# OVERLAND TANDBERG

rdx® QUIKSTOR

Integrating RDX® QuikStor™ into Windows® Backup with Full System Recovery for Windows Server OS

The built-in Windows Backup included with current Windows operating systems does not support removable media. In order to back up the system or user data with removable storage products and Windows Backup, a user must backup to a fixed local disk or incorporate third-party backup software that recognizes the removable storage device. RDX® QuikStor™ has solved this problem by providing a fixed disk mode that allows RDX removable storage to be used with Windows Backup.

This guide shows step-by-step instructions on a Windows Server 2012 R2 environment how to:

- create a bootable RDX QuikStor media including a system recovery image
- set up a backup job including media rotation for full disaster protection
- set up deduplication on server volumes to safe disk and backup space
- recover from a system crash using RDX QuikStor recovery media
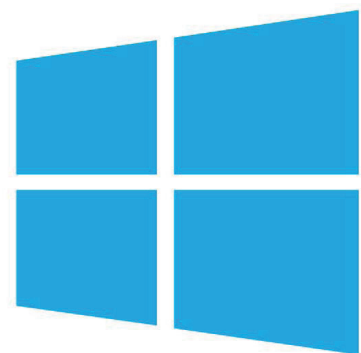
Windows Server

Configure RDX QuikStor in fixed disk mode

Use the RDX utility software (version 1.54 or later) to configure RDX QuikStor in fixed disk mode. The software is available on the RDX QuikStor download section of the Tandberg Data website. In addition, the latest firmware should be downloaded and installed.(2.27 or later).
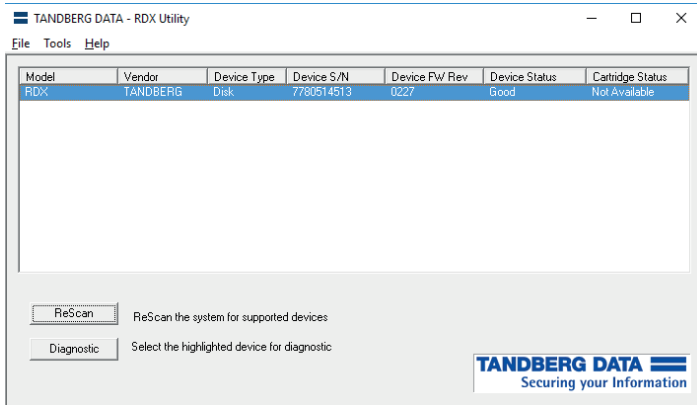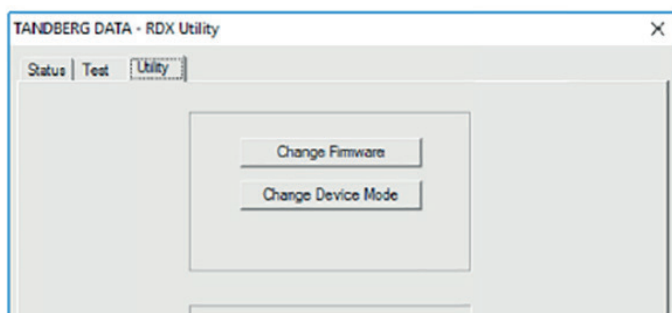
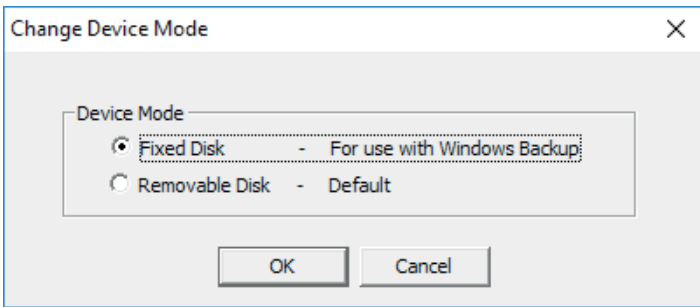Start the RDX Utility and select (click) the drive to work with. Then click on **Diagnostic** to work with the drive.
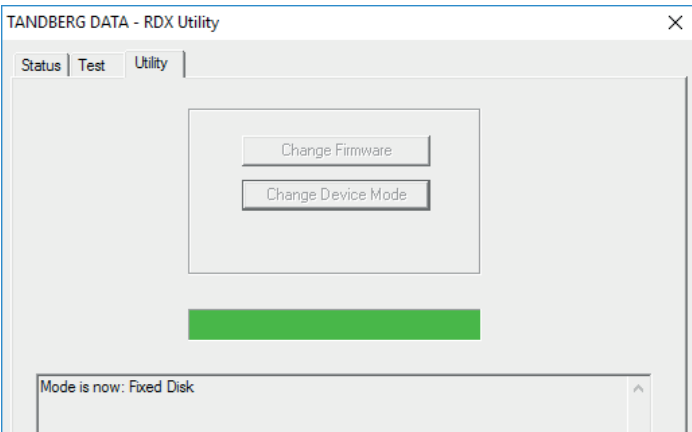
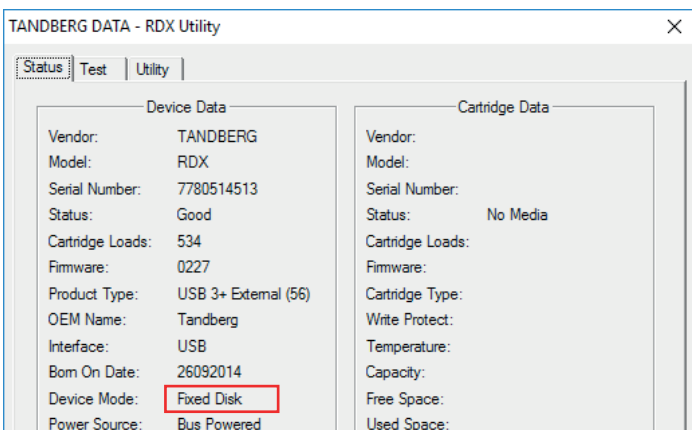If there is RDX Media (Cartridge) in the Drive eject it.
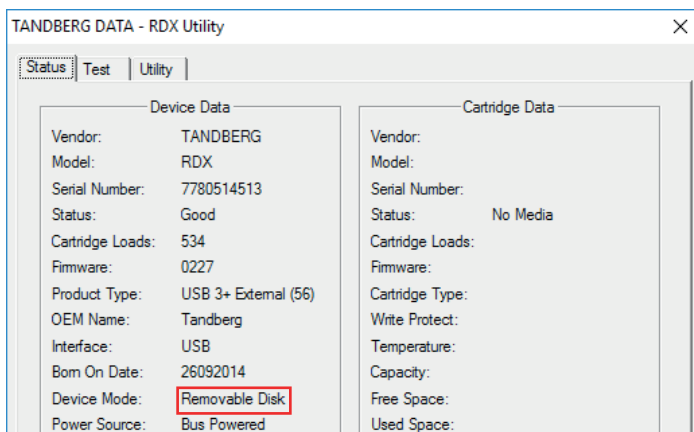
Select the **Utility tab**.

To use RDX with Windows Backup Click on **Change Device Mode** and follow the dialog to Configure RDX in Fixed disk mode.

Change Device Mode

Device Mode
- ◉ Fixed Disk   -   For use with Windows Backup
- ○ Removable Disk   -   Default

OK   Cancel

Choose **Fixed Disk** and click **OK**.

TANDBERG DATA - RDX Utility

Status | Test | Utility

Change Firmware

Change Device Mode

Mode is now: Fixed Disk

Check the status message in the lower part of the window. Click **Exit** and close the RDX utility window.

TANDBERG DATA - RDX Utility

Status | Test | Utility

Device Data

Vendor:	TANDBERG
Model:	RDX
Serial Number:	7780514513
Status:	Good
Cartridge Loads:	534
Firmware:	0227
Product Type:	USB 3+ External (56)
OEM Name:	Tandberg
Interface:	USB
Born On Date:	26092014
Device Mode:	Fixed Disk
Power Source:	Bus Powered

Cartridge Data

Vendor:	
Model:	
Serial Number:	
Status:	No Media
Cartridge Loads:	
Firmware:	
Cartridge Type:	
Write Protect:	
Temperature:	
Capacity:	
Free Space:	
Used Space:	

RDX is now in Fixed Disk Mode.

Using deduplication

Windows Server 2012 offers a deduplication feature. With deduplication, you can save a lot of disk space on your server-volumes as it eliminates duplicate blocks of data. Deduplication is optional for Windows Backup, but we recommend using it to optimize backup disk space utilization on the RDX.
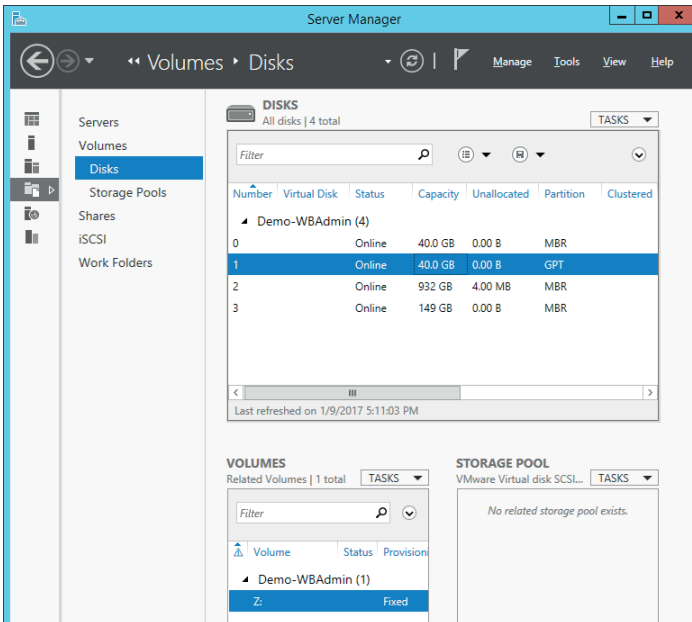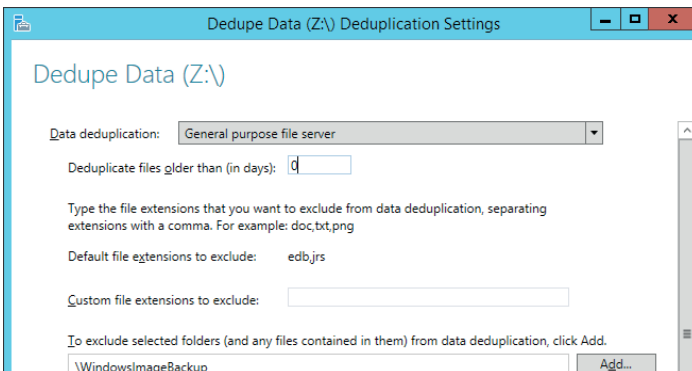

- Start the Server Manager.
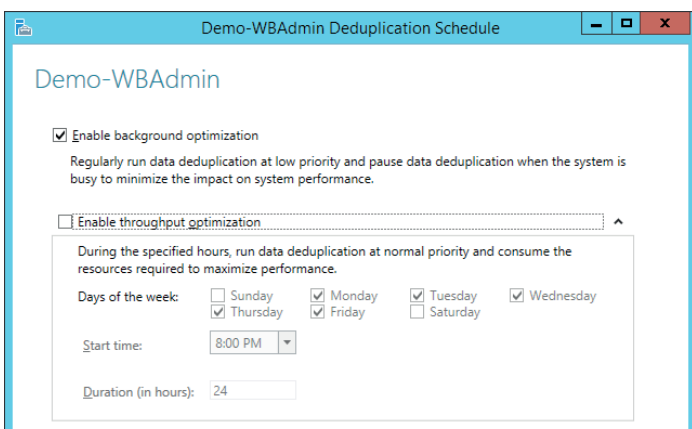- Choose **File and Storage Services** at the left panel.
- Choose **Disks** at the second most left panel.
- Select the disk you want to deduplicate.
- Right-Click on the disk in the **Volumes** section of the window and choose **Deduplication Settings**.

- Choose **General purpose file server**. Choose **0** days for the age of the files to deduplicate. Click on **Set Deduplication Schedule**.

- **Enable background optimization** will run the deduplication process whenever system utilization is low. In addition a fixed schedule for deduplication could be defined.

Creating a bootable RDX recovery cartridge

In case of a total system crash, the whole operating system needs to be recovered in addition to the application and user files. This could be done by inserting the Windows startup DVD. A more convenient solution is to create a RDX recovery cartridge which includes a bootable Windows Recovery Environment and the backup files.
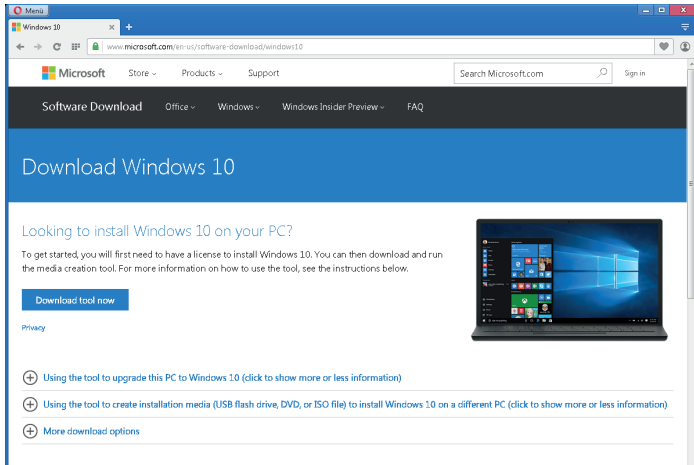
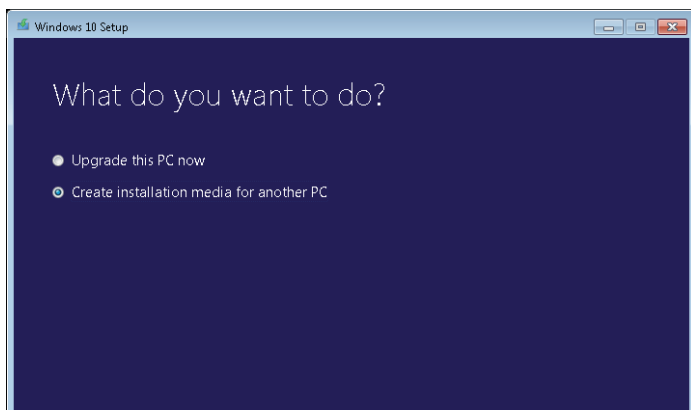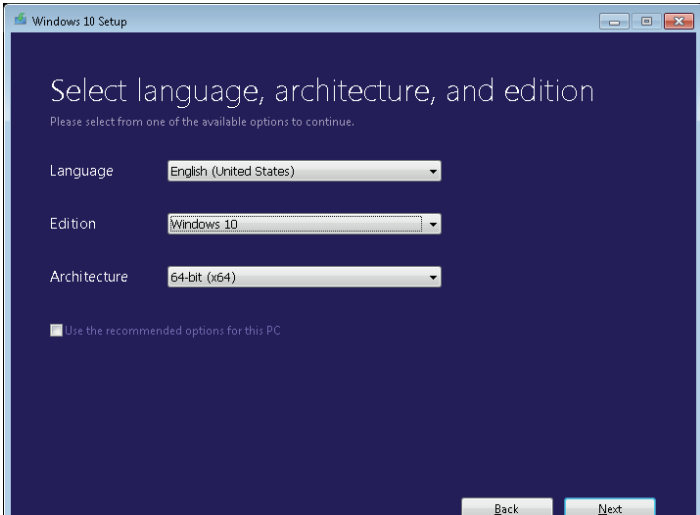Download the **Media Creation Tool**.

You might use this link:

https://www.microsoft.com/en-us/software-download/windows10
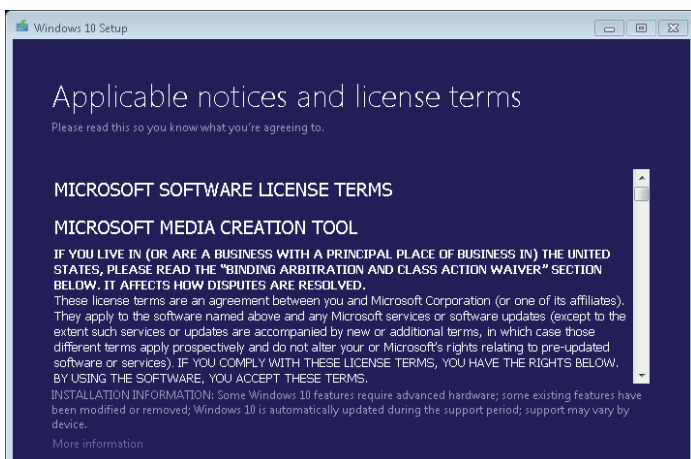
Start the **Media Creation Tool**.

Accept the licence terms.

Select **Create installation media for another PC**.

Click **Next**.

Select the appropriate options for your system. The setting shown on the screenshot might work for most systems.

Click **Next**.
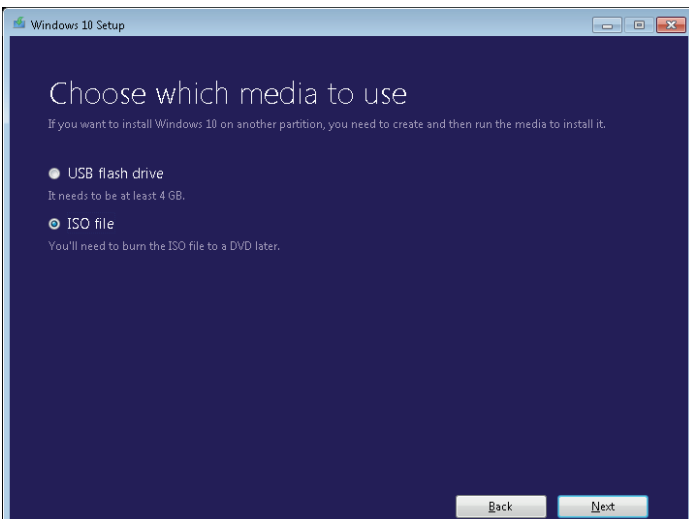
Chose **ISO file** and click **Next**.
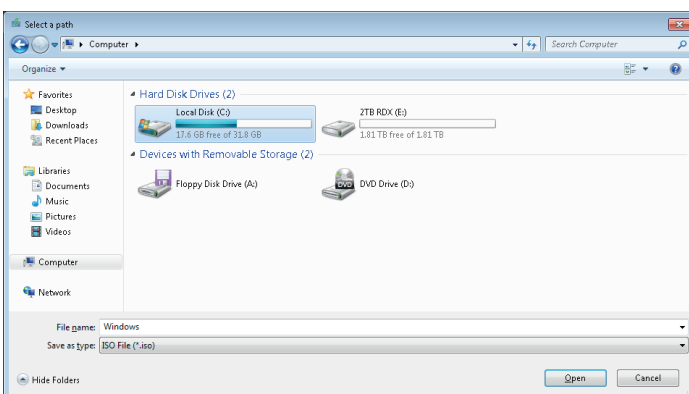
Specify a destination on your hard disk to store the windows ISO file.
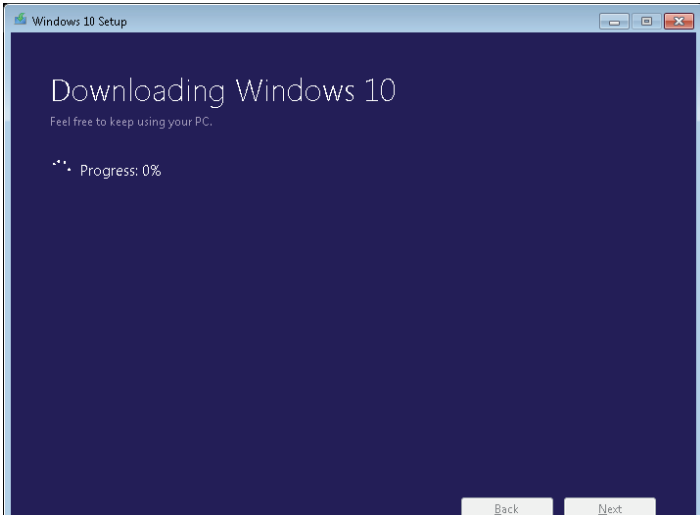
The ISO file starts downloading. This might take a while.

Click **Next** as soon as download has finished.
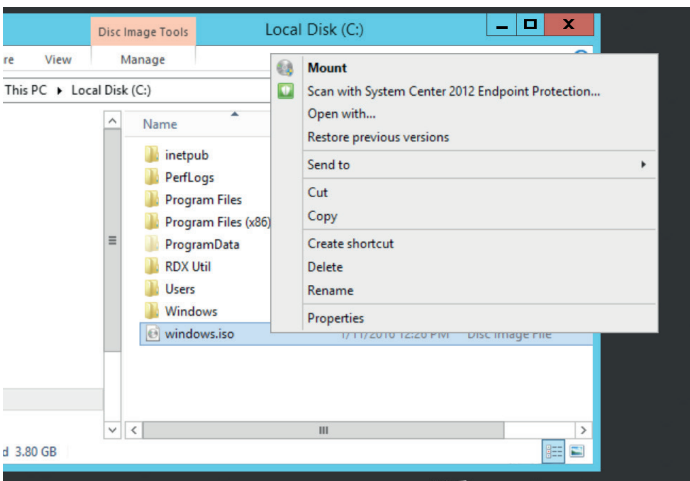
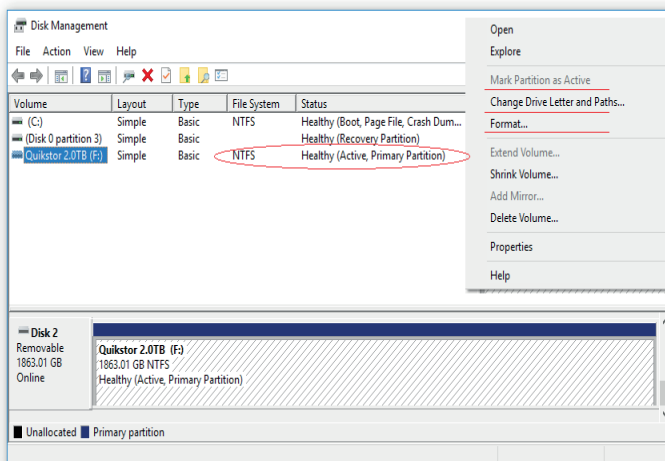The ISO file is now stored onto the local disk of the server.

Right click the ISO-file and select **Mount**.
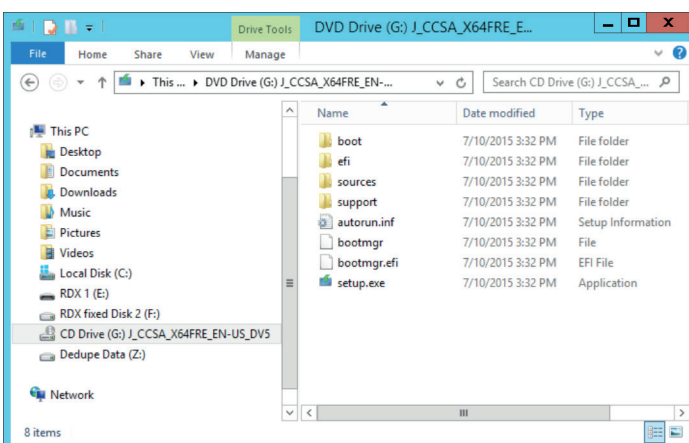
Windows creates a virtual CD drive, which contains the boot files for starting the system and recovery process with the ISO file.

You can now use this ISO file to create RDX boot media.

• Copy these files to an RDX cartridge with a capacity of 2.0TB or less.

Verify the RDX Media is ready to be Boot Media using Windows Disk Management.

Right click the **start** button

Open **Disk Management** in Windows. The window lists shows the system disk storage. Locate the RDX drive/Media and review the listed Status.

For a USB connected RDX Cartridge to boot, verify/modify with Windows Disk Manager.

- The format is NTFS
- The Partition is Active
- The RDX partition is primary
- A drive letter is assigned (x:)
- The system BIOS is set to look for a USB Boot disk upon startup.
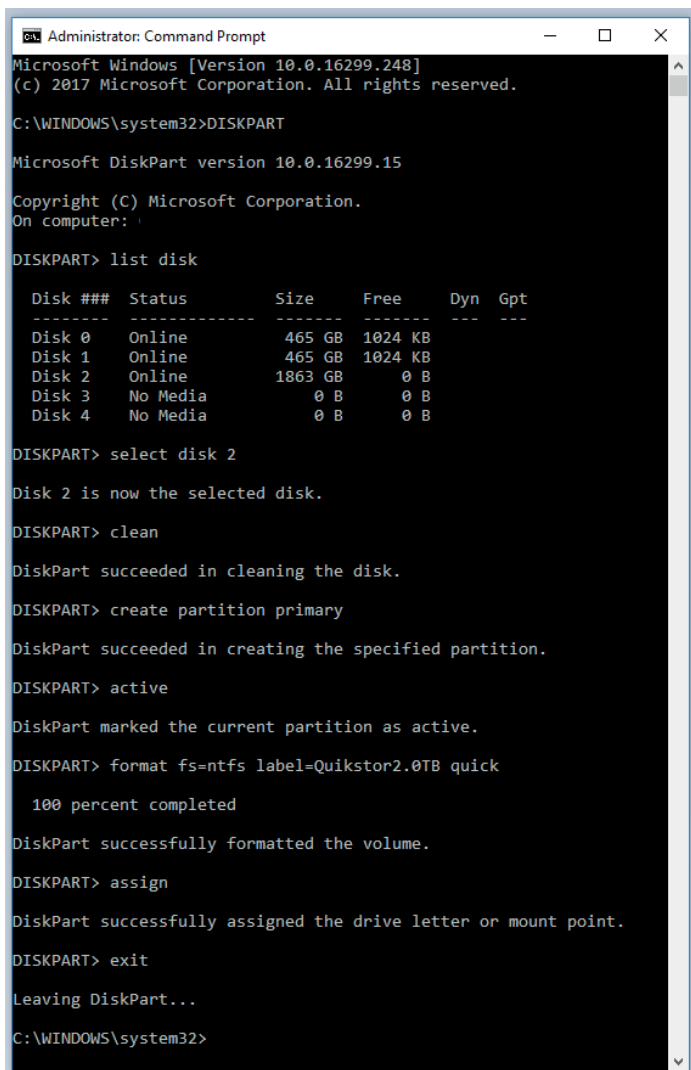
The RDX Media can be repartitioned manually if needed from the Command Prompt.

Note all User data will be LOST when the RDX Media is re-partitioned.

- From the Command Prompt (as administrator)
- **DISKPART**
- **DISKPART> list disk**
  This list shows the disk choices
- **DISKPART> select disk 2**
  This selects the disk target
- **DISKPART> clean**
  This erases the disk target
- **DISKPART> create partition primary**
  This creates the partition
- **DISKPART> active**
  The boot sector is now active
- **DISKPART> format fs=ntfs label=Quikstor2.0TB quick**
  Quick Formats and labels the disk Volume
- **DISKPART> assign**
  This assigns the drive letter to the disk Volume
- **DISKPART> exit**
  This exits the diskpart tool

Review the RDX Media with Windows Disk Manager described in the previous step.

The RDX Media is now ready for the Boot files created with the Media Creation Tool.
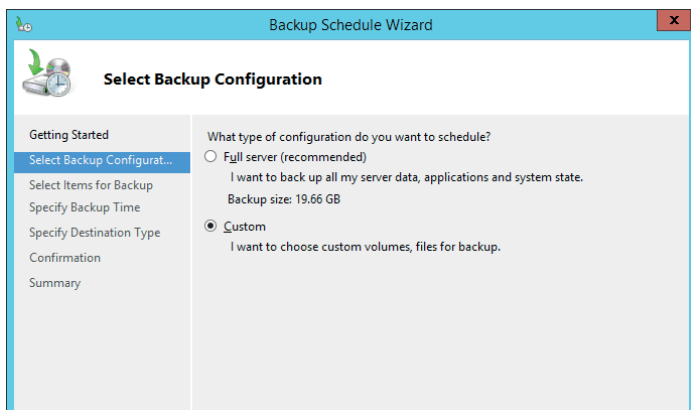
Setting up Windows Backup

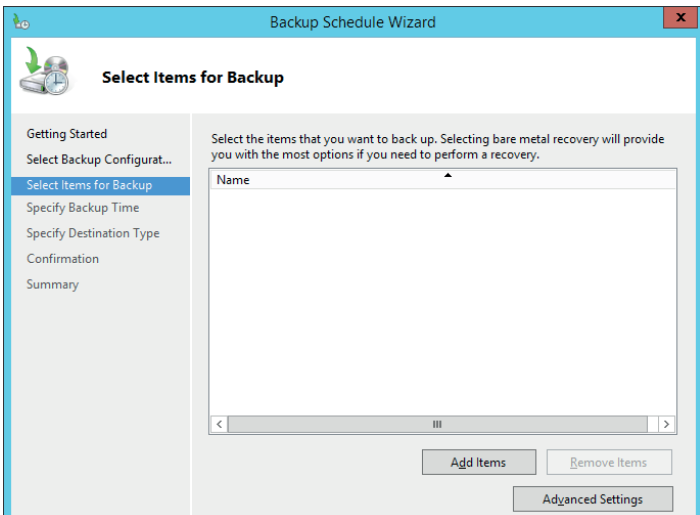To start Windows Backup, start Windows Server Backup from the Windows Start Screen.
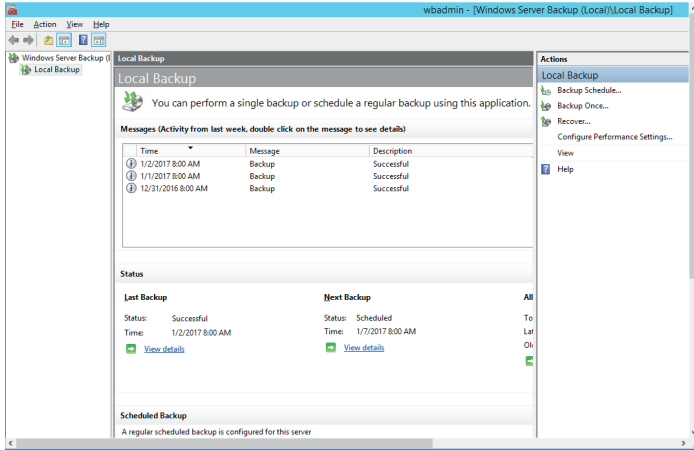
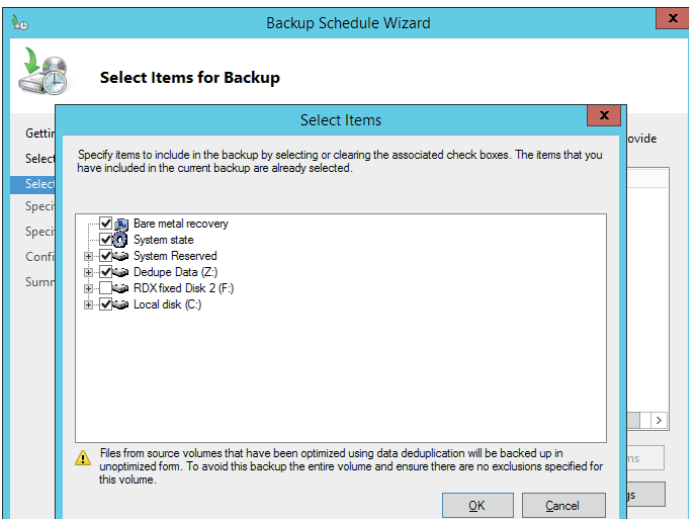Choose **Backup Schedule** on the right area of the window.
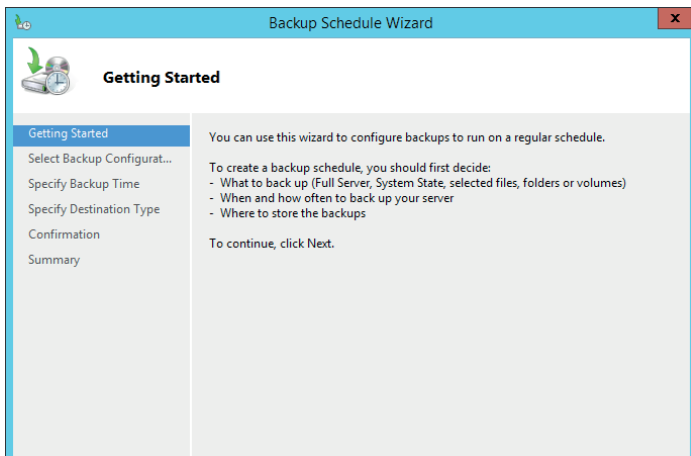
The **Getting Started** screen appears.

Click **Next**.

Select type of backup. Here, we selected **Custom**.

Click **Next**.

Select the items to back up by clicking on the **Add Items** button.

Select the items and drives you want to backup. In this example, we chose **bare metal recovery** to be able to set up our server from scratch in the event of a system crash.

In addition, **System State**, **System Reserved** and **Local Disk (C:)** is automatically selected. We also selected the deduplicated volume **Z:**.

Click **OK** and **Next**.
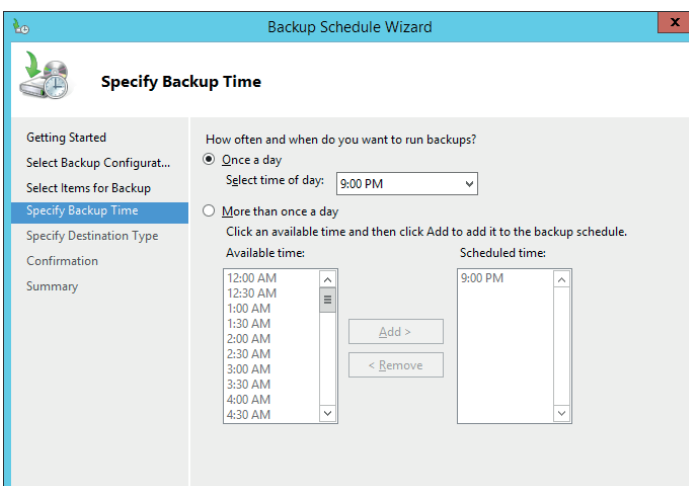
Specify your backup schedule. Click **Next**.
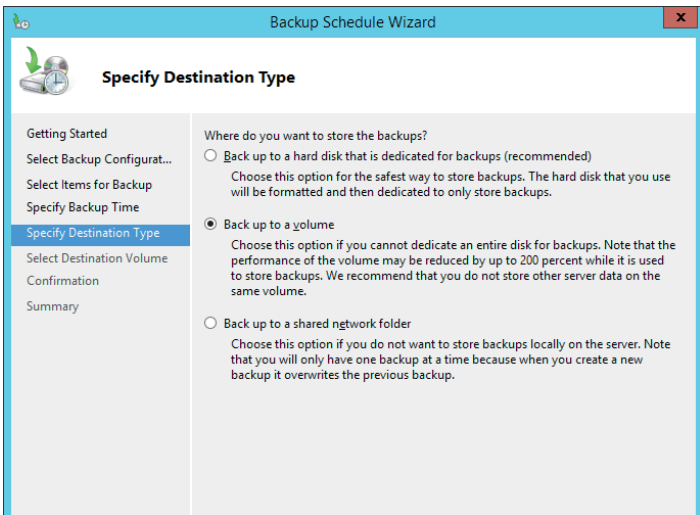
Specify the destination type. You can use either **Back up to a hard disk** or **Back up to a volume**.

We recommend **Back up to a volume** to keep the drive letter and to be able to display the data.

Click **Next** to select the destination volume.
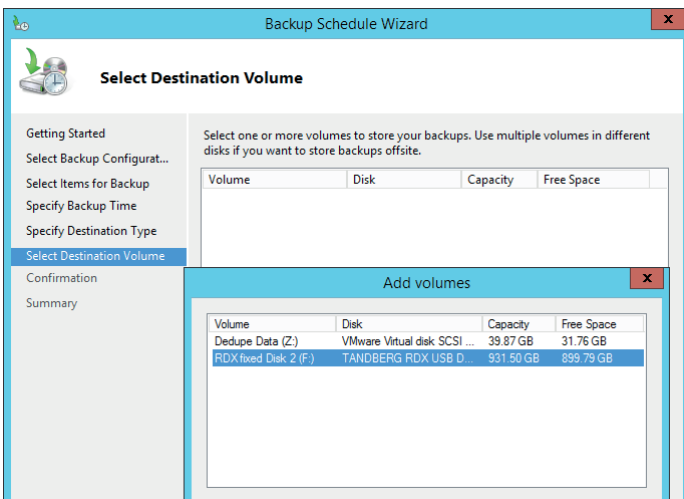
Click **Add** and choose the RDX volume as the backup destination.

Click **OK** and **Next**.
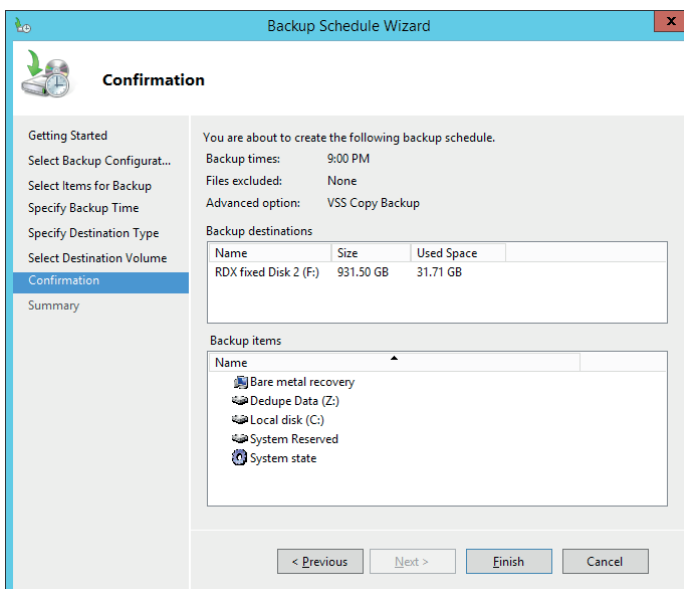
The confirmation window is displayed.

Click **Finish** to confirm your settings.
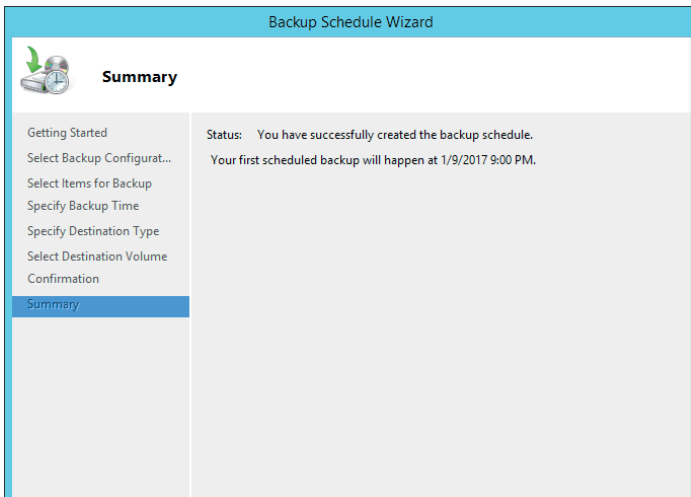
The backup schedule is created. The **Summary** window is displayed and your settings are acknowledged.

Using media rotation

We highly recommend using media rotation to have multiple backup copies and to store at least one copy off-site. For each cartridge you want to include in the rotation, **repeat the above steps**. Be sure you have inserted the appropriate media into the RDX drive before you start. Be aware that there is now an additional step, "Keep or Change Backup Destinations."
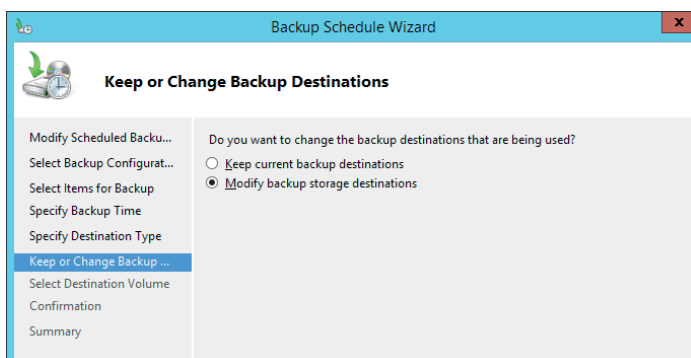
Choose **Modify backup storage destination**.

Click on **Next**.
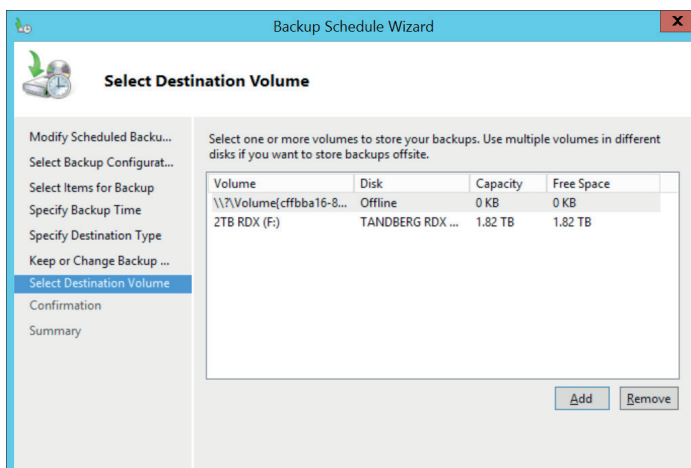
Choose the appropriate RDX volume by clicking the **Add** button. Backup can be performed with any volume shown in the list.

Running a backup outside the schedule

You can run an unscheduled backup by issuing a "wbadmin start backup" command in the command line interface.

> Here is an example of an unscheduled backup.

Restoring a server using BMR (bare metal recovery)

The following example shows a full server recovery using bare metal recovery (BMR) and windows backup.

The RDX must be in fixed disk mode for this procedure!

If necessary, you might perform this setting from another computer. Please refer to the section "Configure RDX QuikStor in fixed disk mode" at the beginning of this guide.

In case, you don't have another system available, you can change the mode directly at the RDX drive by following these steps:

1. Press and hold the eject button for five seconds
2. The LED on the button will now flash alternatively yellow and green
3. Press the eject button once to set the drive into the Fixed-Disk-Mode
4. The LED will now flash continuously yellow, green, green
5. Press the eject twice in rapid succession to confirm

Attach the RDX-drive and load the appropriate cartridge with the system image previously created and the backup files. Power on your system.
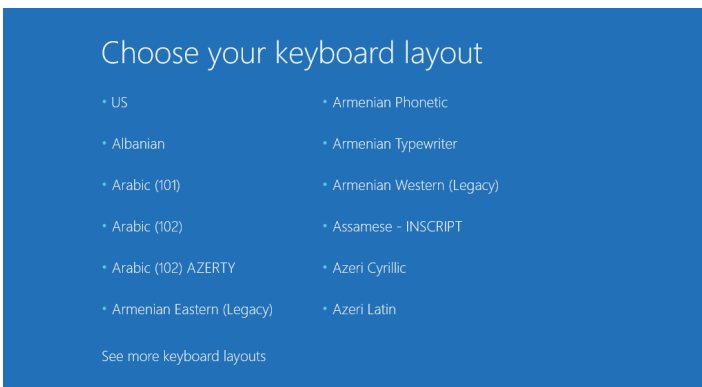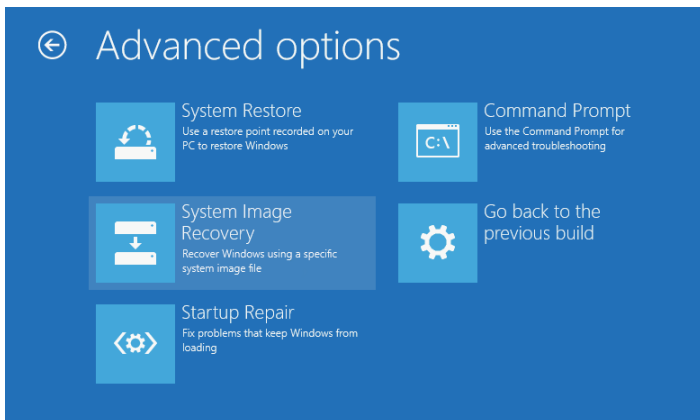

> As the ISO file created at the beginning contains all language settings, you just need to choose your keyboard layout.
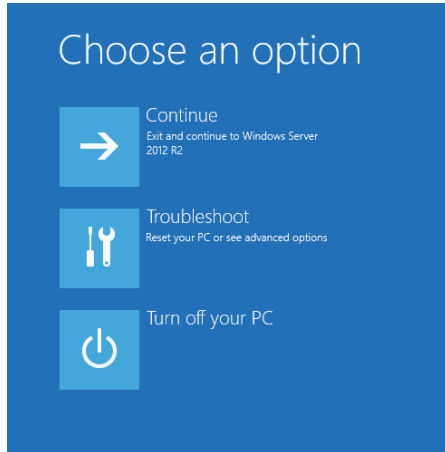
After the failed server has booted, the following screen appears. Choose **Troubleshoot** to start the advanced options menu.
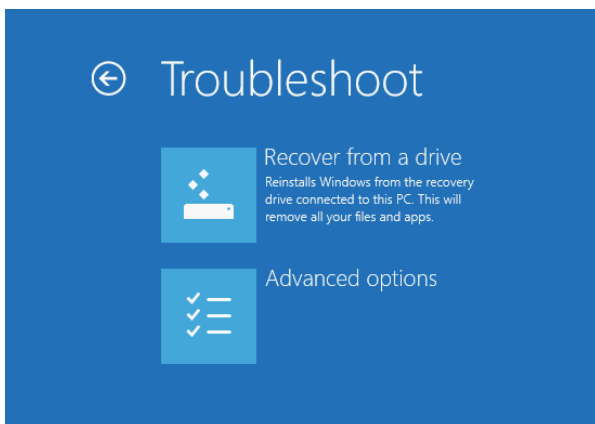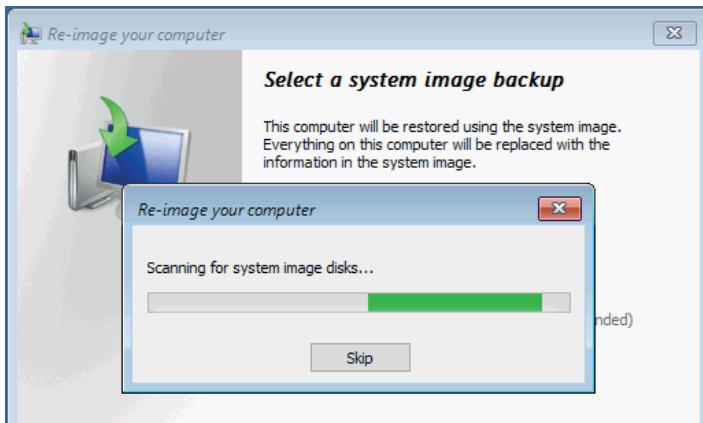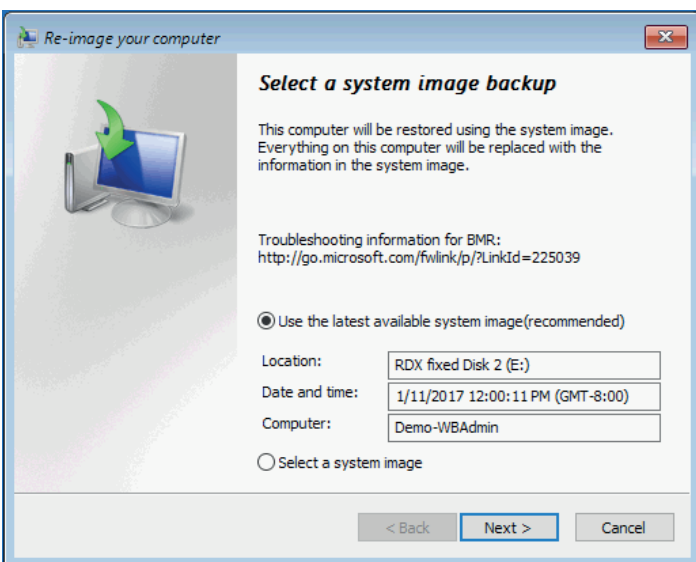

Choose **Advanced Options**.

Choose **System Image Recovery**.

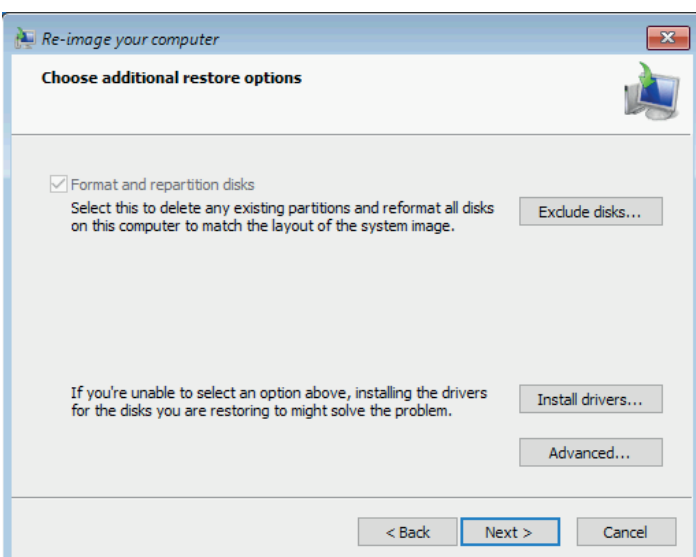Choose the target operating system, **Windows Server 2012 R2** in our case.

The BMR procedure searches for a system image.

A system image is found on the RDX volume.

If you need to recover from a virus or ransomware attack, select a system image which was created before the attack had happened.

Otherwise choose **Use the latest available system image**.
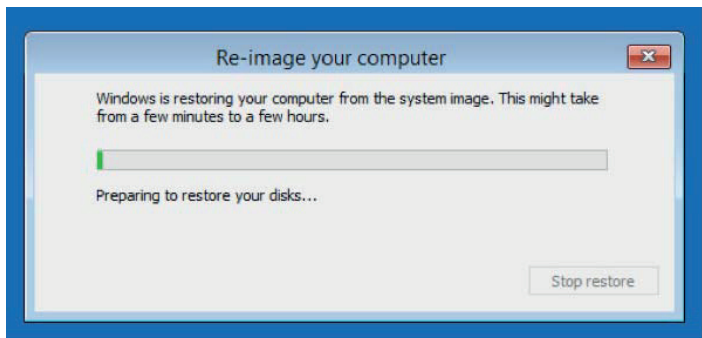
Click **Next**.

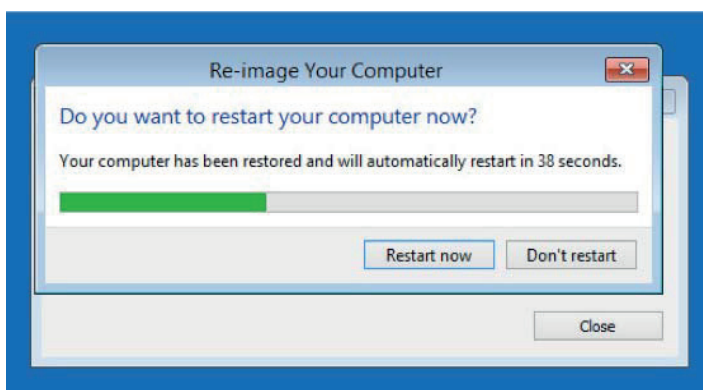If you want to install additional drivers (e.g., a RAID-driver) choose **Install drivers**.

Click **Next**.
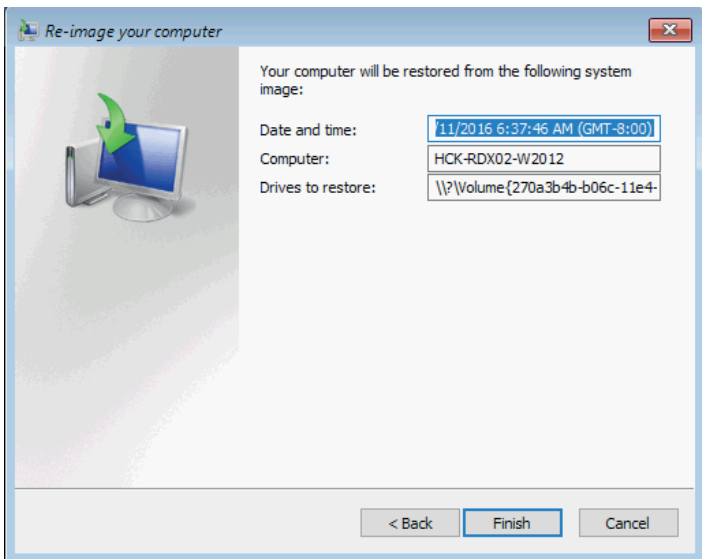
A summary window appears.

Click **Finish** to start the recovery procedure.

The data is restored to the system.

System is restored and will be restarted on request.

After the restart, the system is up and running. Additional tasks may be performed to complete the recovery.

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