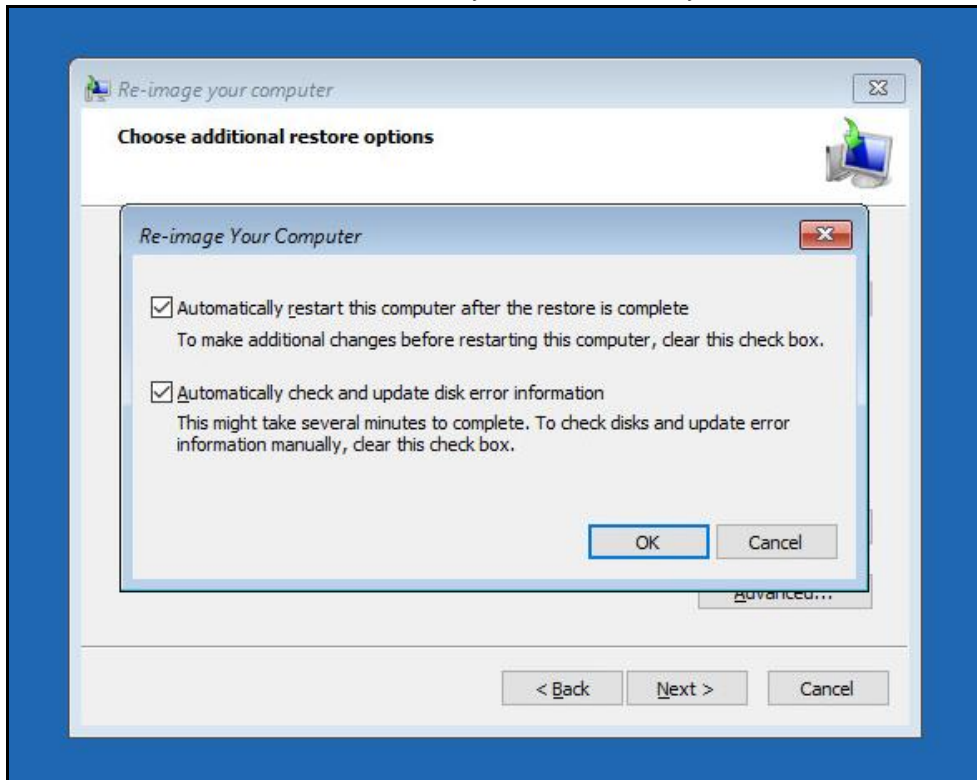
25. On the **Choose additional restore options** page, click **Install drivers** to install device drivers for the hardware that you are recovering to.



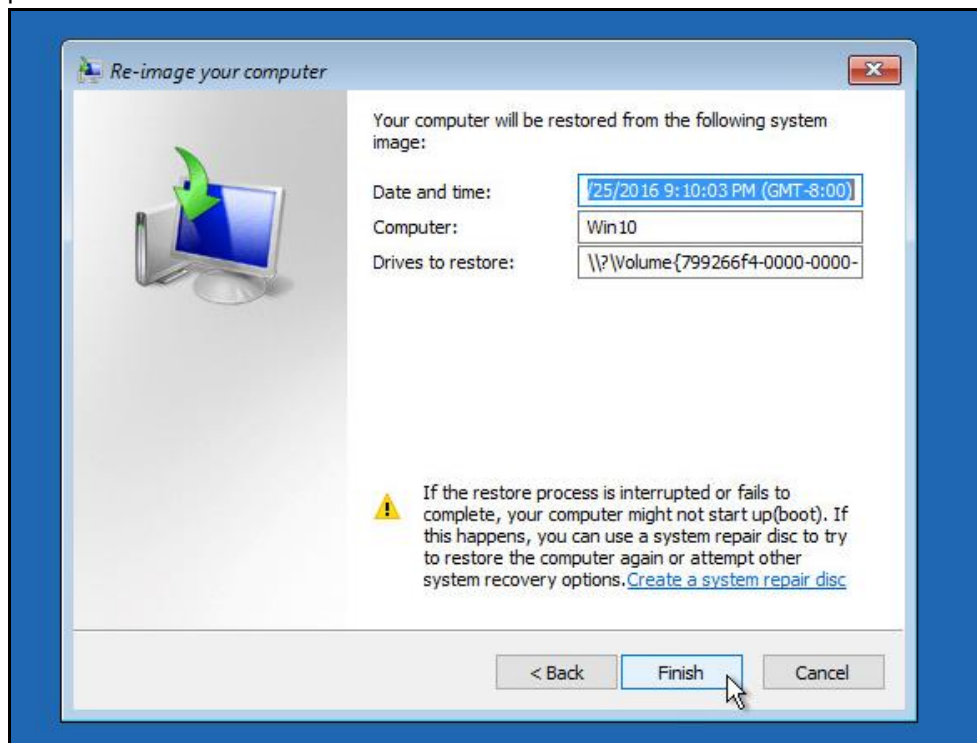
Click **OK** to add drivers.



Click **Advanced** to specify whether the computer is automatically restarted and the disks are checked for errors immediately after the recovery.



26. Confirm the details for the restoration, and then click **Finish** to start the recovery process.



Important: Do not interrupt the restore process.

The recovery will succeed as long as all the critical volumes (e.g. volumes containing operating system components) are recovered.