

# Paragon Backup & Recovery<sup>™</sup> 16 User Guide

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# **Product Overview**

Backup and Recovery 16 is an easy-to-use tool for reliable backup of an entire computer, individual volumes or files. It helps to get consistent point-in-time copies of your PC including OS, running applications, user settings and all data in such a way that you don't even feel any discomfort. Three predefined backup strategies simplify setup of regular backup routines. Full backup images followed by incremental updates of changed data since the last backup strengthened by data retention keep your data precisely up to date with minimal effort and backup storage footprint. Backup data is allowed to store on a local or external device or a network share.

For advanced users, there's a way to create comprehensive backup policies that utilize full, incremental, and differential backup methods and their combinations, where backup runs can be scheduled from every hour till certain days of the month, or evoked by a certain event (system start or user logon).

Several restore options are available for you to rule out an emergency situation as quickly as possible, from fast retrieval of specific files from a backup image, to complete restore of your computer to an earlier state without losing data, reinstalling and reconfiguring your programs. Even when OS fails to start up, you still have a chance to get everything back on track by loading your PC from a WinPE-based rescue media prepared beforehand.

In this guide you will find the answers to many of the technical questions, which might arise while using our program.

Our company is constantly releasing new versions and updates to its software, that's why images shown in this manual may be different from what you see on your screen.

# **Getting Started**

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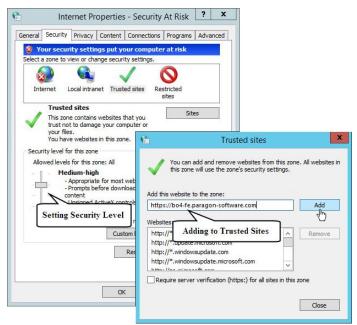
# **Product Components**

- Windows installation package for regular system and data protection. It's the main component of the product that includes all the necessary tools to help you safe yourself from a system failure, hardware malfunction or a human factor.
- WinPE bootable environment for disaster recovery or data retrieval. You can prepare it on a USB thumb drive or in an ISO file with the program's wizard (highly recommended).

# **System Requirements**

## For the Windows installation package

- Windows 7 SP1 and later
- Internet Explorer 10 and later
- Opened ports in Firewall: inbound and outbound 80, 443
- <u>https://bo4-fe.paragon-software.com</u> should be added to the list of trusted sites, besides the security level for the trusted zone should not be higher than **Medium-high**. Go to **Control Panel > Network and Internet > Internet Options > Security** to configure the necessary parameters.



# A

## During the installation additional free space (up to 1GB) will be required.

#### For the WinPE bootable environment

- Intel Pentium III CPU or its equivalent, with 1000 MHz processor clock speed
- At least 1 GB of RAM
- SVGA video adapter and monitor
- Keyboard
- Mouse

#### **Additional requirements**

- Network card to send/retrieve data to/from a network computer
- Recordable CD/DVD drive to burn data to compact discs
- External USB hard drive to store data

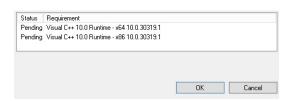
## Installation

Before the installation, please make sure the <u>systems requirements</u> are met. If everything is OK, please do the following to install the product:

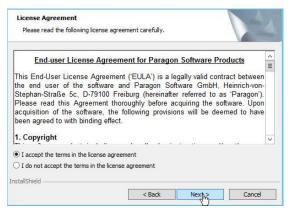


In case there is some previous version of the program installed on the computer, the program will offer the user to uninstall it first.

 Click on the supplied setup file to initiate the installation. First your system will be checked for the presence of Visual Studio C++ 2010 Runtime Library and if not found, you will be prompted to install it (comes with the installation package).



- 2. The Welcome page will inform that the application is being installed. Click **Next** to continue.
- 3. Please Read Paragon License Agreement carefully and then select the appropriate option to accept. Otherwise you won't be able to proceed with the installation.



- 4. Provide the standard customer information, i.e. a user name and an organization. Besides you need to decide whether to make the program available for all users of this computer (if several) or only for the current one.
- 5. If necessary, click **Change** to install the utility to a different location (by default **C:\Program Files\Paragon Software\Backup and Recovery 16\**).
- 6. On the Ready to Install the Program page click **Install** to start the installation or **Back** to return to any of the previous pages and modify the installation settings.
- 7. The final page reports the end of the setup process. Click **Finish** to complete the wizard.

# **First Start**

After the installation you can see an icon of Backup and Recovery on the Windows desktop. Double click it to launch the utility.

MyParagon		English -
200000-20000-200000-200000	×	
Activate		

Once started, you will see an activation dialog. Backup and Recovery is a commercially distributed product, which needs activation over the Internet. Enter your serial number, then click **Activate**. For more details, please watch our video guide: <u>https://www.paragon-software.com/de/home/backup-recovery-kompakt/video.htm</u>.

If you see a blank window instead of the Activation dialog, please make sure the <u>systems</u> requirements are met.

After the activation, you will get access to the program interface.

i

Home	Main view	X-View	Refresh	Help
	a <b>ckup &amp; Recover</b> eate backup job, s	/ ingle backups and restore functionality		
	ireate single backup	Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devic S  NTFS   36.7 GB free of 59.6 GB	e)	
	Create backup job	Basic MBR Hard Disk 1 (VMware Virtual disk SCSI Disk Devic         Data Volume (E:)         NTFS   61.5 GB free of 119.9 GB	e)	
	Restore backup	Basic MBR Hard Disk 2 (VMware Virtual disk SCSI Disk Device         (Unallocated)         18 GB         NTFS   37.6 GB free of 37.7 GB		
		My Computer My Backups Job Activities		

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The upper area of the main window contains several tabs: <u>Home</u>, <u>Main View</u> and <u>X-View</u>.

#### Home

Use this tab to change the program settings, build bootable recovery media, collect program logs, or go to Paragon's website to download a free update, register the product, visit Paragon's Knowledge Base, etc. Home

# Settings Virtual mode options Recovery Media Builder Application Allow virtual mode Collect logs Set this option on to carry out all the operations virtually. You will be able to Virtual mode options commit the changes or rollback all of them or the last one. If you switch this option Info about off, the operations will be carried out immediately. Close progress dialog automatically Set this option on to automatically close the progress dialog after committing the changes. Backup Include/Exclude

For more details, please consult the following chapters:

- Changing Program Settings
- Building Recovery Media
- Troubleshooting

#### **Main View**

It is displayed <u>each time you launch the program</u>. Use this tab to see the layout of system storage devices, open program wizards and dialogs, monitor backup activities and some other actions.

٢	Backup & Recovery Create backup job, single backt	ups and restore functionality
	Create single backup	Basic MBR Hard Disk 0 (VMware Virtual disk Disk Map Local Disk (C:) NTFS   37.2 GB free of 59.6 GB
	Create backup job	Basic MBR Hard Disk 1 (VMware Virtual disk SCSI Disk Device) (Unallocated) 119.9 GB
	Wizards	Basic MBR Hard Disk 2 (VMware Virtual disk SCSI Disk Device)         (Unallocated)         My Computer         My Backups       My Activities

By default, the program does not accomplish operations that may destroy the on-disk data (format, delete, restore, etc.) immediately, but places them on a special list (the so-called virtual mode). First it helps to avoid possible mistakes as you should confirm all provided changes. Second it saves your time and effort when

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executing several operations, as you don't need to wait for each operation to physically complete before proceeding to the next operation.

A corresponding bar appears in the upper area after you accomplish a potentially dangerous operation.



- Apply. Click to physically execute pending changes.
- **Discard**. Click to cancel all pending changes.
- Show changes. Click to see and manage pending changes.

Operations queue	Formatting volume (FI) New Volume
Old disk layout	Formatting volume (F:) New Volume Creating partition on disk 2.
New disk layout	Deleting volume (*) LINUX VOLUME, Linux Ext4

Select **Old disk layout** to see your disks before accomplishing pending changes.

perations queue	Desis MDD Used Di		Nel Destan
ld disk layout	Basic MBR Hard Di	sk 0 (VMware Virtual disk SCSI D	JISK Device)
w disk layout	Sys <b>X</b> Local Disk	(C:) B free of 59.6 GB	
	Basic MBR Hard Di	sk 1 (VMware Virtual disk SCSI D	lisk Device)
	NTFS   45.9 GB free of	f 119.9 GB	The target disk before changes
		sk 2 (VMware Virtual disk SCSI D	Disk Device)
	Basic MBR Hard Di	SK 2 (VIVIWATE VITCUAT UISK SCSTE	Jisk Device)
	LINUX VOLUME	New Volume (B;)	New Volume (F:)

Select **New disk layout** to see your disks after accomplishing pending changes. Use the arrow buttons below to see how the target disk layout changes after each operation.

······	Sys	Local Disk	$c(C^{*})$		
/ disk layout					
	NT	NIFS 37.10	GB free of 59.6 GB		
	Basic	MBR Hard Di	isk 1 (VMware Virtual disk SCSI	Disk Device)	
	Data V	/olume (E:)			
	NITEC	NTFS   45.9 GB free of 119.9 GB			
	NIFS	45.5 GB HEE 0	119.5 GB	The target disk after changes	
	Basic	MBR Hard Di	isk 2 (VMware Virtual disk SCSI	I Disk Device)	
		MBR Hard Di	isk 2 (VMware Virtual disk SCSI New Volume (B:)	I Disk Device) New Volume (F:)	
	New V		1		

• Undo. Click to cancel the last pending operation.

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- **Redo**. Click to cancel the last undo pending operation.
- **Generate script**. Generate a script out of all pending changes. A script may describe one or several operations with macro-language commands. The program installation package includes an interpreter utility SCRIPTS.exe that allows executing any set of operations automatically in the unattended mode. For more details, please consult <u>Using the Command Prompt</u>.

If necessary, you can change the default location and filename for the created script file.

Organize 🔻 🛛 New folde	r	8EE	• 🕜
This PC Documents Documents Downloads Pictures Pictures Videos New Volume (B:) Local Disk (C:) Data Volume (E:)	Name Backup_20160715_0400 Job-2016714258244 CreateLinuxPartition.psl	Date modified 7/15/2016 4:01 AM 7/15/2016 11:00 AM 7/14/2016 2:56 AM 7/18/2016 7:00 AM	Type File folder File folder File folder PSL File
👝 New Volume (F:) 🗸	<		:
File name: Script	generated on 18.7.2016 at 7 h. 50 m		~
Save as type: Script f	files		~

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The Virtual operations bar is also displayed in the <u>X-View</u> mode.

To learn more about scripts, please consult the Paragon Scripting Language manual.

## Disk Map

The Disk Map displays the layout of storage devices. Each device is represented with a rectangle bar that contains small-sized bars, which represent partitions or logical disks. By looking at the size of the bar's shaded area it is possible to estimate the used disk space.

Large-sized bars display the following information about storage devices:

- Type (physical, virtual),
- Used partitioning scheme (MBR or GPT),
- Total capacity.

Small-sized bars display the following information about logical disks and blocks of free space:

- Volume label (if exists),
- Total size,
- File system.

Left click a disk, volume, or block of free space to call a context-sensitive menu with detailed information on the selected object and a list of available operations.

Local Disk (C:)	
NTFS   37.2 GB free of 59.6 GB	
Volume letter: (C:)     Back up th       Volume label: [No label]     Format thi       File system: NTFS     Delete this       Volume size: 59.6 GB     Show adva       Used space: 22.4 GB     Free space: 37.2 GB       Active: No     Active: No	s volume s volume

For more details, please consult the following chapters:

- Protecting System and Data
- Managing Partitions and Disks

#### Wizards

For your convenience the program wizards are grouped into several tabs. Use the arrow buttons to switch between them.

- Select **Create single backup** to configure a one-shot backup task. For more details, please consult Configuring a One-shot Backup Task.
- Select **Create backup job** to configure a regular backup routine according to one of the predefined backup strategies. For more details, please consult <u>Configuring a Regular Backup Routine</u>.
- Select Restore backup to configure a restore operation. For more details, please consult <u>Windows</u> <u>Restore Scenarios</u>.
- Select **Copy files and folders** to transfer files or directories between local, external, or network storages. For more details, please consult <u>Transferring Files between Storages</u>.

#### **Management Tabs**

- Select **My Computer** (opened by default) to see the layout of storage devices.
- Select My Backups > Single backups >>> to see all configured one-shot backup tasks or My Backups >
  Backup jobs>>> to see configured regular backup routines. Left click a backup image to call a contextsensitive menu with detailed information on the selected object and a list of available operations.

	Backup jobs	Single backup
Create single backup	Description: Created on 2016.07.14 03:43:17 Backup created: 7/14/2016 3:46:41 AM Backup path: E:\Job-2016714258244\Job-2016714258244_2016-07-14_03-01-09\inc_1_0_1\ Backup type: Incremental Integrity check date and state: Not verified yet. Backup duration: 12:02:59 AM	Restore Dek Check archive Show content Mount/Unmount
Create backup job	<ul> <li>7/14/2016 3:46:41 AM   Increment 1 pyhd ) 5</li> <li>7/14/2016 3:14:05 AM   Base Image pyhd ) 5</li> </ul>	

For more details, please consult the following chapters:

- Restoring Individual Files and Folders
- Restoring an Entire Disk or Separate Volumes
- Checking Backup Integrity
- Mounting a Backup Image
- Select My Activities to see completed, scheduled and currently executed operations and their statuses.

Backup job for S	UPRA		23 seconds / 81% 😵
Planned tasks			
7/14/2016 4:00:00	AM   Backup job fo	or SUPRA	
Finished tasks			
In progress 7/14/	2016 3:01:04 AM   B	lackup partitions or disks to virtual con	tainers   Backup job for SUPRA   Full backup

For any scheduled backup job you can call a context-sensitive menu with detailed information on the selected object and a list of available operations. For more details, please consult <u>Managing Backup Jobs</u>.

/14/2016 5:00:00 AM   Backup job for SUPRA		
Last backup run: 7/14/2016 4:00:06 AM	Edit Job	P
Backup type: 1 Full, then 6 incrementals	Deletob	
Retention: Keep at least 7 backups	Deactivate	
Backup path: E:\Job-2016714258244\	Start now	al
When: Every hour, starting at 3:00:00 AM on 7/14/2016		
Backup source: System Reserved, Local Disk (C:)		
Description: Backup job created on 7/14/2016 2:58:24 AM for SUPRA		a

## X-View

Use this tab to simplify the working environment and only see the main program wizards. For your convenience the wizards are grouped into several tabs.

Home Main view	X-View			Help
		Backup and F	Recovery™ 16	
	Crea	te single backup	Create backup job	
		٠	0	

# **Changing Program Settings**

Select **Home** > **Settings** to access the program settings. All settings are grouped into several sections, which functions are described in the following paragraphs. By selecting a section from the list, you can open a set of options.

# **Application Section**

# **Virtual Mode Options**

	Virtual mode options
Application	Allow virtual mode
Virtual mode options	Set this option on to carry out all the operations virtually. You will be able to commit the changes or rollback all of them or the last one. If you switch this option off, the operations will be carried out immediately.   Close progress dialog automatically  Set this option on to automatically close the progress dialog after committing the changes.
Backup	
Include/Exclude	
Reset to default	

- Allow virtual mode (enabled by default). The virtual mode is an effective way of protection from any troubles, since no potentially dangerous operation is executed until confirmation, thus giving you a second chance to weigh all pros and cons of this or that particular operation. For more details, please consult <u>Main View</u>.
- Close progress dialog automatically. Mark the checkbox to automatically close the progress dialog after accomplishing operations.

# **Backup Section**

## **Backup Image Options**

Application	Control archive integrity	
Backup	Choose this option to allow writing of specific data that will restore to check the archive integrity. It can slow down the	
Backup image options	Compression level	
Copy and backup options Run during backup options VD container options	Normal Good compression. Provides average speed with the reason Image split ✓ Splitting backup to several files Maximum split size: <4000 MB >	Nable image size.
Include/Exclude		

- **Control archive integrity** (enabled by default). Use this option to make sure all backup images created with the program are 100 percent flawless. If you decided not to control the archive integrity, the backup operation would take about 3-5% less time.
- **Compression level**. Select the default compression level for all created backup images from the pull-down list.
- **Image split**. By default, every backup image will be split to files of 4GB. This can help to avoid problems caused by a maximum file size limitation of your file system (e.g. 4GB for FAT32). Use the spinner control to set another size or disable this option if necessary.

## **Copy and Backup Options**

Application	□ <u>H</u> DD raw processing
Backup	Copy an entire hard disk sector by sector without taking into account its partition structure.
Backup image options	Partition raw processing
Copy and backup options	Copy/Backup each partition sector by sector. All sectors will be processed one by one (even unused sectors). Requires more time to complete the operation.
Run during backup options	Skip archive files stored in archive library.
VD container options	Choose this option to skip archive files stored in archive library. This will reduce operation time and backup image size.
	☑ Automatic BCD update
Include/Exclude	Add boot entry for target partition to BCD hive on copy\restore source partition.
	Adjust exclude from copy/backup options

- HDD raw processing. Mark the checkbox to back up a hard disk in the sector-by-sector mode, thus ignoring its information structure (e.g. unallocated space or unused sectors of existing partitions will be processed as well). This can help to avoid problems with hidden data created by certain applications or the system administrator. If you enable this option, the operation will take more time to complete.
- **Partition raw processing**. Mark the checkbox to back up a partition in the sector-by-sector mode to successfully process unknown file systems. If you enable this option for processing supported file systems, the operation will take more time to complete.
- Skip archive files stored in archive library. By default, backup images registered in the archive database will be skipped from processing, thus reducing the operation time and the resulted backup size.
- Automatic BCD Update. If necessary, unmark the checkbox to suppress automatic update of BCD (Boot Configuration Data) after copy/restore operations.

By clicking the link at the bottom of the window you can jump to the <u>Copy/Backup Exclude</u> <u>Options</u>.

## **Run during Backup Options**

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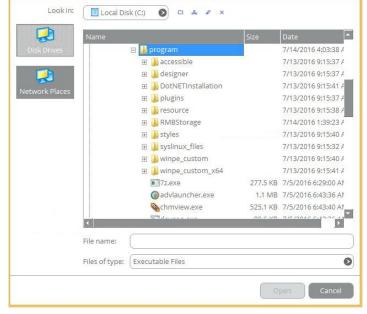
Application	Execute at the beginning of the backup process before taking a snapsho
Backup	Browse
Backup image options	Execute after taking a snapshot
Copy and backup options	Browse
Run during backup options	Execute after finishing the backup process
VD container options	Browse
	For backup operations in the Paragon Hot Processing mode you have a possibility to run external programs and commands at different stages of the
Include/Exclude	backup process. The key point to link such execution to is a short period of time when a snapshot is taken. (Snapshot is a map of used blocks; the system is

In this section you can specify external applications to execute at various phases of the backup process in order to obtain consistent backup images of systems with high availability requirements (MS SQL, MS Exchange, etc.). The

point is to provide a coherent state of all open files and databases involved in a backup, taking into account that applications may still keep writing to disks.

Actually a backup process consists of two phases: the preparation phase (snapshot) and the data-copying phase. There are three points of the backup when external commands/programs can be launched:

- Execute at the beginning of the backup process before taking a snapshot. Specify an executable file that will help you to prepare running applications for taking a snapshot. It may contain specific commands/programs to delete unnecessary files, suspend services, flush transactions or caches, etc. Everything depends on the used applications.
- **Execute after taking a snapshot**. Specify an executable file that will run just after taking a snapshot. It may contain specific commands/programs, e.g. to resume the previously suspended services, etc. Everything depends on the used applications.
- **Execute after finishing the backup process**. Specify an executable file that will run after the backup process has been accomplished. It may include commands/ programs that will move the backup image to a particular location, etc.



By clicking the **Browse** button you can get into a browser-like window to choose an executable file.

The program supports three types of executable files (.exe, .bat, .cmd). It's up to you to write batch files to safely prepare applications for backup. There are certain general requirements for that:

- All programs and commands must execute sequentially and finish before the .bat file completes its work.
- It is recommended to use external commands/programs in the following format **Start/wait program.exe**. The wait option will help to start an application and wait until it completes its work. This guarantees all included commands/programs complete their execution before the batch file does.

You're allowed to set parameters for an executable file directly from the line. However, if the file path contains word gaps it is necessary to enclose it in quotes in order to make the program distinguish between the path and the used parameters.

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# **VD Container Options**

Application	Unknown partitions policy
Backup	Process as RAW
	Backup each partition sector by sector. All sectors will be processed one by one (even unused sectors). Requires more time to complete the operation.
Backup image options	
Copy and backup options	Virtual container type
Run during backup options	Paragon Image (.pvhd)
VD container options	
Include/Exclude	

- Unknown partitions policy. Here you can define behavior for processing unknown or unformatted partitions (skip from backup, process in the sector-by-sector mode, or ask the user each time this type of partition has been found).
- Virtual container type. By default, the program is configured to back up to pVHD (Paragon Virtual Hard Drive). Use this option to switch the resulted virtual container to VHD, VHDX, or VMDK. Please note that the use of pVHD enables to get full backup images several times smaller than the original objects, while incremental updates dozens of times smaller when comparing to VHD, VHDX or VMDK, which have some fixed size of blocks, not dynamic. Besides encryption and password protection are only available for pVHD. However, if you're having a VMware or Microsoft hypervisor at your disposal and are planning to do instant virtualization, please make sure the used backup format matches your hypervisor.

# **Include/Exclude Section**

# **Copy Backup Exclude Options**

	Copy/Backup exclude options
Application	Exclude files and folders matching the following criteria:
Backup	😑 🗖 Files that contains your e-mail data (9 filters)
Include/Exclude	Add filter Rename category Delete category
	*.wab <u>Delete filter</u>
Copy/Backup exclude options	*.pab <u>Delete filter</u>
	*.oab <u>Delete filter</u>
	*.pst <u>Delete filter</u>
	*.ost Delete filter
	*.dbx Delete filter
	*.log <u>Delete filter</u>
	*.rwz Delete filter
	*.contact <u>Delete filter</u>
Reset to default	*.contact <u>Delete filter</u> = Executable & Installations (8 filters)

In this section you can choose data to automatically ignore during copy and backup operations. You're allowed to filter certain files or folders by either creating new or using existing masks, thus effectively managing contents of created backup images and partition/hard disk copies.

To create a new filter, use the **Add filter** link inside one of the existing categories.

Filter:	Browse
Description:	
Vou can use wil	dcards ? and * as file name mask.
	th are not allowed.

In the opened dialog set the following parameters:

- Filter. Click Browse to select files or folders you would like to be excluded from processing or specify a filter mask by using \* or ? wildcards;
- **Description**. Add a short description to the filter not to miss it up later.

Click **OK** when ready. As a result you will get a new item on the list of filters. By marking/unmarking a checkbox before a category name you can choose whether to use filters it includes or not.

# **Building Recovery Media**

The program includes a user-friendly wizard that will guide you through the process of creating a WinPE-based recovery media on a USB thumb drive or in an ISO file to later burn it to CD/DVD. For advanced users, there are capabilities to add drivers for specific hardware devices, configure network settings, and map network shares in the process.

- 1. Select Home > Recovery Media Builder.
- 2. The welcome page introduces the wizard's functionality. Besides you can see two options here: Home

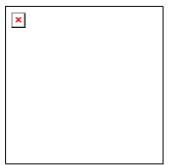


- <u>Advanced mode</u>. Please mark this option if you'd like the future bootable media to have pre-configured network settings, mapped network resources, or injected drivers for specific storage controllers or network cards.
- <u>Use ADK/WAIK</u>. Recovery Media Builder doesn't require Windows Assessment and Deployment Kit (ADK) or Automated Installation Kit (WAIK) to be installed in the system to build a WinPE-based environment, as it can directly use WIM image inside the operating system. However, some system builders remove this image from preinstalled Windows OS. If this is your case, mark the option to use ADK/WAIK. You will also need it to create an ISO image of the WinPE environment.

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WAIK/ADK is a Microsoft's proprietary tool and can be obtained from its <u>Download Center</u> for free. Please note that you need a genuine Windows installation to be able to download this tool. Moreover you will need to download a version, which is suitable for your Windows OS – Recovery Media Builder automatically detects your system and offers <u>the</u> required download link.

3. Click on **Removable flash media**, then select a thumb drive of at least 512MB in size from the list of flash memory devices available in the system at the moment (if several). If you'd like to create an ISO image of the WinPE environment, please use the corresponding option.



4. If selecting a thumb drive, the wizard will warn you that all data on it will be deleted.

Additional steps of the advanced mode

5. Inject additional drivers for specific storage controllers, network cards, or other devices. First click on the required link.

ase s	elect INF files for device drivers:	
= St	torage device drivers (0)	
Add :	storage device drivers	
- N	etwork device drivers (0)	
Add	network device drivers	

In the opened dialog browse for an .INF file of the required driver package located on a floppy disk, local disk, CD/DVD or a network share.

Look in: 🔄 Local Disk (C:) 💿 🧔 💥 🙎		
Name	Size	Date
📮 🗟 Local Disk (C:)		
🖶 - 📙 HyperV		12/24/2015 8:43:10 AM
🕀 📳 PerfLogs		8/22/2013 8:52:33 AM
🕮 - 📙 Program Files		3/17/2016 5:54:29 AM
🖽 - 📙 Program Files (x86)		8/22/2013 8:39:32 AM
🖽 - 📙 Temp		12/21/2015 5:50:49 AM
🕀 🔐 Users		11/20/2013 7:51:52 AM
🗄 📱 Windows		3/22/2016 5:06:01 AM
DVD Drive (D:)		
🖶 🔄 Data Volume (E:)		
🗄 🗐 Data Volume (F:)		
File name:		
Files of type: (INF files		0
		Open Cancel

If successfully injected, you can see the specified driver on the list. If you'd like to add another driver, please repeat the procedure.

lease select INF files	for device drivers:
Add storage devic	e drivers
F:\Drivers\*.inf	Remove
- Network devi	ce drivers (0)

Recovery Media Builder can build 32-bit WinPE media configured to the uEFI mode, which is the only type compatible with Windows pads running on Intel Atom.

By default, WinPE environment doesn't support touch screens, thus Windows pads can only be managed by mouse and/or keyboard. You can add required drivers however through our driver injector.

6. Set up a network connection if needed. You've got several options to choose from:

	evice drivers for the recovery environment files for device drivers:
= Storage d	evice drivers (1)
Add storage o	levice drivers
F:\Drivers\*.	inf <u>Remove</u>
- Network	device drivers (0)
Add network	device drivers

- **Connect to network automatically**... Specify the following parameters if you'd like to have an active network connection once the bootable environment has been started up:
  - A network adapter to use. Select a network adapter (if several in the system) to be used for the network connection.
  - **IP address settings.** Choose whether to get an IP address automatically from a DHCP server or set it manually.
- **Connect to network manually**... If selecting this option you will be prompted to configure network properties each time the computer has been started up from the bootable media.
- **Skip network adjustment**. Please use this option if you don't need network support on the bootable media.
- 7. Map a network share if needed (not be available if selecting **Skip network adjustment** on the previous step). You've got several options to choose from:

lount a ne	twork share automatically after boot	
Share:	(\\server'share	Browse
Login:		
Password:	(********	

- 20
- Mount a network share automatically... Mark this option if you'd like to have a mapped network resource once the computer has been started up from the bootable media. Manually type in a path to the required network share or click **Browse** to find it, then provide user credentials if necessary.

With no pre-defined user credentials your network share will be attempted to map under the Guest account.

Please use back slashes for WinPE-based media, like \\server\share, while for Linux – forward slashes, like //server/share.

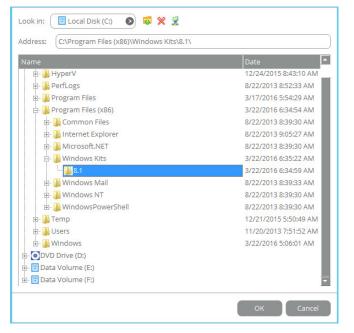
- **Mount a network share manually**... If selecting this option you will be prompted to map a network resource each time the computer has been started up from the bootable media.
- Don't mount a network share. Please use this option if you don't need to map network resources.

# Additional steps if using WAIK/ADK

If you install WAIK or ADK by their default locations, the wizard automatically detects it. Otherwise, you will need to browse for the required folder. If you haven't installed one of these tools yet, click Download WAIK/ADK to get them directly from the Microsoft website.

Browse

#### Manually browsing for Windows OS kits:



The wizard won't continue until you install WAIK or ADK.

If running RMB under Windows 7, 8, 8.1, Server 2008 R2, Server 2012 R1/R2, please use ADK 8.1.

9. When done with all parameters, please confirm the operation to proceed.

I

peration pro	ry media cre					
		(deed	20 20			
	very media details					
aragon reco		1				
	very media details	4			 Kanzoleg Kanzoleg Kanzoleg	

# **Booting from Recovery Media**

The recovery media helps to boot your PC to load in an existing backup, secure important data, or rectify booting errors when Windows OS fails to start up.

- 1. Start up the computer from the prepared recovery media. To automatically boot from it you should configure the on-board BIOS to start up from CD/USB first.
- 2. Once loaded, you will see the already familiar <u>X-View</u> menu. The recovery environment shares the same interface with the Windows version, so please consult <u>First Start</u> for more details.

Home	Main view	X-View		Refresh Utilities	Help 🔘
		Ba	ckup and Recover	°Y™ 16	
	Crea	te single backup	Restore backup	Copy files and folders	
	Boot	Corrector			

3. Additionally to the Windows wizards and dialogs, the recovery media includes several more utilities.



For more details, please consult the following chapters:

- Fixing Boot Problems
- Adding Specific Drivers
- Configuring Network

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- Using the Command Prompt
- 4. Select an operation to start. If you have questions on how to use the program, please refer to the embedded help system, you can find in the right top corner of the window.

# **Protecting System and Data**

# **Backup Scenarios**

# **Configuring a One-shot Backup Task**

The Create Single Backup Wizard allows you to create a point-in-time full backup image of entire disks, individual volumes or files. Full copies of disks and partitions help to secure your software environment, including the operating system, applications and data. This way, in case of emergency you will be able to recover your system to a working state within several minutes. But what if you need to back up a specific file or folder? Partition-level backup will surely protect the files you want, but it will also back up plenty of data you don't need, eating up time and backup storage. To solve this problem, the program also includes the file-level backup capabilities to protect the needed files like family pictures, favorite music, some project or document, or a financial report you're working on, while avoiding all the rest.

Backup data consistency at a specific point-in-time while OS or applications keep modifying data on disks is achieved by utilizing Microsoft Volume Shadow Copy Service that enables to quiesce a running machine, in other words to freeze its file system and to unlock files to be able to copy them to a backup location.

1. Select **Main View > Create a single backup**, then click **Next** on the Welcome page of the wizard.

Create single backup	
	Welcome to the Create Single Backup
	Wizard!
Create backup job	This wizard helps you to back up an entire hard disk(s) or separate partitions to a virtu disk container.
	Next > Cano

My Computer My Backups My Activities Create single backup

2. If necessary, edit the default backup name and description containing the current date and time.



3. Initially the wizard prompts you to back up all available storage devices. If you don't need that, select the most suitable option on the left.

Whole computer Disk / Partition Types of files	Syst	<b>isk 0 (VMware Virtual (</b> al Disk (C:) 17.2 GB free of 59.6 GB	lisk SCSI Disk Dev	vice)	
Files and folders	Data Volume (E:) NTFS   119.8 GB fi				
	Basic MBR Hard D (Unallocated) 18 GB	Isk 2 (VMware Virtual of New Volume (B:)	: of 37.7 GB	New Volume ( NTFS   24.1 G	

# Disk / Partition

Left click an object(s) you'd like to back up.

Whole computer	Basic MBR Hard D	isk 0 (VMware Virtual disk SCSI Disk Devi	ce)
Disk / Partition	Syst	al Disk (C:)	
Types of files	NTFS. NTFS   3	37.2 GB free of 59.6 GB	
Files and folders	Basic MBR Hard D	isk 1 (VMware Virtual disk SCSI Disk Devi	ce)
	Data Volume (E:) NTFS   119.8 GB fr	ree of 119.9 GB	
	Basic MBR Hard D	isk 2 (VMware Virtual disk SCSI Disk Devi	ice)
	(Unallocated)	New Volume (B:) NTFS   37.6 GB free of 37.7 GB	New Volume (F:) NTFS   24.1 GB free of 24

When selecting a volume that hosts Windows OS you may be warned that the wizard automatically selects another one that contains boot system files to ensure successful startup of the operating system after restore. Though it's not recommended, you can use the Ctrl key to deselect any volume you consider unnecessary.

Some partitions were automatically selected ⊗

You have selected partition that contains operating system. The wizard a start the computer.
Please use Control key to manually de-select these partitions in case you that doing so will render your system unbootable in case of bare-metal re
Don't show this notification again

## Types of files

The wizard includes three predefined categories containing file masks for popular document, music, and picture formats. Either select an entire category(ies) or use the arrow icon to expand it and choose a certain file mask(s). If you don't find the required mask, add your own through the **My type filters** option.

Whole computer	🗹 Documents 🛇	WMA	My type filters	
Disk / Partition	<ul> <li>Compiled HTML (.chm)</li> <li>Web archive, single file (.mht)</li> </ul>	🗌 OGG		Add
Types of files	HTML (.html .htm)	Pictures O	□*.cpp □*.h	× ×
51	Adobe PDF	GIF		0
Files and folders	Text document (.txt)	JPEG		
	RTF	PNG		
	Microsoft Word	TIFF		
	Microsoft Excel			
	Microsoft PowerPoint			
	🗹 Music 🛇			
	WAV			
	FLAC			
	APE			
	MP3			
			1 <sup>2</sup>	

#### File and folders

From a list of all partitions available in the system, mark a checkbox opposite a file, folder or even a whole partition to build up contents of the future backup image.

Types of files         B         Java         6/16/2014 7:56           B         PerfLogs         8/22/2013 8:22           Files and folders         B         PerfLogs         8/22/2013 8:22           B         PerfLogs         8/22/2013 8:22         8/22/2013 8:22           Files and folders         B         Pergram Files         7/13/2016 9:15           B         Program Files         7/13/2016 9:15         6/16/2014 7:54           B         Program Files (x86)         6/16/2014 7:54         6/16/2014 7:54           B         R Ktools         6/16/2014 7:56         6/16/2014 7:56           B         W systemalsSuite         6/16/2014 7:54         6/16/2014 7:54           B         Windows         7/6/2016 2:140         9:15           B         Windows         7/13/2016 9:15         B           B         Windows         7/13/2016 9:15         B	ter Name		Size	Date
Image: Second				
Types of files       Image: Second Seco				
Image: Control of the second secon		У		10/2/2014 10:48:05 AM
Files and folders <ul> <li>Program Files</li> <li>Program Files</li> <li>Program Files</li> <li>QAUtils</li> <li>QAUtils</li> <li>QAUtils</li> <li>Systematics</li> <li>Contemporaries</li> <li< td=""><td>🕀 🗋 🔛 🛄 Java</td><td></td><td></td><td>6/16/2014 7:56:24 AM</td></li<></ul>	🕀 🗋 🔛 🛄 Java			6/16/2014 7:56:24 AM
Image: Constraint of the second se	📃 🛛 🕀 🕀 🕀 🕀 🕀 🕀	ogs		8/22/2013 8:22:35 AM
Image: Constraint Files (x86)       6/16/2014 8:11:         Image: Constraint Files (x86)       6/16/2014 7:58         Image: Constraint Files (x86)       6/16/2014 7:58         Image: Constraint Files (x86)       6/16/2014 7:54         Image: Constraint Files (x86)       6/11/2014 3:24         Image: Constraint Files (x86)       6/11/2014 3:24	ers 🛛 🕀 🗔 🐌 prerec	9		6/16/2014 8:01:05 AM
Image: Constraint of the second se	🖃 🗌 🕌 Progra	am Files		7/13/2016 9:15:32 AM
Image: Constraint of the second se	🕀 🗌 🕌 Progra	am Files (x86)		6/16/2014 8:11:21 AM
□       ↓       SysinternalsSuite       6/16/2014 7:56         □       ↓       Users       7/6/2016 2:14:0         □       ↓       Windows       7/13/2016 9:15         □       ↓       Windows       7/13/2016 9:15         □       ↓       winpe_amd64       6/11/2014 3:24	🗉 🗌 퉲 QAUti	ls		6/16/2014 7:58:47 AM
Image: Control of the second secon	🗉 🗹 📗 RKToo	bls		6/16/2014 7:54:21 AM
⊞         □         □         ↓         Windows           7/13/2016         9:15: □         □         ↓         winpe_amd64	🗉 🗌 🖓 Sysint	ernalsSuite		6/16/2014 7:56:10 AM
	🕀 🗖 🚺 Users			7/6/2016 2:14:07 AM
	🕀 🗌 🔒 Windo	0W5		7/13/2016 9:15:45 AM
🗉 🗌 🕌 winpe_x86 6/11/2014 3:24	🗉 🗌 📕 winpe	_amd64		6/11/2014 3:24:30 AM
	🗉 🗖 <u>]]</u> winpe	_x86		6/11/2014 3:24:34 AM
🗄 🗖 👝 Data Volume (E:)	🚊 🗌 👝 Data Volu	ime (E:)		
🗄 🗖 👝 New Volume (F:)	🕀 🗖 👝 New Volu	ime (F:)		
E- Cocal Disk (J:)	🗄 🗖 👝 Local Disk	< ( :)		

4. Specify location of the resulted backup image.

#### **External devices**

If you'd like to save it on an externally connected storage (hard disk, thumb drive, etc.), select **External devices**, then choose it from the list. If it's not present, please make sure it's available in the system, then try again.

Title	Source	Target	Advanced Settings	Finish
arget to c	reate your	backup	on	
	No externa	al devices found. Pl	ease plug the device in.	
	arget to c	arget to create your	arget to create your backup	arget to create your backup on

## Local volumes

If you want to save it locally, select Local volumes, then browse to the target folder.



Welcome	Title	Source	Target	Advanced Setting	s Finish
Choose a ta	irget to c	reate your	<sup>r</sup> backup	on	
External devices		al Disk (C:)			
Landonalisation		a Volume (E:) Backup 20160311 17	15		3/11/2016 5:20:28 PM
Local volumes		Backup _20160311_17 Backup _20160311_17			3/11/2016 5:25:13 PM
Network	🕀 🔒	Backup job for SHAVL	A	:	3/15/2016 5:35:16 PM
	E 🏭	Temp			12/17/2015 1:32:58 PN

#### Network

If you're going to save it on a network share, select **Network > Add** to add a network share.

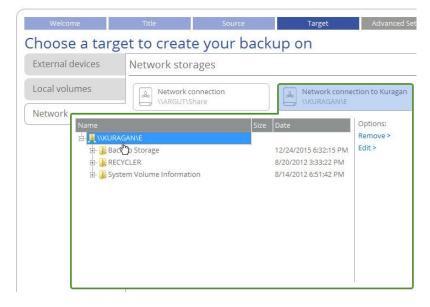
Welcome	Title	Source	Target	Advanced Settings	Finish
Choose a ta	arget to c	reate your	backup	on	
External devices	Networ	k storages			Add
Local volumes	<u>a</u> Ne	etwork connection			
Network					

In the opened dialog edit the default connection name if necessary, then specify the required share by manually entering its location or through browsing the network, finally provide access credentials in the corresponding fields.

New network storage

Network connection to Kuragan	
Connection path	
\\KURAGAN\E	Browse >>>
User name	
altay\admin	
Password	
*******	

Once the connection is established, click on it to select and browse its contents. By using the corresponding options on the right you can edit or delete the connection.



5. If necessary, modify the default backup settings. To make sure you've got a trustworthy fallback position, each backup image is verified for viability immediately after creation. Though it's not recommended, unmark the corresponding option to skip this step and make the backup process a bit faster.



6. Review all parameters of the operation and modify them if necessary by going back to any of the required steps. Click **Finish** to start the backup process.

Welcome	Title	Source	Target	Advanced Settings	Finish
inish the	wizard				
	y completed the crea		ar <mark>d. Y</mark> ou can	Backup summary	/
				Backup name: Backup	
				Source: System Local Di	
				Target: E:\	
			<	<u>Back</u>	Cancel
My Computer	My Backups	My Activities	Create single	- In an all strength	

# Creating an Incremental Update

After you get the first full backup image, we recommend you to do incremental updates regularly to keep the backup data up-to-date. An incremental backup only includes data changed since the time of creating the latest image in a chain, so it doesn't include data duplicates, which minimizes the backup storage footprint. Besides, incremental imaging allows having different time stamps of one and the same data.



If you need to regularly update backup data, you'd better use the Create Backup Job Wizard. For more details, please consult <u>Configuring a Regular Backup Routine</u>.

1. Select **My Backups > Single backups >>>** to see all configured one-shot backup tasks. Left click a backup image to call a context-sensitive menu, then **Create increment**.

7/15/2016 4:13:40 AM   Base Image pvhd 🕒 🗲	
7/14/2016 2:57:31 AM   Base Image pvhd 🛢 💉	
Description: Backup image created on 7/14/2016 2:42:03 AM Backup created: 7/14/2016 2:57:31 AM Backup path: E:\VolumeBackup_20160714_0242\ Backup type: Full ntegrity check date and state: Not verified yet. Backup duration: 12:12:22 AM Backup source: Local Disk (C:)	Restore <u>Create increment</u> Delete Check archive Show content Mount/Unmount

2. Change the default backup name, if necessary. Click Create to start the backup process.

Create incr	emental backup for "Base Image"?	
Backup comment:	Incremental backup for Base Image, created on 7/18/2016 8:42:21 AM	)
	Create <u>N</u> o	

# **Configuring a Regular Backup Routine**

If you develop a specific project on a day-to-day basis and have to make a backup every evening so as not to lose the progress of your efforts, backup automation is a must. Besides, the backup automation enables to optimally utilize resources of your PC by scheduling backup tasks during off hours or whenever the computer has the least work-load to perform. Paragon's technicians recommend you to configure regular backup jobs instead of oneshort backup tasks to minimize negative aftereffects in case of emergency.

Paragon's technicians recommend you to configure regular backup jobs instead of one-short backup tasks to minimize negative aftereffects in case of emergency. The Create Backup Job Wizard will help in this process. The three predefined backup strategies should fill the needs of any home user. For advances users there's a way to create comprehensive backup policies that utilize full, incremental, and differential backup methods and their combinations, where backup runs can be scheduled from every hour till certain days of the month, or evoked by a certain event (system start or user logon).



1. Select **Main View > Create backup job**, then click **Next** on the Welcome page of the wizard.

2. If necessary, edit the default backup name and description containing the current date and time.

Welcome	Title	Source	Target	Schedule	Advanced Settings	Finish
Enter a tit	le and de	scription f	or the Jol	C		
Backup job title:						
Backup job for SUP	RA					
Backup job for SUP Description:	RA					

 Initially the wizard prompts you to back up all available storage devices. If you don't need that, select the most suitable option on the left, then required objects. For more details, please consult <u>the previous</u> <u>scenario</u>.

Vhole computer	Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Device)
Disk / Partition	Syst Local Disk (C:)
Types of files	NTFS. NTFS   37.2 GB free of 59.6 GB
Files and folders	Basic MBR Hard Disk 1 (VMware Virtual disk SCSI Disk Device)
	Data Volume (E:) NTFS   119.8 GB free of 119.9 GB
	Basic MBR Hard Disk 2 (VMware Virtual disk SCSI Disk Device)

4. Specify location of future backup images (local or external storage, or a network share). For more details, please consult the previous scenario.

Title	Source	Target	Schedule	Advanced Settings	Finish
Choose a tar	get to crea	ate your ba	ickup on		
External devices	🗄 - 🚰 Local Disl				
Local volumes	🖭 🌗 Backu	up _20160311_1715		3,	/11/2016 5:20:28 PM
Network	Contraction of the second second	ip _20160311_1716 ip job for SHAVLA		100	/11/2016 5:25:13 PM /15/2016 5:35:16 PM
Retwork	🗉 🚺 Temp			1.	2/17/2015 1:32:58 PM

5. Select one the predefined backup strategies recommended by Paragon's technicians, then adjust it to your needs.

In the current version of the product you're not allowed to modify all parameters of the selected backup strategy during configuration of a backup job. However, you can do it later when editing. For more details, please consult <u>Managing Backup Jobs</u>.

#### Daily Backup

f

The daily backup is a necessity when it comes to protecting valuable information that keeps changing constantly, for example some project or document, or a financial report you're working on every day. The main rule here is the more valuable the data, the more frequent backups are required. For production environments like SQL Server or Exchange Server, where multiple transactions occur every second, the

optimal interval between backups is about 30 minutes. By reducing it even further you risk to heavily overload the entire infrastructure. For home users it is the daily backup that is considered optimal.

Daily Backup		ull backup. If you I			se. This strategy will create an keep at least the latest 7	
Weekly Backup	Run time	< 06:47	>			
One Backup	When	Every da	у			
	Backup type	Full, the	n 6 incrementals	<b>—</b> ——		
	Retention	Keep at l	east the latest 7 b	ackups <u>Enable</u>		
	Options	Prevent	from going into sl	ep/hibernate		Edit

- The main parameter you need to set is time you believe most convenient for backup, e.g. at night or early in the morning.
- To keep data precisely up to date with minimal time and backup storage footprint, we recommend a seven-day backup cycle of one full backup image followed by six incremental updates. To avoid the situation when backup data eats up the entire storage space, we also suggest enabling a retention policy that will only keep seven latest restore points.
- Finally, there are several auxiliary options you can use to tune up the backup job. Click **Edit >** to see them and adjust. Use the exclamation mark next to the required option to get more details.

Options	
Prevent from going into sleep / hibernate	0
Wake up from sleep / hibernate	0
□ Shutdown system after the backup complete 한	0
OK Car	ncel

#### Weekly Backup

As you guess, the weekly backup comes into play when your data is not changed very often. Obviously, there's no need to back up your music collection on a daily basis, as in most cases losing the latest album won't be a huge disaster. Thus we recommend this backup strategy for protecting non-critical data when rollback to a state that took place a week ago works fine for you.

Daily Backup		tend to backup your computer on a weekly base. This strategy will only create full ated the retention you can keep at least the latest 3 backups. Older backups will be
Weekly Backup	Run time and date	< 06:47 >) (Sun
One Backup	When	Every week   every Sun
	Backup type	Full backups only 🌒 🌒 🜒 🕲
	Retention	Keep at least the latest 3 backups Enable
	Options	Prevent from going into sleep/hibernate Edit

- The main parameters you need to set is time and day of week you believe most convenient for backup, e.g. at Sunday nights.
- We consider the use of the incremental imaging on a weekly basis not optimal, as the amount of data changes may be so huge, so it can nullify primary benefits of this backup method, i.e. small backup times and image files. Furthermore, restore from this incremental chain may be time-consuming. Thus we recommend it to create full backup images only. To avoid the situation when backup data eats up the entire storage space, we also suggest enabling a retention policy that will only keep three latest restore points.
- Finally, there are several auxiliary options you can use to tune up the backup job. Click **Edit >** to see them and adjust. Use the exclamation mark next to the required option to get more details.

## One Backup

This backup strategy is daily-based, but only produces and keeps one full backup image on the storage. We suggest using it if you don't need to have several restore points that reflect various time stamps of your data and prefer an external storage device as backup media.

Daily Backup	Use this strategy, it backup every day.		backup your comp	uter on a daily bas	se. The new backup will rep	lace the old
Weekly Backup	Run time	< 06:	:47 >			
One Backup	When	Every	day			
	- Backup type	Full ba	ackups only	• • •		
	Retention	Keep	only one backup	Disable		
	Options	Preve	nt from going into s	sleep/hibernate		Edit 3

- The main parameter you need to set is time you believe most convenient for backup.
- To avoid the situation when backup data eats up the entire storage space, we also suggest enabling a retention policy that will only keep the latest restore point.

#### New strategy

Click **New strategy** to create your own backup policy that utilizes full, incremental, and differential backup methods and their combinations, where backup runs can be scheduled from every hour till certain days of the month, or evoked by a certain event (system start, user logon). For more details, please consult **Managing Backup Jobs**.

Create backu	p strategy
Name / Description	Name
When	Custom Strategy
	Description
Backup type	
Retention	
Options	
	OK Cancel

6. If necessary, modify the default backup settings. To make sure you've got a trustworthy fallback position, each backup image is verified for viability immediately after creation. Though it's not recommended, unmark the corresponding option to skip this step and make the backup process a bit faster.

Welcome	Title	Source	Target	Advanced Settings	Finish
Advanced	Settings				
				🔽 Check integi	rty after backup
Degree of compression	00			Expert Settings	>>>
Normal					
Maximum size of	divided safearchives				
< 4000 > Mb 🔕					

7. Review all parameters of the operation and modify them if necessary by going back to any of the previous steps. When ready, click **Finish** to complete the wizard.

u have successfully d save the job.	completed the bac	kup Job creation wiza	ard. You can check t	he Job summary	Job summary	
Create initial backu					Job name: Backup Source: System Local D Target: E:\	Reserved
Run as different us	er				Strategy: Daily B	ackup

- If you'd like to force creation of the first backup image after completing the wizard, mark the **Create** initial backup now option.
- To allow the scheduled backup tasks while a non-admin user is logged in, specify administrative credentials by marking the corresponding option.

✓ Run as different user	
Please specify user name and password:	
User name:	
Password:	
Confirm:	

# **Checking Backup Integrity**

Unfortunately, backup media may fail at any moment. You can't predict when this will happen, but you can be certain it will. We suggest verifying integrity of backup images on a regular basis to make sure of their ongoing viability.

Select My Backups > Single backups >>> to see all configured one-shot backup tasks or My Backups >
Backup jobs>>> to see configured regular backup routines. Left click a backup image to call a contextsensitive menu, then Check archive.

Single backups		Backup jobs >>>
3/16/2016 3:25:06 PM   Base Image		
Backup created: 3/16/2016 3:25:06 PM Backup path: \\KURAGAN\E\Backup _20160316_1455\ Backup type: Full Backup duration: 12:05:45 AM	Restore Delete <u>Check archive</u> Show 2 Cent	
3/11/2016 12:45:38 PM   Base Image		
3/11/2016 12:46:18 PM   Base Image  My Computer My Backups My Activities		

2. In the opened dialog you can see contents of the selected backup image. Click **Check** to start the operation, which takes a couple of minutes.

Check A	rchive Intergrity			
	DN :\\KURAGAN\E\Backup_20160316_1455\Backup	p_20160316_1455.pfi		
Layout			 	
Basic ME	BR Hard Disk 0 (VMware Virtual disk SCSI Dis	k Device) - Virtual Image	 	
Syst NTF	Local Disk (C:) NTFS, 57.7 GB free of 79.9 GB			



Only pVHD-type containers are available to check at the moment.

#### **Managing Backup Jobs**

1. Select **My Activities**, then left click any of the planned backup jobs to call a context-sensitive menu with detailed information on the selected object and a list of available operations.

unning tasks	nning tasks	
lanned tasks		
3/17/2016 3:43:00 PM   Backup job for SHAVLA		
Last backup run: 3/16/2016 3:43:04 PM	Edit Job	
Backup type: 1 Full, then 6 incrementals	Delete Job	
Retention: Keep at least 7 backups	Deactivate	
	Start now	
Backup path: E:\Backup job for SHAVLA\	Start now	
Backup path: E:\Backup job for SHAVLA\ When: At 3:43:00 PM every day, starting 3/11/2016. Backup source: System Reserved, Local Disk (C:)	start now	

- 2. Select the required operation from the list:
  - Edit Job. While being able to only specify the basic parameters during <u>creation of the backup job</u>, right now you're allowed to change every single option of the specified backup strategy by using the Edit> link.

Title	Source	Target	Schedule	Advanced Settings	Finish
st of strate	gies				
This job strategy	These are curren	t job parameters. \	You can modify them, o	or select any other strategy.	
Daily Backup	Run time	(	< 08:01 >		
Weekly Backup	When	E	ivery day		Edit
One Backup	Backup type	F	ull and incremental	•	) 🕜 Edit
	Retention	K	(eep at least the latest '	7 backups <u>Enable</u>	Edit
	Options	P	Prevent from going into	sleep/hibernate	Edit

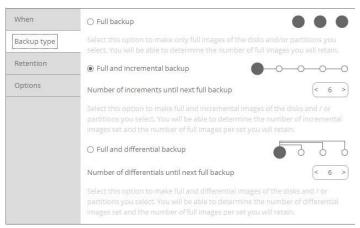
- When. Backup runs can be scheduled from every hour till certain days of the month.

Daily	٥
Back up every	< 1 > Days Days Hours
Monthly	0
Back up on	Backups will be skiped if dates for certain
	months don't exist e.g. 31th of Feb.

Furthermore, you can choose a certain backup trigger event (system start or user logon). If necessary, you can also disable the schedule.



- **Backup Type**. The program supports full, incremental and differential sector-level backup imaging and their combinations, which opens a way to create comprehensive backup policies to suit your needs at best. Below you can find some details on each backup type to help you make the right choice.



A full backup image includes all contents of the specified backup objects (all system hard disks, one or several partitions or disks) at the moment of its creation. If you roll back your system to the initial state on a regular basis, that's exactly what you're looking for. But if you want to have multiple time stamps of the same data, unchanged data will inevitable be duplicated in all images, thus taking additional space on backup media.

As an attempt to solve this problem, there has been developed a supplementary method called a differential backup. Containing only data changed since the time of creating a full or parental backup image it enables to considerably save your system resources. It is achieved by the exact bit-wise comparison of the previous data (saved in the parental image) with the current data (the backup object itself). Unfortunately, this type of backup doesn't help to avoid data duplicates inside several differentials based on one parental image. Thus if you're planning to keep two or more restore points, take a closer look at the incremental imaging.

Unlike differentials, an incremental backup only includes data changed since the time of creating the latest image in a chain, either full or incremental. In general, this type of backup is great except for one thing – restore of an incremental backup requires processing the initial full image and all increments between, which depending on the size of your backup chain may take plenty of time, while restore of a differential backup always involves two objects – one differential and its parental.

- **Retention**. To avoid the situation when backup data eats up the entire storage space, we also suggest enabling a retention policy to automatically get rid of obsolete restore points.

When	☑ Enable retention		
Backup type	Keep number of backups, at least	< 7 >	0
Retention	O Keep backups for number of days, at least	< 1 >	0
Options	O Automatic delete when the target disk is full		0

You can choose from the three data retention policies:

- Keep a certain number of backup images,
- Keep all backup images created during a certain number of days,
- Delete an entire backup chain when the storage runs out of space.
- **Delete Job** to delete the backup job.
- **Deactivate** to stop the ongoing backup operation.

• **Start now** to force creation of the next backup image, either incremental or full, which depends on the used backup strategy. By selecting the corresponding option you may force out-of-turn full backup, thus starting a new backup chain.

You can either run the job according to its backup strategy, or start How to create a backup:	a new backup chain.
How to create a backup:	
non co creace a backapi	
Proceed with backup job settings	Ø
Proceed with backup job settings	
Force to create a full backup	

# **Windows Restore Scenarios**

# **Restoring Individual Files and Folders**

 Select My Backups > Single backups>>> to see all configured one-shot backup tasks or My Backups > Backup jobs>>> to see configured regular backup routines. Left click a backup image to call a contextsensitive menu, then Restore.

Description: Created on 2016.07.15 07:00:07	Restore
Backup created: 7/15/2016 7:03:42 AM	Delete
Backup path: E:\Job-2016714258244\Job-2016714258244_2016-07-15_03-00-40\inc_4_3_4\	
Backup type: Incremental	
Integrity check date and state: Not verified yet.	
Backup duration: 12:03:09 AM	
7/15/2016 3:14:14 AM   Base Image (pyhd) () () () () () () () () () () () () ()	•

2. Select **Files and Folders**, then browse the backup image to specify what you need to extract by marking checkboxes next to the required data items.

Files and folders	Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Devi)         Image: System Reserved on Basic MBR Hard Disk 0 (VMware Virtual disk SCS	100 100 100 ED	350 M 79.6 G
Files and folders	₽- □ 🍑 \$Recycle.Bin ₽- □ 🍹 Config.Msi	File folder	79.6 G
	🕀 🔲 🕌 Config.Msi		
		Eilo foldor	
		File loider	
	🖽 🗹 📗 Documents and Settings	File folder	
	🖽 🗔 🕌 HyperV	File folder	
	🗄 🗔 🌗 PerfLogs	File folder	
	🗄 - 🗔 👪 Program Files	File folder	
	🗄 🗔 🌗 Program Files (x86)	File folder	
	🖽 🔲 🕌 ProgramData	File folder	
	🞰 🗔 🌗 System Volume Information	File folder	
	🖶 🗔 퉬 Temp	File folder	
	🖽 🗖 🎒 Users	File folder	
	🖽 🔲 🏭 Windows	File folder	
	- 🗌 🏭 bootmgr	File	417.6
		File	1 Byt
	🛄 🗋 🔞 pagefile.sys	File	1.2 0

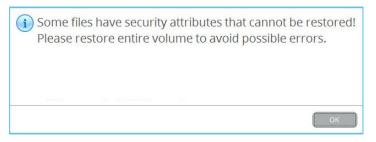
3. Choose a way the selected data will be restored, either to original location by replacing files with identical names, to original location non-destructively, thus keeping two versions of files with the same names, or to a different location. The latter option requires setting a restore path.

Source	Method	Finish			
Which method should be used to restore the files?					
Restore files to original destination and overwrite files there If you select this option the target selection will be skipped					
○ Restore files to original destination and keep files there					
If you select this option the target selection	will be skipped				
○ Restore files to a different location					

4. Choose whether to execute the operation immediately after finishing the wizard, set up another restore operation(s) and then run all at once, or <u>generate a program script for later execution</u>. Click **Finish** to initiate the operation.

Restore another disk or partition	Restore operations:	
If you intend to restore more than one disk or partition at the same time you can use this option.Create restore operations and add them to the queue. Proceed for any disk or partition you would like to restore at the same time.	Restore files and folders to "E:\", keep existing file	s. 🛞
Restore now		
If you would like to restore now and perform this restore operation on your computer physically use this option. Note: Data which is overwritten will not be able to be recovered unless there is a backup image		
) Generate script		
Use this option, if you would like to create a script for this restore task. By creating a script you can run the operation at any time. Note: By running this script data which is overwritten will not be able to be recovered unless there is a backup image		

If selecting files with security attributes that cannot be restored at file-level correctly, the wizard will prompt you to restore the corresponding volume entirely.



#### **Restoring an Entire Disk or Separate Volumes**

Select My Backups > Single backups >>> to see all configured one-shot backup tasks or My Backups >
Backup jobs>>> to see configured regular backup routines. Left click a backup image to call a contextsensitive menu, then Restore.



2. Initially the wizard prompts you to specify an entire backup image or individual volumes or disks for restore – that's exactly what we need.

isk/Partition	Basic MBR Hard Disk 0 (VMware	Virtual disk SCSI Disk Device) - Vi	rtual Image
les and folders	Syst NTF Local Disk (C:) NTFS, 57.7 GB free of 7 Total size: Used: 22.1 Free: 57.7 G	79.9 GB GB	

3. The program offers to restore the selected backup object exactly where it belongs. However, you can choose any disk of enough capacity available in your system.

sic MBR Hard Disk	0 (VMware Virtual disk SCSI Disk Device)	
Syst	Disk (C:)	
NTFS. NTFS   37.2	2 GB free of 59.6 GB	
	1 (VMware Virtual disk SCSI Disk Device)	
Data Volume (E:)		
Data Volume (E:) NTFS   119.8 GB free		
Data Volume (E:) NTFS   119.8 GB free	of 119.9 GB	New Volume (F:)

A

You will get a corresponding warning when trying to rewrite a bootable partition.

4. Next you can see the resulted disk layout. If necessary, specify a number of additional parameters (depends on the selected backup object).

#### Restoring a partition

Change size of the partition and its location as well as assign a particular drive letter. If you've got to do with a 64-bit Windows configured to the uEFI boot mode, the Switch EFI to boot from destination drive option will become available for you to define what instance of Windows OS you'd like to boot from once the operation is over. Anyway you can specify a bootable device at any time through Boot Corrector.

ld status				
asic MBR Hard Disk	2 (VMware Virtual disk SCSI I	Disk Device)		
(Unallocated)	New Volume (B:)			New Volume (F:)
18 GB	NTFS   37.6 GB free of	37.7 GB		NTFS   24.1 GB free of 24.2 GB
Basic MBR Hard Disk	2 (VMware Virtual disk SCSI [	Disk Device)		1
	2 (VMware Virtual disk SCSI I Local Disk (B:) NTFS   17.2 GB free of			New Volume (F:) NTFS   24.1 GB free of 24.2 GB
Basic MBR Hard Disk (Unallocated) 18 GB	Local Disk (B:)			
Basic MBR Hard Disk (Unallocated) 18 GB ssign drive letter:	Local Disk (B:)	37.7 GB	21127 MB - 57095 I	NTFS   24.1 GB free of 24.2 GB
(Unallocated) 18 GB Assign drive letter: Please specify the size o	Local Disk (B:) NTFS   17.2 GB free of	B: 0 < 38634	21127 MB - 57095 I 0 MB - 18461 MB	NTFS   24.1 GB free of 24.2 GB

#### Restoring a disk

If attempting to restore to a larger disk, use the corresponding option to resize on-disk partitions proportionally to occupy the entire target disk.

asic MBR Hard Disk 2	2 (VMware Virtual disk SCSI Disk Device)		
(Unallocated)	New Volume (B:)	New	Volume (F:)
18 GB	NTFS   37.6 GB free of 37.7 GB	7.7 GB NTFS   24.1 GB free of 24.2	
Syst Local Disk NTFS. NTFS   39.1	GB free of 59.6 GB		(Unallocated)
indicated and a second			S(1)111111111111

5. Choose whether to execute the operation immediately after finishing the wizard, set up another restore operation(s) and then run all at once, or <u>generate a program script for later execution</u>. Click **Finish** to initiate the operation.

Restore another disk or partition	Restore operations:
If you intend to restore more than one disk or partition at the same time you can use this option.Create restore operations and add them to the queue. Proceed for any disk or partition you would like to restore at the same time.	Restore volume "Local Disk (C;)" from image "inc_3.pfi" to "Local Disk (C;)" on d
) Restore now	
If you would like to restore now and perform this restore operation on your computer physically use this option. Note: Data which is overwritten will not be able to be recovered unless there is a backup image	
) Generate script	
Use this option, if you would like to create a script for this restore task. By creating a script you can run the operation at any time. Note: By running this script data which is overwritten will not be able to be recovered unless there is a backup image	

## Mounting a Backup Image

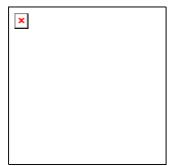
You can assign a drive letter to any partition inside an existing backup image. As a result of the operation you will get a new partition in the system to easily browse through its contents and copy the required information even with the standard Windows tools.

Before you start, please read the following limitations:

- Backup partitions will only be mounted for the current session and won't be available after the system restart;
- Backup images containing Windows Storage Spaces are not supported;
- Backup images containing ReFS partitions are not supported;
- Backup images located on physical (unmounted) partitions or in the backup capsule cannot be mounted;
- Backup images containing LVM/LDM volumes are not supported.
- Select My Backups > Single backups>>> to see all configured one-shot backup tasks or My Backups > Backup jobs>>> to see configured regular backup routines. Left click a backup image to call a contextsensitive menu, then Mount/Unmount.

C	ollapse backup list 🕥
• 7/15/2016 2:03:48 AM   Increment 4 pvhd 🕒 💭	
Description: Created on 2016.07.15 02:00:07 Backup created: 7/15/2016 2:03:48 AM Backup path: E:\Job-2016714258244\Job-2016714258244_2016-07-14_22-00-06\inc_4_3_4\ Backup type: Incremental Integrity check date and state: Not verified yet. Backup duration: 12:03:13 AM	Restore Delete Check archive Show content <u>Mount/Unmount</u>
• 7/14/2016 10:12:05 PM   Base Image pvhd .	•
• 7/14/2016 9:03:45 PM   Increment 6 pvhd 🕒 🌮	

2. In the opened dialog you can see contents of the selected backup image. Select a partition you'd like to mount, then one of the vacant drive letters from the list to associate with the partition. Click **Save** to confirm.



3. Once mounted, you can treat the backup partition as you would any other Windows volume (browse, retrieve files, modify files).

<u>D</u> <u> </u> ] ≠	Drive Tools	Local Disk (J:)			-
File Home Share	View Manage				~ (
🔄 🄄 👻 🕆 🧰 🕨 This PC	▶ Local Disk (J:) ▶	~ C	Search Local Disl	k (J:)	, p
^ N	ame	Date modified	Туре	Size	
🖳 This PC	deploy	10/2/2014 10:48 AM	File folder		
👂 🗽 Desktop	Java	6/16/2014 7:56 AM	File folder		
Documents	PerfLogs	8/22/2013 8:22 AM	File folder		
Downloads	prereq	6/16/2014 8:01 AM	File folder		
Music	Program Files	7/13/2016 9:15 AM	File folder		
Pictures	Program Files (x86)	6/16/2014 8:11 AM	File folder		
Videos	QAUtils	6/16/2014 7:58 AM	File folder		
New Volume (B:)	RKTools	6/16/2014 7:54 AM	File folder		
Local Disk (C:)	SysinternalsSuite	6/16/2014 7:56 AM	File folder		
Data Volume (E:)  New Volume (F:)  Local Disk (J:)	Users Windows winpe_amd64	Date created: 6/16/2014 7:55 A Size: 28.1 MB Files: accesschk, AccessEnum		lorer,	

4. Use the same algorithm to unmount the backup image when not required any more.

### **Transferring Files between Storages**

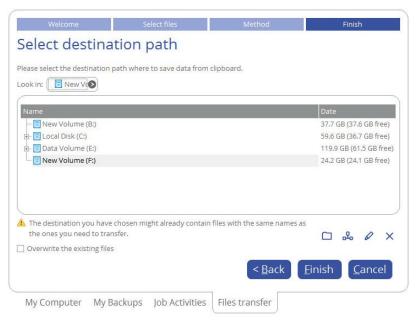
1. Select Main View > Copy files and folders, then click Next on the Welcome page of the wizard.

E	Welcome	Select files	Method	Finish
Copy files and folders				
	Welcome to	o the Files tr	ansfer Wizaı	rd!
			l save your data. You ca rchive previously create	
			Ne	ext > Cancel
	My Computer My Ba	ckups Job Activities	Files transfer	

2. Select a source disk, then mark files and directories you want to copy. The wizard enables you to browse both mounted and unmounted (without a drive letter) partitions. It is also possible to map a network drive. All selected files get to the Clipboard.

urce		Clipboard	
Local Disk (C:)			
ame	Size	C:\RKTools\	)
🛨 🛄 Java			
🕀 🗌 🎍 PerfLogs			
🕀 🛄 prereq			
🕀 🗌 🎴 Program Files			
🗉 🗌 🎍 ProgramData			
🗉 🗌 퉲 QAUtils			
E RKTools			
⊞ SysinternalsSuite     ■			
⊞ □ □ □ System Volume Info	- E		
	•	- J.L	

3. The wizard enables you to copy data to a local or external drive, a network share, a physical partition (without a drive letter), or burn it to a CD/DVD/BD disc. Choose the most suitable option.



#### Local/Network

Select a local, external, or network drive to copy the data to. If you'd like to replace files with identical names, mark the corresponding option.

Welcome	Select files	Method	Finish
elect destinati	on path		
ease select the destination pat	h where to save data from	clipboard.	
ook in: [ New V			
Name			Date
- 🔄 New Volume (B:)			37.7 GB (37.6 GB free)
🕀 🔄 Local Disk (C:)			59.6 GB (36.7 GB free)
🗄 🔄 Data Volume (E:)			119.9 GB (61.5 GB free
🔤 New Volume (F:)			24.2 GB (24.1 GB free)
The destination you have ch the ones you need to transfe Overwrite the existing files		files with the same names	as
		< <u>B</u> ack	<u>Finish</u> <u>C</u> ancel

### CD/DVD/BD

Select a recorder from the list of available devices and then set a volume label by entering it in the appropriate field.

Choose	e a record	er		
elect a record	er to burn data to:			
Name				Disc types
	ar VMware IDE CDR1	0		CD-R/RW; DVD-R/RW; DVD-RAM
Paragon C	D Burner Emulator			CD-R/RW
Paragon D	VD Burner Emulato	r		DVD+R/RW
Paragon D	VD DL Burner Emul	ator		DVD+R/RW
Paragon B	D Burner Emulator			BD-R/RE
olume label:	test	(No more than 8 symbols and only	/in	
olume label:	(test	(No more than 8 symbols and only English.)	/ in	
olume label: otal data size:	<u>(</u>	symbols and only	/ in	

4. Click **Finish** to initiate the operation.

## **WinPE Restore Scenarios**

#### **Restoring a Failed System**

If your computer fails to start up because of a software glitch or after you accidentally deleted the entire Windows partition or some system files, you can get it back on track by utilizing a previously prepared recovery media and one of available backup images.

- 1. Start up the computer from the WinPE recovery media.
- 2. Select Restore backup.



3. The welcome page introduces the wizard's functionality. Click **Next** to continue.



4. Specify a backup image for restore. Depending on the location, first select a corresponding tab on the left, then browse for the required backup image file. To learn how to map a network share, please consult **Configuring Network**.

ocal volumes	Name		
	System Reserved (C:)	349.9 MB (61 MB free)	)
xternal devices	🚊 👝 Data Volume (D:)	119.9 GB (45.9 GB free)	)
xternal devices	🖽 🌗 Backup_20160715_0400		7/
	E 📙 Job-2016714258244		7/
etwork	Image: The second se		7/
	Image: The second se		7/
	Image: The second se		7/
	E 📕 Job-2016714258244_2016-07-15_11-00-06		7/
			7/.
	Inc_2_1_2		7/.
	⊞ inc_3_2_3		7/
			7/
	Job-2016714258244_2016-07-15_11-00-06.pfi	32.7 ME	
			7/.
		37.7 GB (37.6 GB free)	
	🗄 👝 Local Disk (F:)	59.6 GB (37.2 GB free)	
	⊞ _ New Volume (G:)	24.2 GB (24.1 GB free)	)

5. Initially the wizard prompts you to specify an entire backup image or individual volumes or disks for restore – that's exactly what we need. If you need to restore individual files, select **Files and folders**, then backup data you want to recover. For more details, please consult **Restoring Individual Files and Folders**.

Select object	is to restore
Disk/Partition	Basic MBR Hard Disk 0 (VMware Virtual disk SCSI Disk Device)
Files and folders	S Local Disk (C:) NTFS   38.7 B free of 59.6 GB
	NTFS   38.7 GB free of 59.6 GB

6. The program offers to restore the selected backup object exactly where it belongs. However, you can choose any disk of enough capacity available in your system.

Select t	the	target	where	to	restore	to
----------	-----	--------	-------	----	---------	----

busic risk fidfu L	Disk 0 (VMware Virtual disk SCSI Disk Device)
	(F:) 2 GB free of 59.6 GB Total size: 59.6 GB Used: 22.4 GB Free: 37.2 GB Disk 1 (VMware Virtual use Scor Disk Device)
Data Volume (D:)	
NTFS   45.9 GB f	ree of 119.9 GB
	ree of 119.9 GB Disk 2 (VMware Virtual disk SCSI Disk Device)



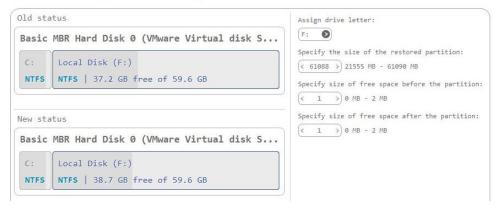
#### You will get a corresponding warning when trying to rewrite a bootable partition.

7. Next you can see the resulted disk layout. If necessary, specify a number of additional parameters (depends on the selected backup object).

#### Restoring a partition

Change size of the partition and its location as well as assign a particular drive letter. If you've got to do with a 64-bit Windows configured to the uEFI boot mode, the Switch EFI to boot from destination drive option will become available for you to define what instance of Windows OS you'd like to boot from once the operation is over. Anyway you can specify a bootable device at any time through <u>Boot Corrector</u>.

#### Please review the changes



#### Restoring a disk

If attempting to restore to a larger disk, use the corresponding option to resize on-disk partitions proportionally to occupy the entire target disk.

Old status	Resize proportionally
Basic MBR Hard Disk 0 (VMware Virtual disk S	
C: NTFS Local Disk (F:) NTFS   37.2 GB free of 59.6 GB	
Basic MBR Hard Disk 0 (VMware Virtual disk S	
S Local Disk NTFS NTFS   38.7 GB free of 59.6 GB	

8. Choose whether to execute the operation immediately after finishing the wizard, set up another restore operation(s) and then run all at once, or generate a program script for later execution. Click **Finish** to initiate the operation.

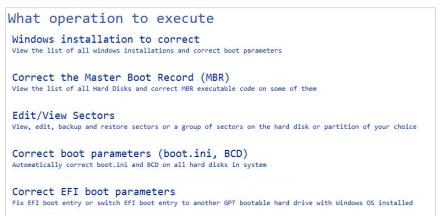
How would you like to	proceed?
<ul> <li>Restore now</li> <li>Select this option to perform this</li> </ul>	Restore operations:
restore operation on your computer physically now.	○ Mescure disk a from image pop-sata/14535544-5610-6/-12_11-60-60.011 c
<ul> <li>Restore another disk or partition (2)</li> <li>Select this option to restore more than</li> </ul>	
one disk or partition at the same time.	
Select this option to create a script for this restore task.	
	< <u>B</u> ack <u>F</u> inish <u>C</u> ancel

- 9. In the Progress window you can see in real-time a detailed report on all actions carried out by the program. Mark the checkbox at the bottom of the window to automatically switch off the computer on the successful accomplishment of the restore operation.
- 10. After completing the operation, please reboot the computer.

#### **Fixing Boot Problems**

If Windows OS doesn't boot after replacing a failed hardware device or you have any other boot issue resulting from a human or program error, or a boot virus activity, first try our boot repair tools before taking more radical actions.

- 1. <u>Start up the computer from the WinPE recovery media</u>.
- 2. Select Boot Corrector.
- 3. The welcome page introduces the wizard's functionality. Click **Next** to continue.
- 4. Click on the required operation to select.



Windows installation to correct. Fix your Windows startup ability, if it fails to complete the startup
procedure due to an unknown reason.

Choose a failed Windows installation from the list of found installations (if several). If necessary, click on the plus icon to get more info on the selected item.

wizard has searched your computer for valid Windows installations status "System" stays for a system partition, "Bootable" - for a	
Microsoft Windows 8.1 64-bit Edition (Destination: Disk 0, Parti	ition 1)
Correct boot parameters	
Partition 0: System Reserved (C:)	
Current values: Partition ID 8; Active	
Partition 1: Local Disk (F:) Status: Bootable	
Current values: Registry volume letter: C; Partition ID 7;	
Current values: Registry volume letter: C; Partition ID 7;	

If you want to manually correct the chosen installation, click **Correct boot parameters**, then edit the required parameters. Otherwise, click **Next** to let the wizard fix the installation automatically.

This editor allow you to correct partition parameters
Please correct some parameters if you want
Disk 0 Partition 0: System Reserved (C:)
Disk 0 Partition 1: Local Disk (F:)
Please choose new registry volume letter: C:
Partition ID
Please select predefined ID from the list: 0x07 NTFS, ExFAT, ReFS
O Please enter ID manualy:
OK Cancel

 Correct the Master Boot Record. Use this option to overwrite the current bootable code in the MBR (Master Boot Record) by the standard bootstrap code, thus repairing a corrupted bootable code after a boot virus attack or a malfunction of boot management software.



 Edit/View Sectors. You can directly access and modify sectors of an entire disk drive or individual partition, save and restore sectors from specified files as well as navigate through the system metadata.

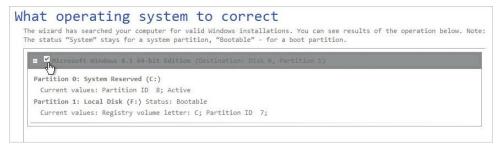
#### Edit/View Sectors

You can see the list of all hard disks and partitions in your system.

		Size
- 🔜 My Computer	My Computer	
🖂 🔄 Basic MBR Hard Disk Ø (VMware Virtual disk SCSI Disk Device)	Internal Hard Disk Drive	60 GB
🐇 Local Disk (F:)	Primary	59.6 GB
System Reserved	Primary	350 MB
🖃 🖥 Basic MBR Hard Disk 1 (VMware Virtual disk SCSI Disk Device)	Internal Hard Disk Drive	120 GB
😴 Data Volume (D:)	Primary	119.9 GB
🖂 📴 Basic MBR Hard Disk 2 (VMware Virtual disk SCSI Disk Device)	Internal Hard Disk Drive	80 GB
Wew Volume (E:)	Primary	37.7 GB
New Volume (G:)	Primary	24.2 GB

#### Edit/View Sectors Current sector is 0 of 125,108,223. 1 Please select sector number: < 0 > 0 0 5 6 0x00000000 00000000 eb 52 90 4e 54 46 53 20 20 20 20 00 02 08 00 00 ëR.NTFS • ....ø..?.ÿ..ø.. exeeeeeeee eeeeeele ee ee ee ee ee ee ee af ee ff ee ee f8 ea ee .....ÿÿt..... ö.....Àuå..å.ô 0x00000000 00000040 f6 00 00 00 01 00 00 00 c0 75 e5 14 90 e5 14 d4 0x00000000 00000050 00 00 00 00 fa 33 c0 8e d0 bc 00 7c fb 68 c0 07 ....ú3À.Đ¼.|ûhÀ. 0x00000000 00000060 1f 1e 68 66 00 cb 88 16 0e 00 66 81 3e 03 00 4e ...hf.E....f.>...N 0x00000000 00000070 54 46 53 75 15 b4 41 bb aa 55 cd 13 72 0c 81 fb TFSu. A≫∎UÍ.r..û 0x00000000 00000080 55 aa 75 06 f7 c1 01 00 75 03 e9 dd 00 1e 83 ec U≣u.÷Á..u.éÝ...ì 0x00000000 00000090 18 68 1a 00 b4 48 8a 16 0e 00 8b f4 16 1f cd 13 .h..´H....ô..í 0x00000000 000000A0 9f 83 c4 18 9e 58 1f 72 e1 3b 06 0b 00 75 db a3 ..Ä..X.rá;...uÛ£ 0x00000000 00000000 0f 00 c1 2e 0f 00 04 1e 5a 33 db b9 00 20 2b c8 ..Á....Z3Û<sup>1</sup>. +È 0x00000000 00000000 66 ff 06 11 00 03 16 0f 00 8e c2 ff 06 16 00 e8 fÿ.....àÿ....è 0x00000000 00000000 4b 00 2b c8 77 ef b8 00 bb cd 1a 66 23 c0 75 2d K.+Èwï..»Í.f#Àu-0x00000000 000000E0 66 81 fb 54 43 50 41 75 24 81 f9 02 01 72 1e 16 f.ûTCPAu\$.ù..r.. 0x00000000 000000F0 68 07 bb 16 68 52 11 16 68 09 00 66 53 66 53 66 h.».hR..h..fSfSf 0x00000000 00000100 55 16 16 16 68 b8 01 66 61 0e 07 cd 1a 33 c0 bf U...h..fa..í.3À¿ 0x00000000 00000110 0a 13 b9 f6 0c fc f3 aa e9 fe 01 90 90 66 60 1e ..¹ö.üó≅éþ...f` 0x00000000 00000120 06 66 a1 11 00 66 03 06 1c 00 1e 66 68 00 00 00 .fj..f.....fh... 0x00000000 00000130 00 66 50 06 53 68 01 00 68 10 00 b4 42 8a 16 0e .fP.Sh..h.. 'B... 0x00000000 00000140 00 16 1f 8b f4 cd 13 66 59 5b 5a 66 59 66 59 1f ....ôÍ.fY[ZfYfY. .....fÿ......Âj 0x00000000 00000160 0e 16 00 75 bc 07 1f 66 61 c3 a1 f6 01 e8 09 00 ....u%...faÃ;ö.è.. 0x00000000 00000170 a1 fa 01 e8 03 00 f4 eb fd 8b f0 ac 3c 00 74 09 jú.è..ôēý.ð-<.t. 0x00000000 00000180 b4 0e bb 07 00 cd 10 eb f2 c3 0d 0a 41 20 64 69 '.»..Í.ēòÃ..A di -

- **Correct boot parameters (boot.ini, BCD)**. If you have several operating systems on your disk (Windows Vista and later) after copying a system partition for instance, update their BCD (Boot Configuration Data) files to be able to choose an OS to start up.
- **Correct EFI boot parameters**. The wizard will detect and list all available GPT partitions that accommodate 64-bit Windows OS. Choose the one you need to boot from, to let the wizard modify the EFI boot entry correspondingly. Please note that this option is available on the 64-bit WinPE media only.



- 5. When done with all parameters, please confirm the operation to proceed.
- 6. After completing the operation, please reboot the computer.

## **Extra WinPE Scenarios**

#### **Unlocking Bitlocked Volumes**

The program allows you to accomplish backup, restore, or copying of Windows BitLocker encrypted volumes, but only when they are unlocked. Until that the locked volumes will be recognized in the program's interface as "Unknown".

1. Start up the computer from the WinPE recovery media.

2. Open Main View > My Computer. Left click a volume detected as "Unknown", then select Unlock Bitlocker encrypted volume in the opened menu.



3. Either enter a password or provide a path to a recovery key (**recoverykey.bek**). For more details, please consult documentation provided by Microsoft.

F:			Local Disk (H:	:)	
• • •	* * *	***	NTFS   427.6 0	GB free of 499.4 GB	
asic	GPT	Hard	Disk 2 (VMware	e, VMware Virtual S SCSI Di	•
•••			Local Disk (C:	:)	
			NTFS   676.6 0	GB free of 749.4 GB	
asic		oca		e, VMware Virtual S SCSI Di	
asic	â L	oca own	. (Unallocate		•
	Unkn	own	. (Unallocate	d) <u>Unlock BitLocker encrypted volume</u> Change drive letter	•
	Unkn Vol Vol	own Lume le blume l	. (Unallocate 89.3 GB	d) <u>Unlock BitLocker encrypted volume</u>	
ynam	Unkn Vol Vo	own Lume le blume J File sy /olume Used s	(Unallocate 89.3 GB etter: (*) Label: [No label] estem: Unknown	d) Unlock BitLocker encrypted volume Change drive letter Delete this volume	

- 4. Click Unlock when ready. All introduced changes to the disk layout will be pended until confirmed.
- 5. As a result of the operation the volume gets correctly recognized and is available to work with.

F:	•••	***	Local Disk (H:) NTFS   427.6 GB free of 499.4 GB
Basic	GPT	Hard	Disk 2 (VMware, VMware Virtual S SCSI Di
•••	•••	•••	Local Disk (C:) NTFS   676.6 GB free of 749.4 GB
Basic	GP	Unloc	ked volume are, VMware Virtual S SCSI Di
			(Unallocated) 89.3 GB
Dynam:	ic ME	BR Har	d Disk 4 (VMware, VMware Virtual S SCSI
G:			allocated) 8 GB

The same action can be accomplished in the Windows version of the program.

#### **Adding Specific Drivers**

The WinPE recovery media offers excellent hardware support. However, in case of not having a driver for your disk controller, for example, your hard disks will be unavailable to work with. Please use this scenario to inject drivers for unknown storage controllers, network cards, or other devices.



H

To avoid this action every time you start up the recovery media, we recommend you to inject additional drivers during its creation. For more details, please consult <u>Building</u> <u>Recovery Media</u>.

- 1. Start up the computer from the WinPE recovery media.
- 2. Select Utilities > Load drivers.



Use the corresponding link to browse for an .INF file of the required driver package on a floppy disk, local disk, CD/DVD or a network share. To learn how to map a network share, please consult <u>Configuring</u> <u>Network</u>.

Load drivers	
F:\3ware.inf_amd64_408ceed6ec8ab6cd\	
Click here to add drivers to load	Load drivers Cancel

The chosen package gets on the list. Repeat this action to inject more drivers. Click **Load drivers** to accomplish the operation.

#### **i** The WinPE environment can either be 32- or 64-bit, so are to be drivers for injection.

#### **Configuring Network**

If your local network has a DHCP server, a network connection will be automatically configured once the WinPE recovery media has loaded. Otherwise, you will need to do it manually by providing an IP address, a network mask, default gateway, etc. in Network Configurator. Additionally, this wizard will help you map a network share, ping a network resource, or measure transit delays of packets across an Internet Protocol (IP) network to track down problematic nodes.



To avoid this action every time you start up the recovery media, we recommend you to preconfigure network settings and map network resources during its creation. For more details, please consult <u>Building Recovery Media</u>.

- 1. Start up the computer from the WinPE recovery media.
- 2. Select Utilities > Configure network.



3. Provide an IP address, a network mask, default gateway, etc. to configure your network device according to network environment.

Network adapters	Network drives	Network identification	Network utilities
Ethernet adapter: Int	el(R) 82574L Gigabit M	letwork Connection	0
IP address configurat	ion —		
◉ Obtain an IP addr	ess automaticaly.		
Renew address	Release address		
○ Use the following	IP address :		
IP Address :	0.0.0.0		
Subnet Mask :	0.0.0.0		
Default Gateway	. 0. 0. 0]		Advanced
DNS/WINS configuratio	n		
✓ Obtain DNS server	address automaticaly		
DNS server :	0.0.0		Advanced
✓ Obtain WINS serve	er address automatical	/	
Primary WINS ser	ver: 0.0.0.0		
Secondary WINS s	erver: 0 .0 .0 .0		
Load from file Save to	o file	ок	Apply Cancel

4. Use the **Network drivers** tab to manage network shares.

Network adapters	Network drives	Network identification	Network utilities
Drive Network path			Map Network Drive
			Disconnect Drive
Load from file Save to	o file	ок	Apply Cancel

5. Click **Map Network Drive** to map a network share.

3	Map Network Drive
	Remote location mapping A network share: [ Map to drive letter: Z: O Make permanent connection
C	Connect as user OK Cancel

- Click the standard browse button [...] to browse for the required network share or manually enter a path to it;
- Define a letter from the pull-down list of available drive letters;
- If you'd like to make this connection permanent, mark the corresponding checkbox. Otherwise it will only be available for the current session;
- Click the **Connect as user** button at the foot of the dialog page to specify a user name and password to access the selected network share, if necessary.
- 6. Use the **Network identification** tab to change a network name of your computer (generated automatically) and a workgroup name.

Network adapters	Network drives	Network identification	Network utilities
Computer Name :	MININT-6A7FR49		
Workgroup :	WORKGROUP		
Primary DNS suffix :			
Load from file Save	to file	ок	Apply Cancel

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7. By default, the wizard saves all network settings in the "netconf.ini" file located on the WinPE RAM drive, thus it will only be available until you restart the computer. However, you can just once configure your network device and then save this file to some other destination, for instance a local drive, and this way avoid constant re-configuration, just by providing a path to it. So click **Save to file** to save the "netconfig.ini" file to the required destination.

#### Network Troubleshooter

Network Configurator includes a traceroute/ping utility that enables to get detailed information on particular routes and measure transit delays of packets across an Internet Protocol (IP) network. So with its help you can easily track down problematic nodes.

- 1. Start up the computer from the WinPE recovery media.
- 2. Select Utilities > Configure network.
- 3. Click on the **Network identification** tab, then select **Ping** to ping a network host. Click **Start** when you're ready with all parameters.

Network adapters Network drives	Network identification	Network utilities
Utility: Ping	٥	
Target:		
Ping the specified host until s	topped	
Resolve addresses to hostnames		Clear output
Number of echo requests to send	$  : \langle 1 \rangle$	Start
		]
oad from file Save to file	ок	Apply Cancel

- **Target**. Type in the required IP address or its DNS name.
- **Ping the specified host until stopped**. Mark the option to ping the chosen host for indefinite time.
- Resolve addresses to hostnames. Mark the option to display hostnames instead of IP addresses.
- Number of echo requests to send. By default, the utility sends 1 echo request, which you can modify however.
- 4. Select **Trace route** to trace a route to a network host. Click **Start** when you're ready with all parameters.

tility: arget:	Trace route		
arget:	Do not resolve addresses to hostna	ames	
	Maximum number of hops to search	for target: (< 1 >)	
	□ Wait timeout milliseconds for each	n reply: (< 1 >)	Start

- **Do not resolve addresses to hostnames**. Mark the option to display IP addresses instead of hostnames.
- **Maximum number of hops to search for target**. By default the utility goes through maximum 30 hops when searching for the target host, which you can modify however.
- Wait timeout milliseconds for each reply. By default the utility waits 4 seconds for each echo reply message. If not received within the timeout, an asterisk (\*) is displayed.

#### **Using the Command Prompt**

The primarily function of the command prompt is running <u>generated program scripts</u> with different parameters. Additionally, it can help you with opening Notepad or Diskpart, running batch files, or solving a variety of issues such as failure to connect to the internet or website loading problems.

- 1. Start up the computer from the WinPE recovery media.
- 2. Select Utilities > Run command.



- 3. The embedded command prompt utility is similar to Windows CMD. It supports the auto-complete and commands history features:
  - Arrow up/Arrow down to navigate the history,
  - Tab to complete or select a path,
  - Esc to clear a text field,
  - **Return** to run a command.

Type in scripts.exe <path to a generated script file> --multiple to run the required program script.



The 'multiple' parameter is obligatory to use in WindowsPE. To learn more about scripts, please consult the Paragon Scripting Language manual.



# **Managing Partitions and Disks**

Partitioning lets you divide a single physical drive into a number of logical drives, each of which serves as a container with its own drive letter and volume label, thus enabling the operating system to process data more efficiently. Partitioning also makes it possible to organize data so that it is easy to find and manage. By detaching the OS from the rest of the data you can tackle one more crucial issue – in case of a system malfunction, you can get the system back on track in minutes by recovering it from a backup image located on the other partition of the hard drive. Finally partitioning is a necessity if you're planning to run several OSs on a single hard drive to effectively delineate the boundaries of each OS.

## **Creating a Partition**

1. Open **Main View > My Computer**, then left click a block of free space on a disk you'd like to partition. Select **Create new volume here** in the opened menu.

	Local Disk (C:)	
•••	NTFS   37.2 GB free o	of 59.6 GB
asic	MBR Hard Disk 1 (VM	Mware Virtual disk SCSI Disk Device)
_		
Jata	Volume (E:)	
NTES	119.8 GB free of 11	9.9 GB
т	ype: Free space	Create new volume here
Total	size: 79.9 GB	Show advalled properties
Una	llocated)	
79.9		
	GB	

2. By default, there will be created an NTFS partition the size of the selected free block. Drag-and-drop borders of the free block on the Disk Map to define the partition size and position. If you want to modify other properties, click **More options**.

Create a new partition on disk 2?
You are about to create a new partition in <b>(Unallocated), 79.9 GB</b> area. Please select size, position and file system of the new partition.
8.9 GB New Volume (B:) NTFS   63.7 GB free of 63.7 GB More options
<u>C</u> reate <u>N</u> o

3. In the opened dialog you can change any predefined partition property.

20.7 GB <sub>BR</sub> Hard Disk 2 (VMware Virtu <sup>37</sup> New Volume (B:)	
NTFS   38 GB free	e of 38 GB
	Fewer options 🛇
Create new partition as: Primary partition size: < 38943 >	
Please select file <u>s</u> ystem for new partition: (	NTF5
Please enter new <u>v</u> olume label:	New Volume
Please specify <u>d</u> rive letter:	B: 📀
Use OS built in format routine	
Please select number of sectors per <u>c</u> luster: (	8 0
Restore <u>d</u> efaults	
	<u>C</u> reate <u>N</u> o

- Select the desired partition type (Primary, Extended, or Logical). The available alternatives depend on the selected block of free space within a Logical block, only Logical partitions can be created; Within a Primary block, both Primary partitions or the Extended Partition are allowed to create.
- Drag-and-drop borders of the free block on the Disk Map to define the partition size and position. An accurate value in MB can be set in the corresponding field.
- To store data on the created partition you need to format it to one of the supported file systems:
  - FAT32 use for data disks that are 32GB or less
  - NTFS the primary file system for Windows OS
  - Ext 2/3/4 the primary file system for Linux OS
  - Apple HFS the primary file system for Mac OS X
- Enter a volume label to easily identify the partition later (optional parameter).
- Choose one of the vacant drive letters from the list to associate with the partition. The drive letter plays an important role in telling Windows where to look data.
- By default, the amount of sectors per cluster will be specified according to the used OS and the chosen file system. If you'd like to set another value, unmark the **Use OS built-in routine** and define the desired value in the corresponding field. The cluster size is one of the crucial parameters of any file system. Its value implicitly affects the performance of the files input-output activity since it defines the size of the file system metadata. Besides, the so-called waste space factor also depends on it.
- 4. Click Create when ready. All introduced changes to the disk layout will be pended until confirmed.

## **Formatting a Partition**

When you create a new partition you will be prompted to choose the desired file system format as described above. This section explains how to format an existing partition.

1. Open Main View > My Computer, then left click an existing partition. Select Format this volume in the opened menu.

. 🚦 Local Dis	k (C:)		
NTFS   37.2	GB free of 59.6 GB		
asic MBR Hard D	Volume letter: (B:) Volume label: New Volume	Back up this volu Change drive let	
)ata Volume (E:) ITFS   119.8 GB f	File system: NTFS Volume size: 37.7 GB Used space: 83.6 MB	Format this your Delete this your Show advanced	me ne
isic MBR Hard D	Free space: 37.6 GB		
Unallocated)	New Volume (B:)		(Unallocated)
8 GB	NTFS   37.6 GB free o	f 37.7 GB	24.2 GB

2. Select the desired file system from the list of the supported file systems and enter a volume label to easily identify the partition later (optional parameter). Since the selected partition may contain data, which will be lost after formatting, you need to confirm the operation.

		Apple HFS
lease enter ne	w volume <u>l</u> abel:	New Volume
		More options
		C)

3. If you want to change the default amount of sectors per cluster, click **More options**. The cluster size is one of the crucial parameters of any file system. Its value implicitly affects the performance of the files input-output activity since it defines the size of the file system metadata. Besides, the so-called waste space factor also depends on it.



4. Click Format when ready. All introduced changes to the disk layout will be <u>pended until confirmed</u>.

## **Deleting a Partition**

1. Open Main View > My Computer, then left click an existing partition. Select Delete this volume in the opened menu.

E Local Dis			
NTFS   37.2	GB free of 59.6 GB		
Basic MBR Hard D	Volume letter: (B:)	Back up this volu	mel
Data Volume (E:)	Volume label: New Volume File system: NTFS	Change drive lett	er
NTFS   119.8 GB f	Volume size: 37.7 GB Used space: 83.6 MB	Delete this volum	
	Free space: 37.6 GB		
Basic MBR Hard D	4		
(Unallocated)	New Volume (B:)		(Unallocated)
18 GB	NTFS   37.6 GB free o	f 37.7 GB	24.2 GB

2. Since the selected partition may contain data, which will be lost after deleting, you need to confirm the operation.

You are about to de or work correctly.	lete volume (B:) New Volume, NTFS. Your computer may no longer boot
✓ I am aware that t	his operation can cause data loss / non-booting system

My Computer My Backups My Activities

3. Click **Delete** when ready. All introduced changes to the disk layout will be <u>pended until confirmed</u>.

# Moving/Resizing a Partition

Open **Main View > My Computer**, then drag-and-drop borders of a partition on the Disk Map to define its size and position. All introduced changes to the disk layout will be <u>pended until confirmed</u>.

	Disk (C:) 7.2 GB free of 59.6 GB	
2 GB MBR Ha	d Disk 1 (VMware Virtual 76.6GB CSI Di	sk Device) 16.
	Data Volume (E:)	
	NTFS   96.5 GB free of 96.6 GB	
		<u>////////</u>
asic MBR Ha	d Disk 2 (VMware Virtual disk SCSI Di	sk Device)
<b>asic MBR Ha</b> (Unallocated)	d Disk 2 (VMware Virtual disk SCSI Di New Volume (B:)	sk Device) New Volume (F:)

## **Changing Drive Letter**

1. Open Main View > My Computer, then left click an existing partition. Select Change drive letter in the opened menu.

It Local Dis	k (C:) GB free of 59.6 GB		
Basic MBR Hard D	Volume letter: (B:)	Back up this volum	ne
Data Volume (E:) NTFS   119.8 GB f	Volume label: New Volume File system: NTFS Volume size: 37.7 GB Used space: 83.6 MB Free space: 37.6 GB	Change drive letter Format D's volum Delete this volume Show advanced pr	e
Basic MBR Hard D	Active: No		
(Unallocated) 18 GB	New Volume (B:) NTFS   37.6 GB free o	f 37.7 GB	New Volume (F:) NTFS   24.1 GB free

2. Choose one of the vacant drive letters from the list to associate with the partition. The drive letter plays an important role in telling Windows where to look data.

B:	
None	
B:	
G:	you remove a drive letter from a volume, your computer may no longer boot
H:	
1:	
J:	r allows access to the volume the letter is assigned to. Assigning a letter is not
K:	f the volume contains a file system that is not supported on your operating
L:	r the forance contains a me system and is not supported on your operating
M:	
N:	

After changing drive letter of the system partition, your Windows OS won't start up.

Some programs may not run properly either if changing drive letter of a data partition.

3. Click Change when ready. All introduced changes to the disk layout will be pended until confirmed.

### **Getting Disk/Partition Properties**

 $(\mathbf{I})$ 

1. Open Main View > My Computer, then left click an existing partition or disk. Select Show advanced properties in the opened menu.

It Local Disk	< (C:) GB free of 59.6 GB		
Basic MBR Hard D	Volume letter: (B:)	Back up this volur	ne
Data Volume (E:)	Volume label: New Volume File system: NTFS	Change drive lette Format this volum	
NTFS   119.8 GB f	Volume size: 37.7 GB Used space: 83.6 MB	Delete this volum	
	Free space: 37.6 GB	- do	
Basic MBR Hard D	Active: No	8	
(Unallocated)	New Volume (B:)		New Volume (F:)
18 GB	NTFS   37.6 GB free o	f 37.7 GB	NTFS   24.1 GB free

2. The program displays detailed information on the properties of an entire storage device or individual partition. Besides the general information, such as capacity, used space or file system type it provides the possibility to get info on hard disk geometry, cluster size, exact partition location, etc.

**Disk Properties:** 

Total size:	80 GB
	85,899,345,920 Bytes
	167,772,160 Sectors
Physical size:	80 GB
	85,899,345,920 Bytes
	167,772,160 Sectors
Cylinders:	0x28CB(10443)
Heads:	0xFF(255)
ctors per track:	0x3F(63)

#### **Partition Properties:**

lew Volume (B:)						
HDD r	number:	2				
Linux partition r	number:	1				
Volun	ne label:	New	Volume			
Part	ition ID:	0x07	NTFS, EXFAT	, ReFS		
Serial r	number:	1E36-	19B5-3619-8	F41		
Sectors p	er boot:	8				
Sectors per	cluster:	8				
	Sector	No:	Cyl:	Hd:	Sec:	
First physical sector:	37,810,	176	2353	146	34	
Last physical sector:	116,932,	607	7278	183	9	
Hard disk geometry:			10443	255	63	

# Troubleshooting

. .

In case of having difficulties with handling the product you can address our support engineers for assistance. To help you solve your problem with minimal time, our engineers need operation logs and your brief description.

1. Select **Home** > **Collect logs**. Provide an e-mail address used for registering the product, then describe the encountered problem in the corresponding fields. Please don't worry - we respect your privacy, so none of your confidential data will be exposed.

Home	
Settings	
Recovery Media Builder	Collect software logs
Collect logs	Please specify issue details
Info about	Please enter e-mail address which was used while registering this product. With its help Paragon Support Department will be able to associate your log files with your request through <u>on-line request system</u> .
	[jimbubblestone@gmail.com
	Please enter description of encountered issue:
	Hello Paragon Software. My BR16 doesn't seem to back up my Windows OS correctly. Please help me.

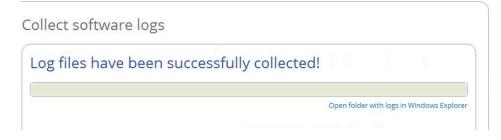
2. Browse for the required location of the log files package and edit the default file name, if necessary. Click **Save** when ready.

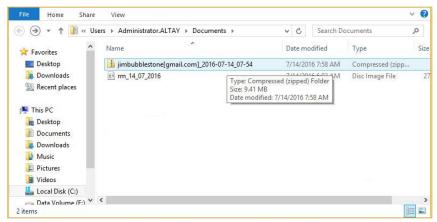
Next >

Cancel

🔄 🌛 🍷 🕇 📗 🕨 This PC 🕨	Documents	*	C	Search Documents			P
Organize 👻 New folder						•	0
🖳 Recent places \land Nam	ie 🔨			Date modified		Туре	
🖳 This PC		No items r	natch	your search.			
📔 Desktop							
Documents							
Downloads							
Music							
崖 Pictures							
📔 Videos							
🏪 Local Disk (C:)							
📷 Data Volume (E:)							
~ <							3
File name: jimbubblesto	ne[gmail.com]_2016	-07-14_07-5	4				¥
Save as type: ZIP archives							Y
					_		_
🔿 Hide Folders				Save	(	Cancel	

3. Once the operation is over, click **Open folder with logs...** to check the prepared package doesn't contain anything confidential, but layouts of your disks, performed operations, etc.





4. Use the link on the first page of the wizard to sign in to MyParagon Customer Portal.

		English
> Sign in	MyParagon Custom	ier Portal
	Sign in	
	jimbubblestone@gmail.com	
	•••••	\$
	Sign in	Forgot pessword?
	OR SIGN IN WITH -	
	<b>f</b> Facebook	

5. Fill out the ticket request form, attach the prepared logs package, then click **Post request**. That's all. Our support engineers will get in touch with you in a little while.

	New Support Request	
Ask a question, report a pr	oblem or give feedback by creating a request. Please fil required fields for better support.	in all the
* Subject	Software problem	~
* Product	Other products	~
	If your purchased product is not shown in the list, please register it via the Product" section.	"Register New
* Brief description		
* Details of the request		
Attach a file	Select file jimbubblestone[gmail.com]_2016-07	-14_07-
	54.zip 🗙	
	Maximum attachment size: 50 Mb.	
Duild number		