



SK hynix System Migration Utility v1.0 User Guide

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Introduction

The SK hynix system migration utility is designed to enable SK hynix customers to quickly and effectively transfer Windows Operating systems and user data to SK hynix Solid State Disks (SSD).

- Windows System disks and data disks can be cloned to an SK Hynix SSD while Windows is running using Microsoft Volume Shadow copy Service (VSS) to ensure 'point-in-time' data accuracy.
- Partitions are automatically resized to fill the cloned disk and are also aligned for optimum SSD performance and reliability.
- Cloned bootable disks are automatically updated to reflect the new disk layout and the Boot Configuration Data (BCD) is modified to reference the new the cloned disk

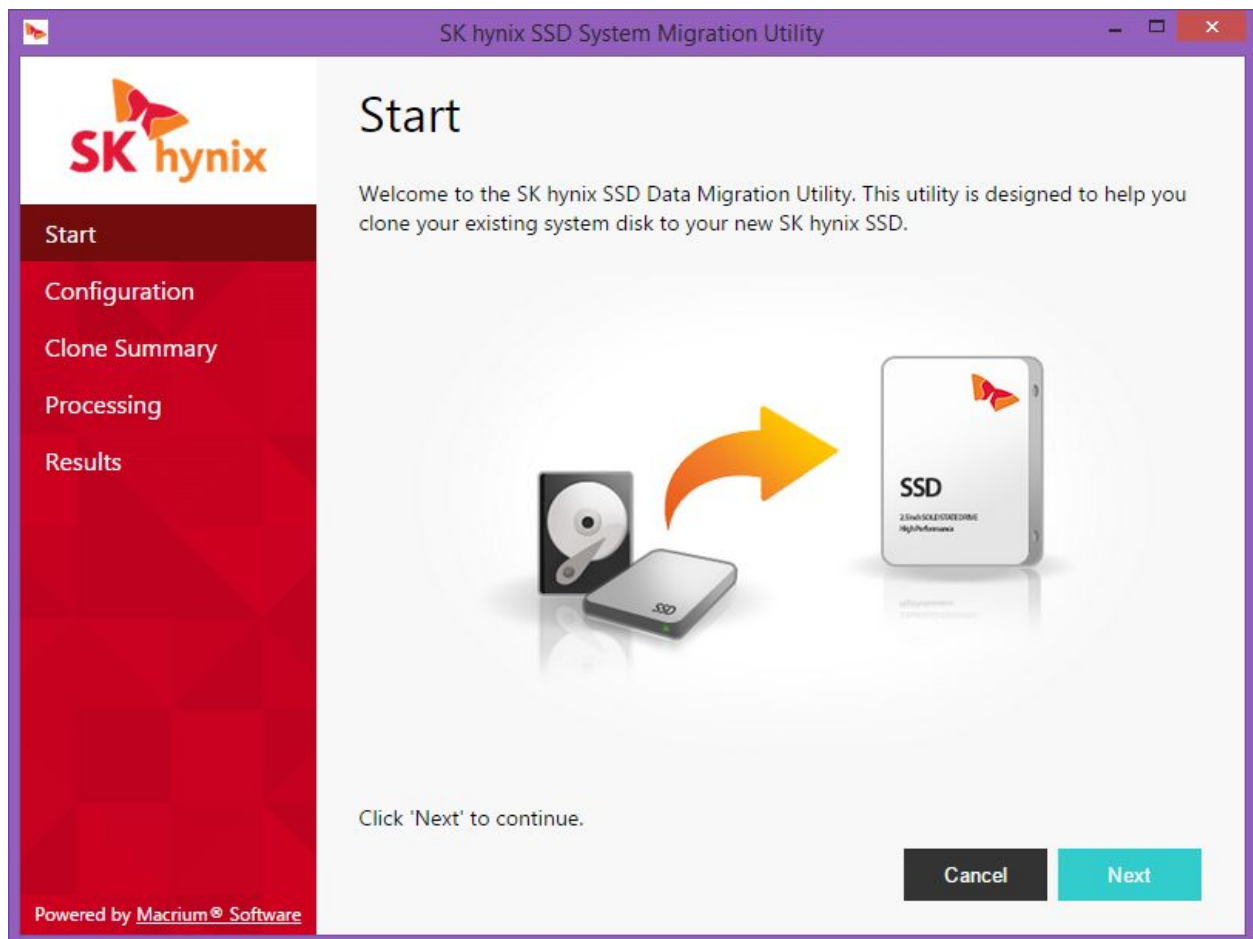


System Requirements

Operating System	Windows XP SP3, Vista, 7, 8, 8.1, Windows Server 2003, 2003 R2, 2008, 2008R2, 2012, 2012 R2 Windows 10
RAM	1GB Minimum
Hard Disk Space	At least 5 GB free for the application and MS Volume Shadow Copy temporary space
Disk Formats	MBR and GPT Note: Microsoft Dynamic volumes are not supported.
File Systems that support resizing	FAT16, FAT32, NTFS Note: All other file systems will retain their original size
SK hynix SSD	Model Numbers: SHGS31-250GS / SHGS31-500GS / SHGS31-1000GS Note: SSD's must be attached using either SATA, eSATA or USB. When using a USB connection the USB to SATA bridge must allow the manufacturer and model number for the SSD to be detectable by Windows.

Starting the Application

To start the application double click the downloaded executable.:SKHSSD.exe. There is no installation process and the application will start after unpacking and analyzing locally attached disks. The main Window will open and is shown below:



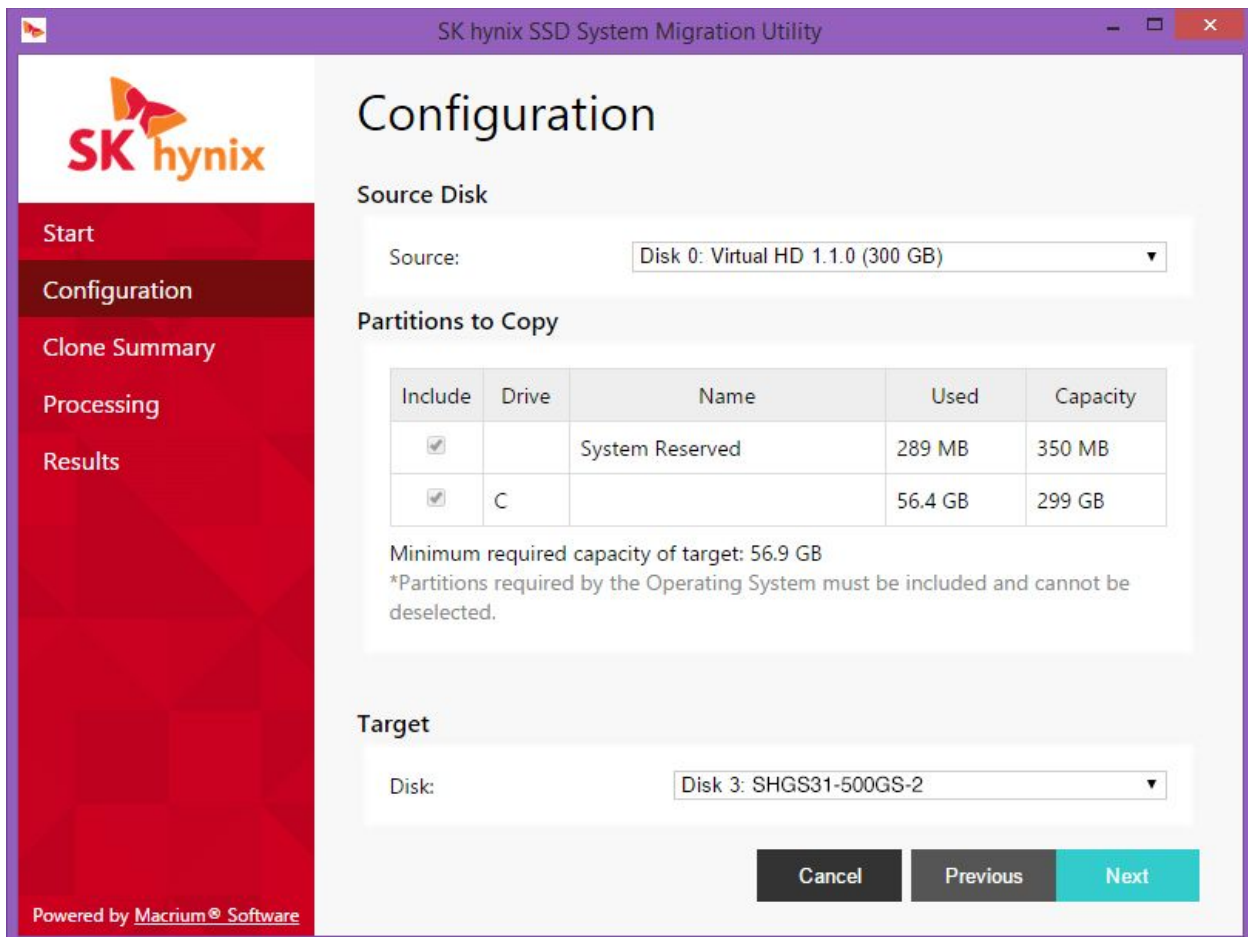
Click 'Next' to continue...

Configuration

The configuration window enables you to select the source and target disks for your clone operation. By default, your operating system disk will be selected as the source disk and the target disk will be your attached SK hynix SSD.

Note: System partitions required to boot Windows, including drive C, will be automatically selected and cannot be de-selected.

Partitions will be automatically shrunk or expanded to fill the destination disk. Please note that certain reserved system partitions will not be resized. These hidden partitions serve the same purpose regardless of the size of the disk and do not need to be either expanded or shrunk. Data partitions and drive C: will be proportionally resized according to the free space available on their respective file systems.



Include	Drive	Name	Used	Capacity
<input checked="" type="checkbox"/>		System Reserved	289 MB	350 MB
<input checked="" type="checkbox"/>	C		56.4 GB	299 GB

Minimum required capacity of target: 56.9 GB
*Partitions required by the Operating System must be included and cannot be deselected.

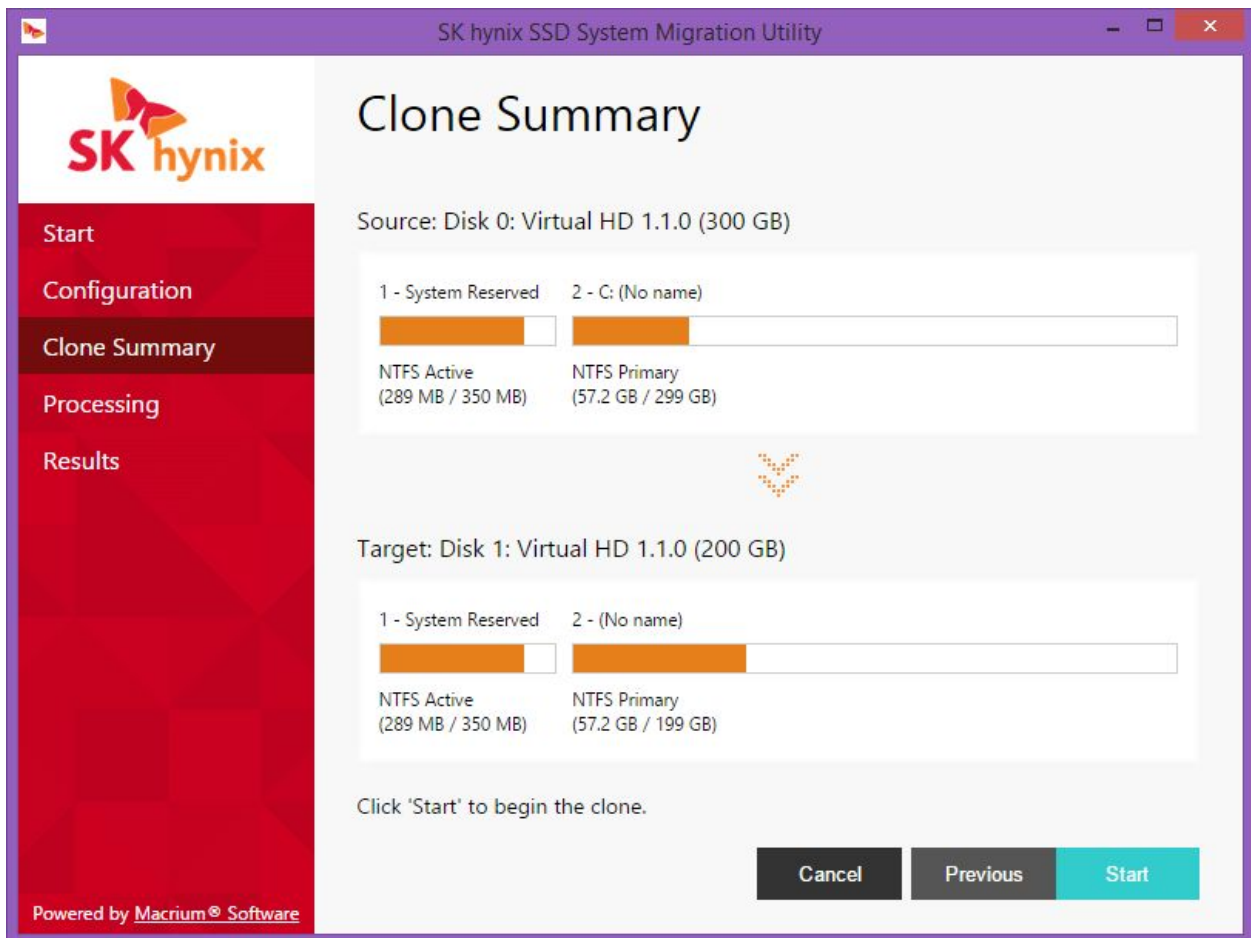
Click 'Next' to continue...

Clone Summary

The clone summary page visually indicates the source and target disk partition layouts as a result of the clone operation. To change the source disk or partition selections click the 'Previous' button.

Note: The entire target disk will be overwritten. Any data that is currently on the disk will be irrecoverably lost. If your target disk is not empty then please ensure that any data it contains is backed up prior to starting the clone operation.

If you are satisfied that the disk and partition selections are correct then click 'Start' to begin cloning.



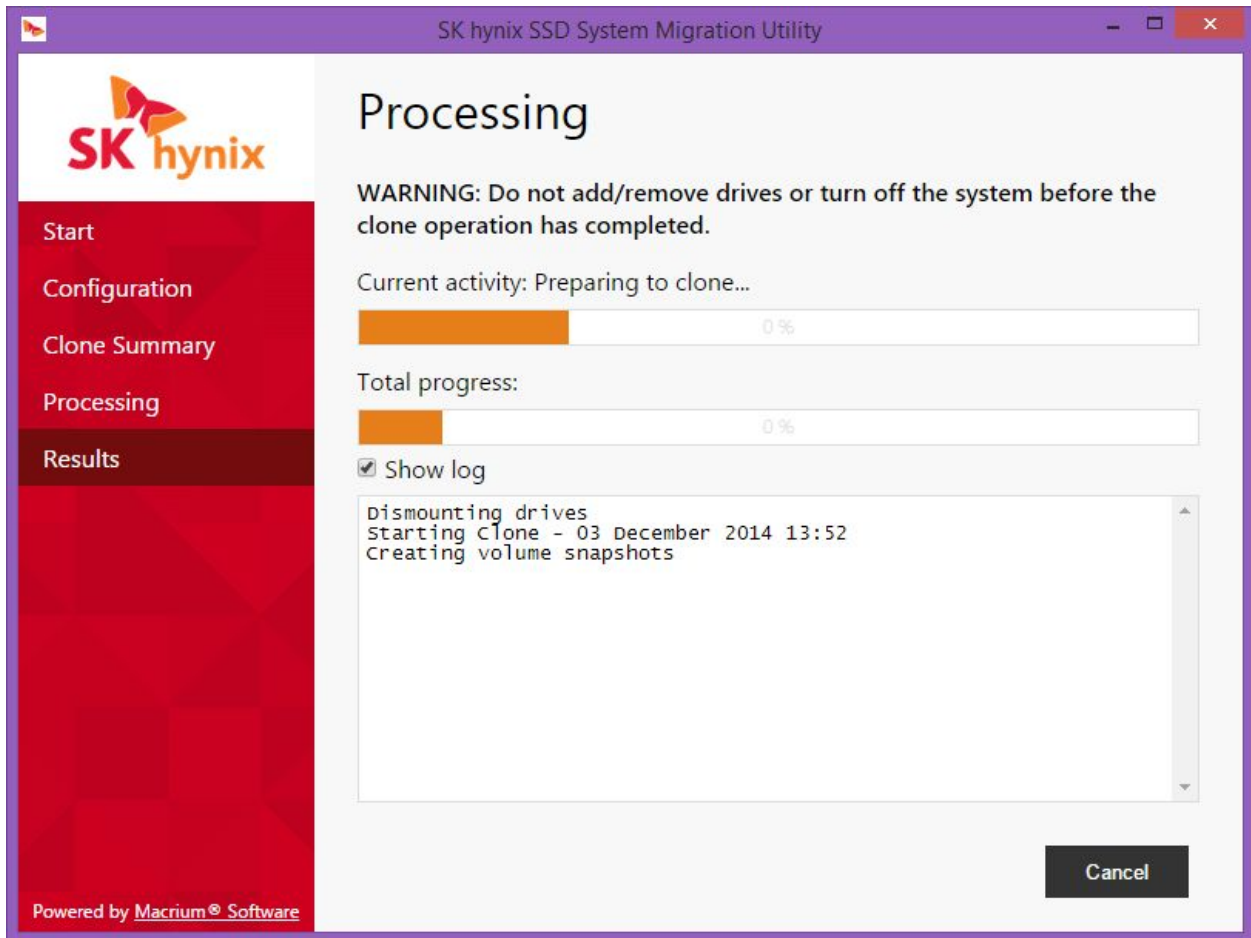
The screenshot shows the 'Clone Summary' window of the SK hynix SSD System Migration Utility. The window title is 'SK hynix SSD System Migration Utility'. On the left is a red sidebar with navigation options: 'Start', 'Configuration', 'Clone Summary' (highlighted), 'Processing', and 'Results'. The main area displays the source and target disk configurations. The source is 'Disk 0: Virtual HD 1.1.0 (300 GB)' with two partitions: '1 - System Reserved' (NTFS Active, 289 MB / 350 MB) and '2 - C: (No name)' (NTFS Primary, 57.2 GB / 299 GB). The target is 'Disk 1: Virtual HD 1.1.0 (200 GB)' with two partitions: '1 - System Reserved' (NTFS Active, 289 MB / 350 MB) and '2 - (No name)' (NTFS Primary, 57.2 GB / 199 GB). A downward arrow icon is between the source and target sections. At the bottom, there is a message 'Click 'Start' to begin the clone.' and three buttons: 'Cancel', 'Previous', and 'Start'.

Click 'Start' to begin cloning...

Processing

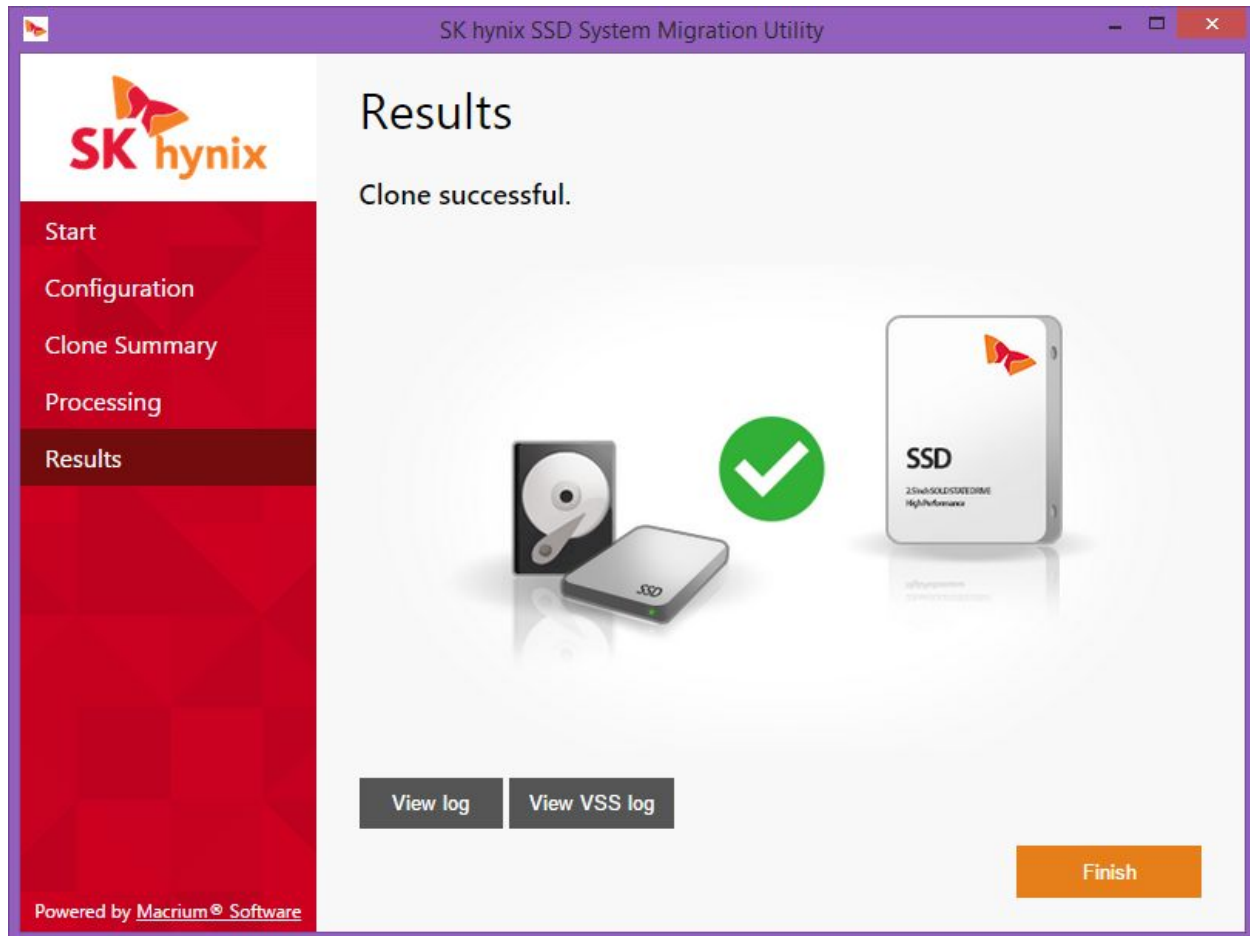
During the clone operation a detailed log will be created in the output window below the progress bars. In the event of an error the last few lines in the log will indicate the cause. Select 'Show log' to view the detailed log.

On clone completion the window will automatically advance to the next and final page.



Results

After a successful clone your system will be transferred to your cloned disk and Windows will now be configured to boot from the clone. Simply replace your source disk with your cloned disk by connecting it to the same SATA port on your PC's motherboard.



In the event of a failure the two log buttons 'View log' and 'View VSS log' will provide detailed troubleshooting information. The last few lines of the log files will contain error codes to help track down the cause of the problem.

Troubleshooting

No SK hynix disk attached

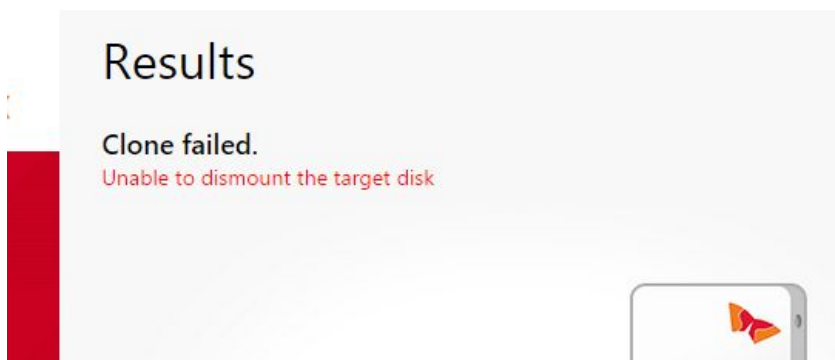
The message box below is shown when the application starts:



Please ensure that you have an SK hynix SSD attached to a SATA port or connected using a USB to SATA cable or enclosure. Please note that not all USB to SATA converters support identifying the disk attached. If you are using a USB to SATA converter and you see the message above then please use a different converter that supports disk detection.

Unable to dismount the target disk

The clone fails and you receive the following error on the results page:



The target disk cannot be locked and overwritten. You will receive this error if you attempt to overwrite your live Windows system disk or any other disk that is currently

locked by another application. Please ensure that the clone target disk is not in use by Windows.

Windows will not boot the cloned drive.

Make sure that your cloned drive is attached to the same SATA port as the original source disk and leave the original source disk disconnected until the cloned disk successfully boots. If you continue to have problems then it may be necessary to run the Windows Startup Repair utility provided with your Windows installation DVD.

Read failure on the source disk

Run the Microsoft utility 'chkdsk' on the source drive and try the clone again after completion:

- Click 'Start' > 'All Programs' > 'Accessories' then click 'Command Prompt'. Note: In Windows Vista/7/8, you need to start the command prompt with elevated privileges.
- Type 'chkdsk c: /r /f' and press enter.
- 3. If you receive the message 'Would you like to schedule this volume to be checked the next time your system restarts?' press 'Y' then enter.
- 4. Reboot your PC.

Your file system will be analyzed for problems and this may take some time to complete.

Volume Shadow Copy Service (VSS) error

Make sure that the following Windows services are not disabled on your system:

Volume Shadow Copy
Microsoft Software Shadow Copy Provider

Make a note of the error number and search for a possible solution on the Internet. There are many possible VSS error codes and it is very likely that solutions have been posted to assist with your particular problem.

A small utility is available to automatically fix common VSS problems that can be downloaded from here:

32 bit - <https://updates.macrium.com/reflect/utilities/vssfix.exe>

64 bit - <https://updates.macrium.com/reflect/utilities/vssfix64.exe>