AOMEI® Backupper® 3.2

User Manual

Get Started

This section covers AOMEI Backupper's main features, the system requirements to run it, supported file systems and operating systems and storage media, to help you easily start your experience with AOMEI Backupper. Take some time to familiarize yourself with Backupper's powerful and comprehensive features before getting started.

- Overview of AOMEI Backupper

- System requirements

- Supported operating systems

- Supported file systems

- Supported storage devices

- Install and uninstall

Overview of AOMEI Backupper

AOMEI Backupper is back up and recovery software. It allows you to back up your files, folders, hard disk drives, partitions, dynamic volumes, applications and system drives, and to restore them later if data loss occurs. Backupper includes a disk imaging and cloning tool which can be used to create an exact image of your entire hard disk drive and operating system, to migrate to another hard drive if desired, for Windows 10, 8, 8.1, 7, XP, Vista and Windows Server 2003, 2008, 2012.

Main Features

- Files and Folders Backup

- System Backup

- Disk Backup

- Partition Backup

- Schedule Backup

- Incremental & Differential Backups

- Backup Dynamic Disk Volumes

- Backup to NAS

- Files and Folders Restore

- System Restore

- Partition and Disk Restore

- Disk Clone

- Partition Clone

- Create Bootable Disc

- More Features...

System Requirements

Minimum Hardware requirements:

- 500 MHz x86 or compatible CPU

- 256MB RAM memory

- Mouse or other pointing device (recommended)

- In addition, AOMEI Backupper supports creating bootable rescue media so you may need CD-RW/DVD-RW drive for bootable media creation.

Supported Operating Systems

- Microsoft Windows XP (all editions, 32-bit and 64-bit)

- Microsoft Windows Vista (all editions, 32-bit and 64-bit)

- Microsoft Windows 7 (all editions, 32-bit and 64-bit)

- Microsoft Windows 8/8.1 (all editions, 32-bit and 64-bit)

- Microsoft Windows 10 (all editions, 32-bit and 64-bit)

- Microsoft Windows Server 2003 and 2003 R2 (all editions, 32-bit and 64-bit)

- Microsoft Windows Server 2008 and 2008 R2 (all editions, 32-bit and 64-bit)

- Microsoft Windows Home Server (WHS) 2011 and Windows Small Business Server (SBS) 2011

- Microsoft Windows Server 2012 and 2012 R2(all editions)

Supported File Systems

- FAT16

- FAT32

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- NTFS

- ReFS

- Ext2/3, ExFAT

Note: For ReFS, ExT2/3, ExFAT file systems and other known file systems, the program will image, clone and manage them in sector by sector mode.

Supported Storage Devices

AOMEI Backupper supports almost all storage devices recognized by Windows, such as IDE, SATA, SCSI, SSD, USB external disks, hardware RAID, Network Attached Storage (NAS) and so on. Additionally, AOMEI Backupper supports MBR and GPT disk standards and works effectively with UEFI boot.

Install and Uninstall

To install AOMEI Backupper

Run the self-extracting AOMEI Backupper setup program BAKn.n.exe. When the popup window appears, click "Next" and follow the wizard installation guide. After the installation process has completed, you may be prompted to restart your computer to completely finish the installation.

To Uninstall AOMEI Backupper

Backupper can be uninstalled using one of 2 methods:

1. Go to Start Menu -> All Programs -> AOMEI Backupper -> Uninstall AOMEI Backupper

OR

2. Go to Windows Control Panel -> Programs and Functions, and select AOMEI Backupper.

Note: To completely uninstall the software you may be prompted to restart your computer, which can be deferred until later if you wish.

Backup

It is essential to make regular copies of your important data to ensure your data security. If your original data becomes corrupted by accident, you could recover it from the backup image file. AOMEI Backupper can back up files, folders, disks, partitions, volumes, applications and system

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drives to a compressed image file. The software supports 3 backup types: full backup, incremental backup and differential backup – all of which can be scheduled to be carried out at times chosen by you.

Files and Folders Backup

This function helps you back up files and folders to specified image files easily. In as few as two steps you can back up your personal files, working files and other important data. As well as being able to specify which folders to back up, you can set filters such as a file inclusion/exclusion mask, a folder exclusion mask, and whether or not to exclude hidden files/folders and system files/folders.

To back up your files/folders:

1. In the left tab page, select **Backup** and then select **File Backup**.
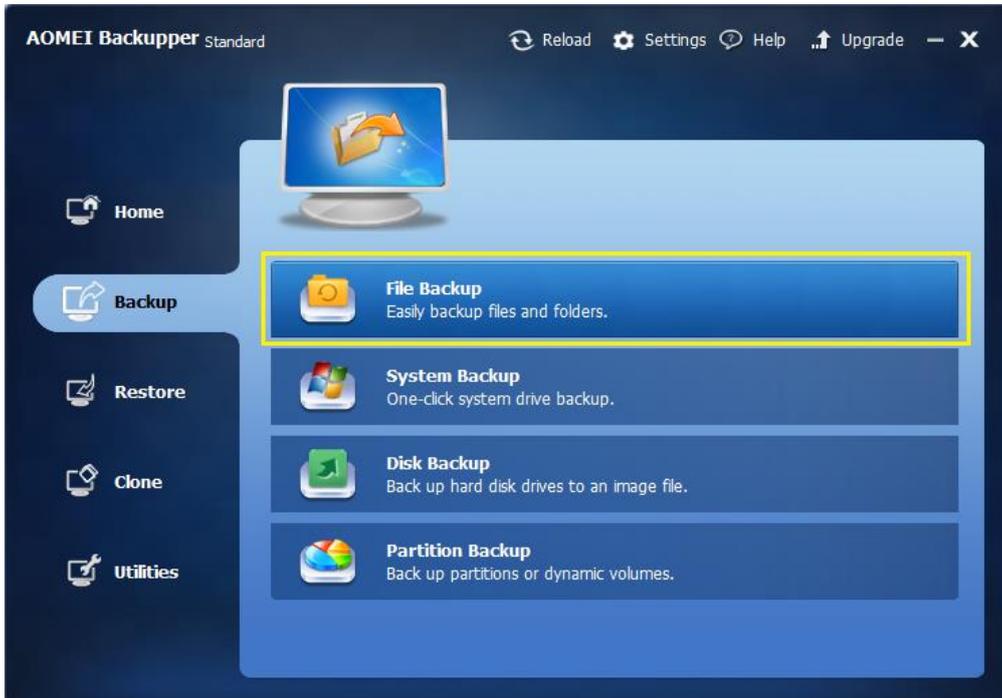
2. You can enter a name for the backup in the "Task Name" box, such as "My File Backup" to help you distinguish it from other backups.

3. In the **Setp1** area, Click "Add File" or "Add Folder", and select the files/folders you want to backup.
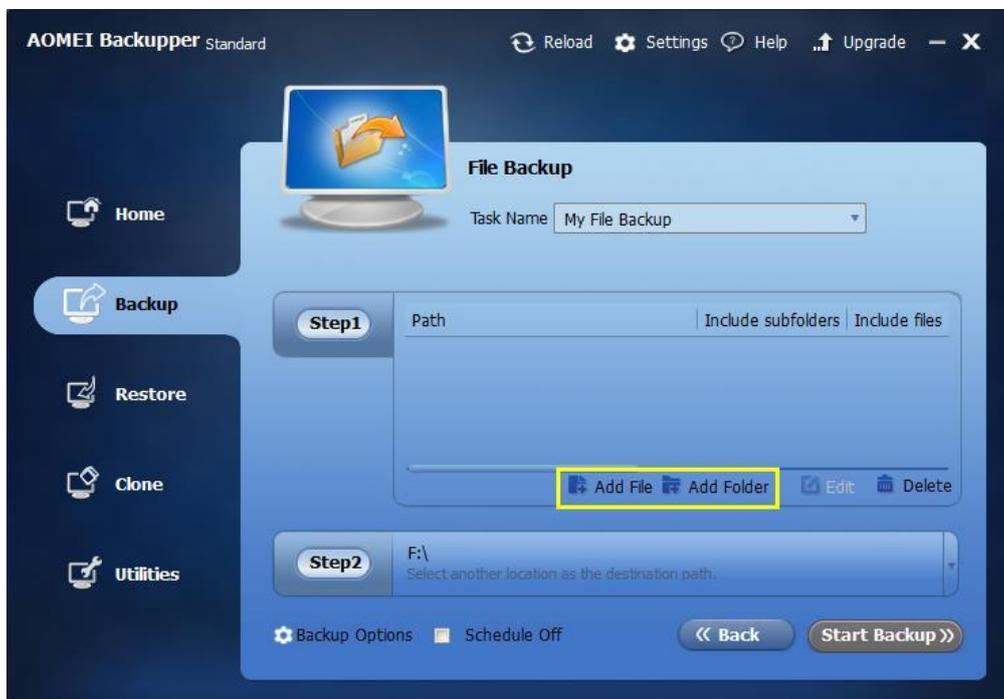
4. Then click **Step2** to select location as the destination path to store the image file. If available, always select a destination storage medium that is different than the medium containing the files.

This will ensure that even in the event of a disaster such as failure of the source drive the data can be easily recovered from the destination medium.

5. Finally click the **Start Backup** button to run the backup process.

For further guidance with screenshots, see: How to Do Files and Folders Backup.

Tips:

- More advanced options for the current backup task can also be set. For detail guidance see Backup Options, Schedule Backup and Backup Scheme.

- After clicking "Add Folder" you can configure an inclusion/exclusion mask and folder exclusion mask, by expanding the "Filter Settings".

- Some files may be in use by other programs exclusively, and these may not be backed up. In that case, AOMEI Backupper will prompt you, and guide you step-by-step.

System Backup

AOMEI Backupper provides a one-click backup system solution. If you need to do a system backup, it will enable you to back up your system drive completely, including applications, drivers, configuration settings, system files and boot files.

To back up a system drive:

1. In the left tab page, select **Backup** and then select **System Backup**.

2. You can enter a name for the backup in the "Task Name" box, to help you distinguish it from other backups.
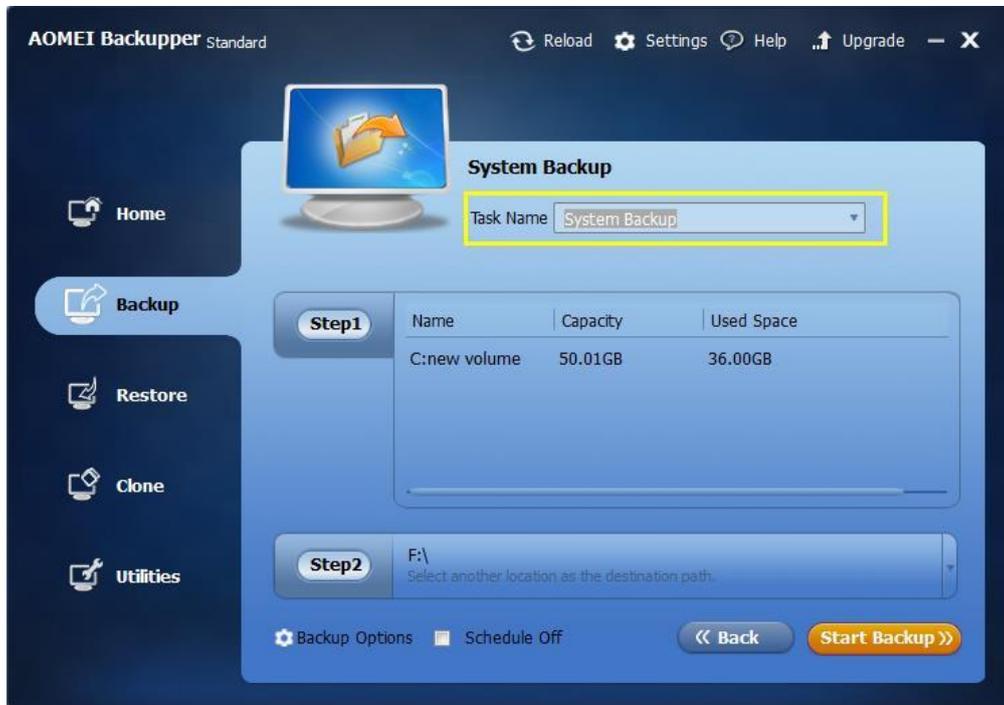
3. Click **Step 2** to select a destination path to save the image file.
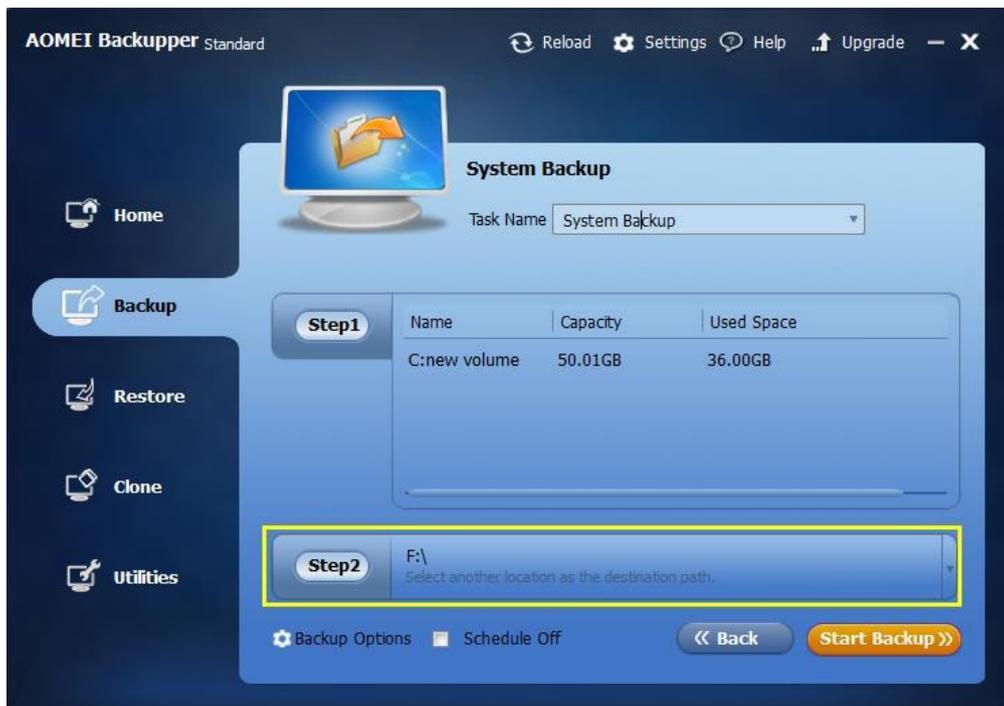
4. Click **Start Backup** button and wait for the process to complete.
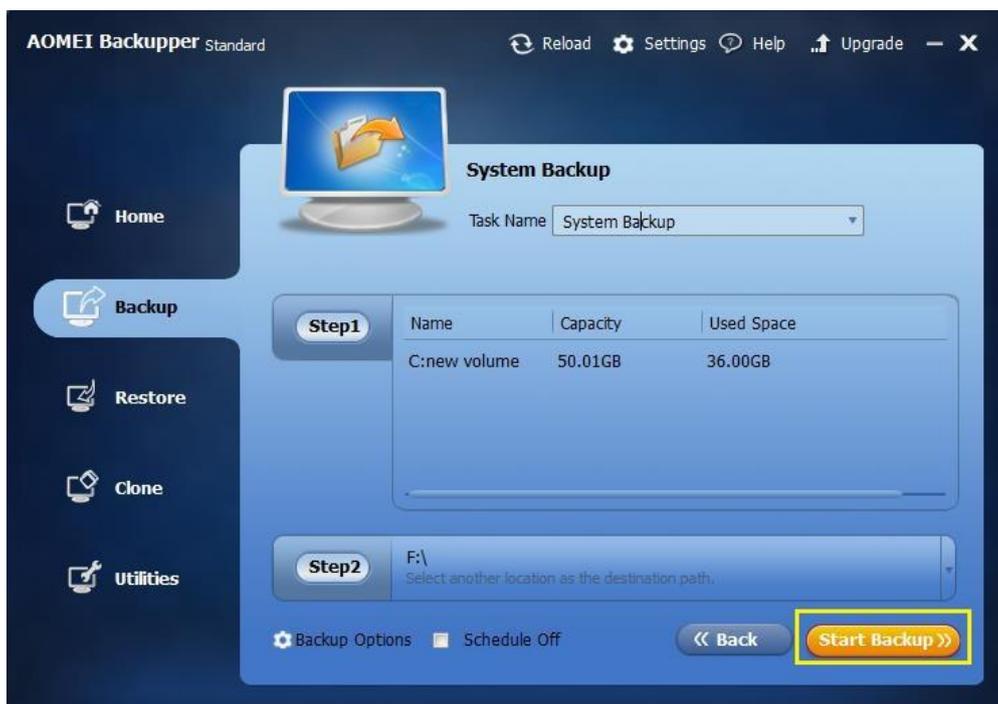
For more detailed guidance with screenshots see: **How to Do a System Backup**.

 Tips:

- Since system backup is a one-click solution, your system partition and system reserved partition will be selected by default in **Step 1**.

- To customize advanced configuration for the current backup task, please see: Backup Options,Schedule Backup and Backup Scheme.

Disk Backup

Disk backup will back up all your files on the disk into a compressed image file, including all partitions or volumes on this disk, and system files. That means if you back up a system disk, after restoring it, the restored disk can also be booted directly. It supports backing up MBR disks, GPT disks, external hard drives, USB disks, and other storage devices that can be recognized by Windows.

To backup your disk:

1. In the left tab page, select **Backup** and then select **Disk Backup**.
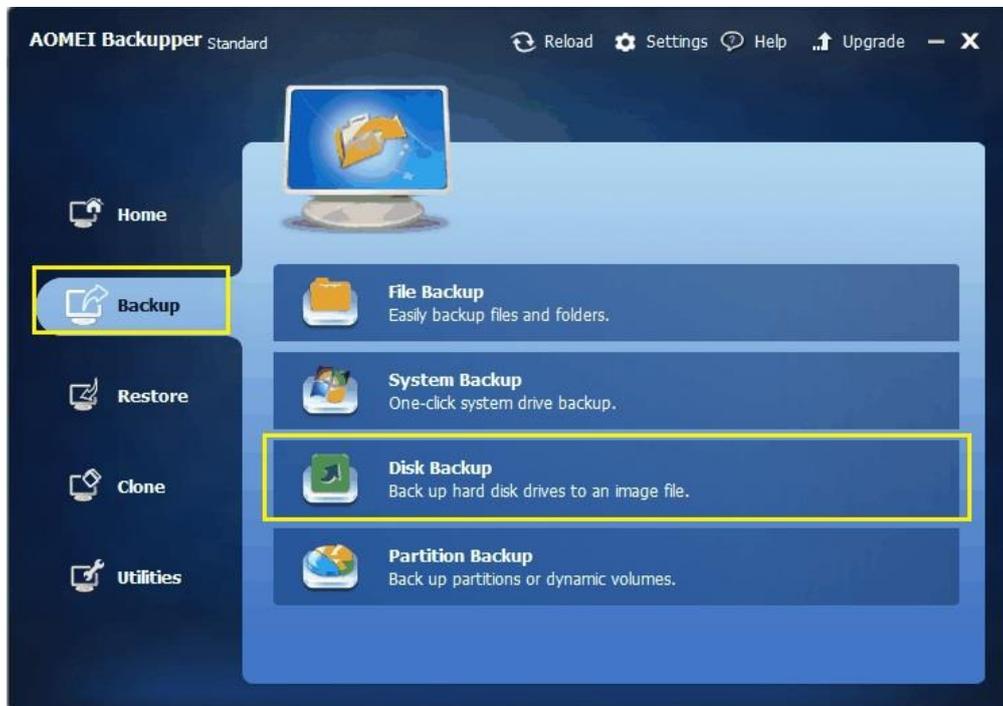
2. You can enter a name for the backup in the "Task Name" box, such as "My system disk backup" to help you distinguish it from other backups.
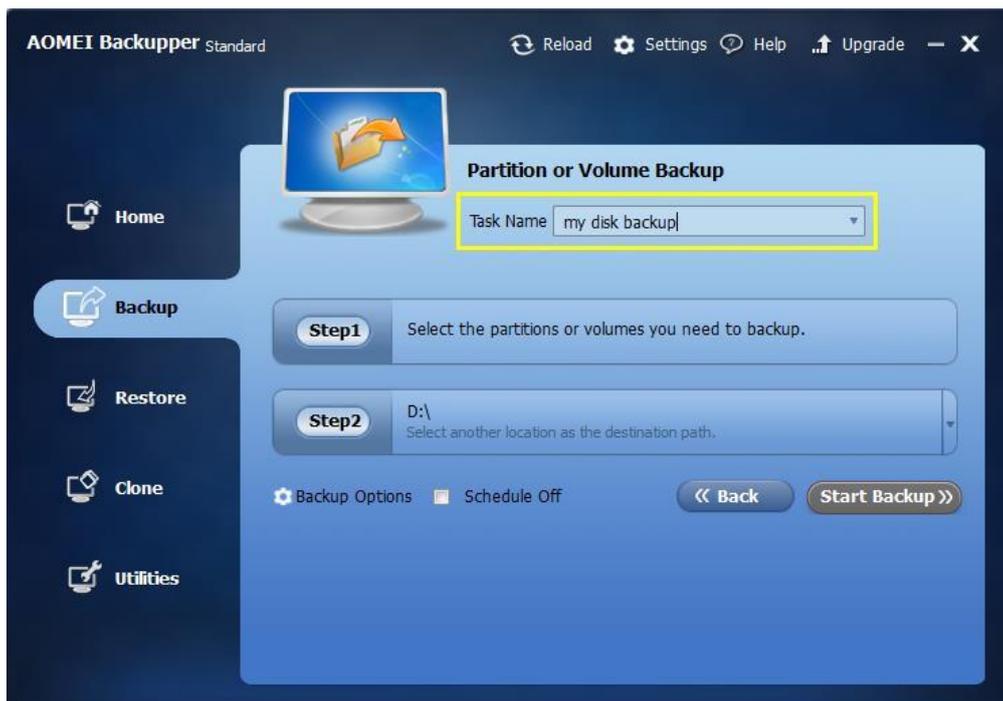
3. Click the **Step 1** button. In the popup window, select the source disks that you want to backup.
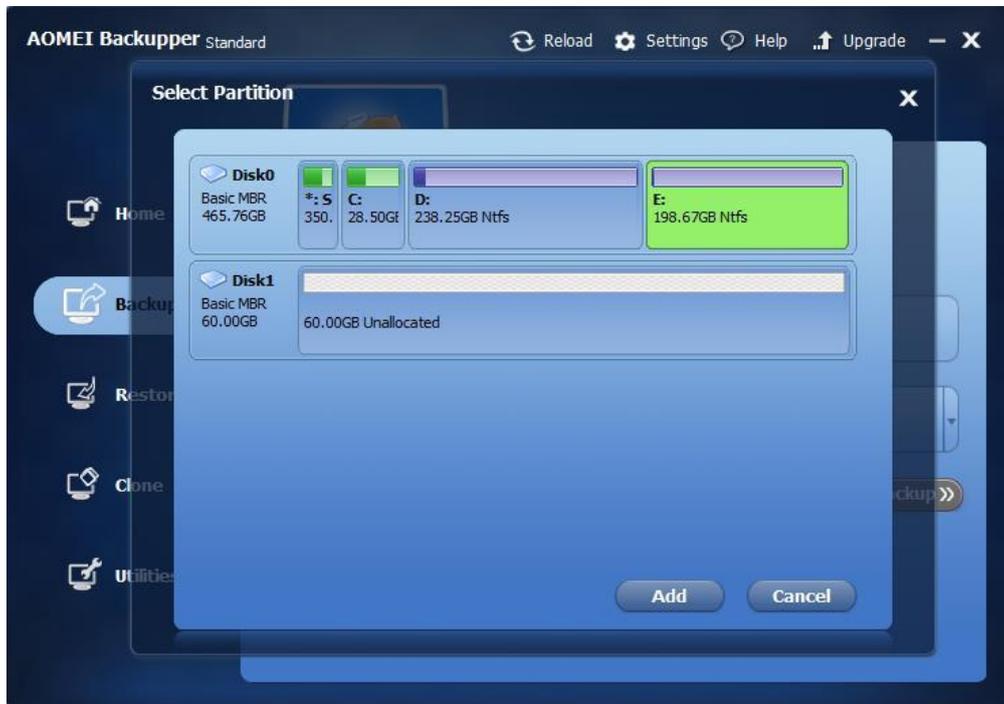
4. Click **Step 2** to select a destination place to store the image file.
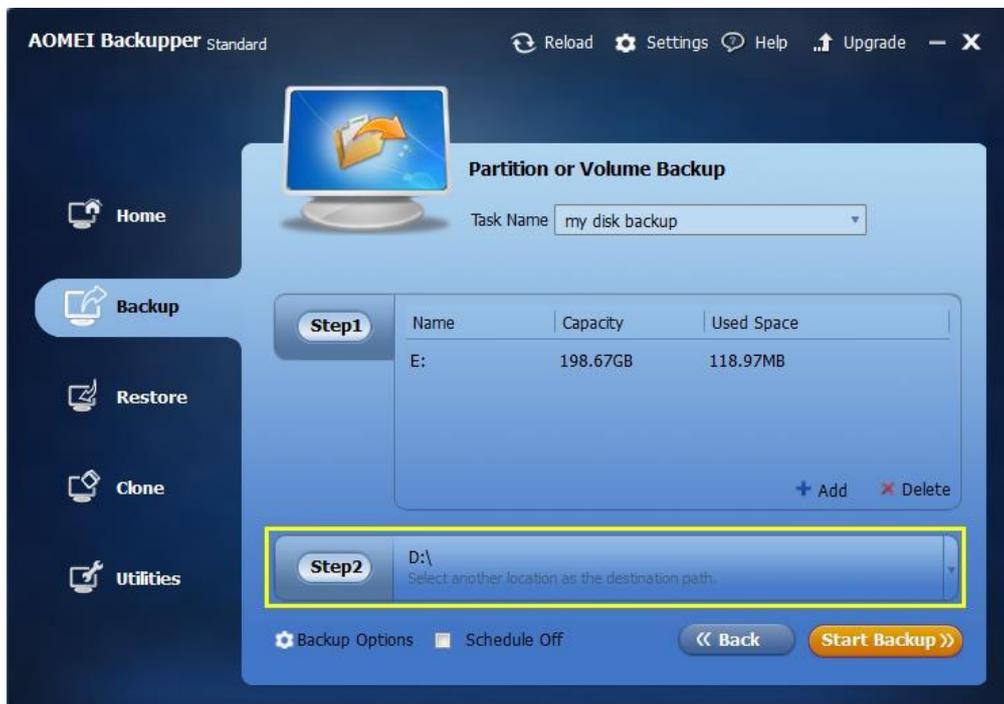
5. Click the **Start Backup** button and wait for the process to complete.
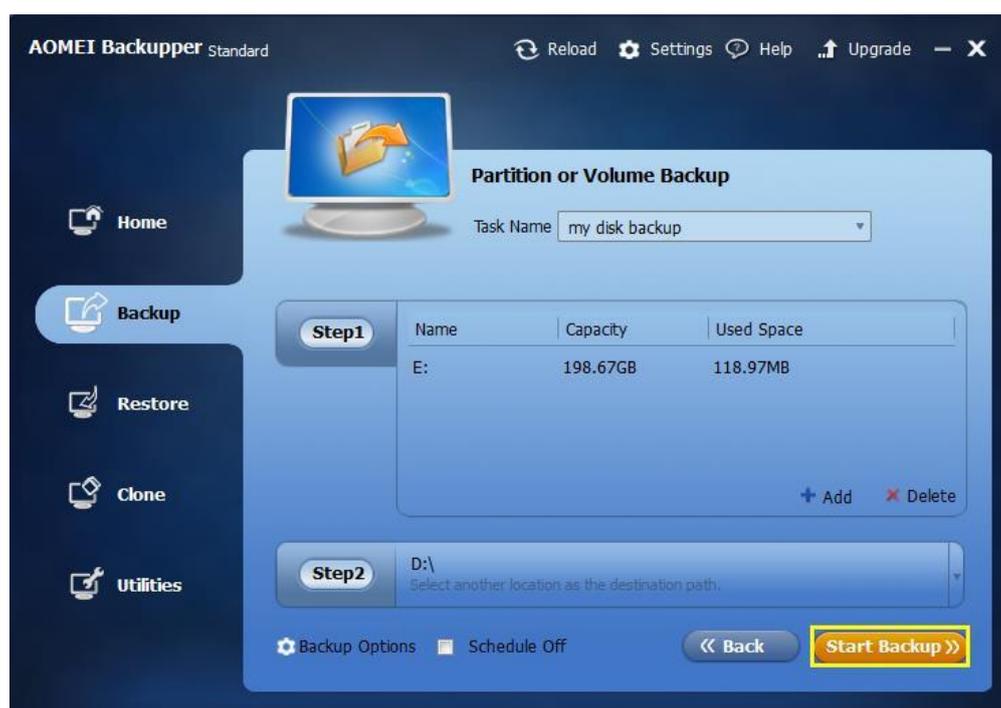
For more detailed guidance with screenshots see: **Disk backup**.

 Tips:

- More advanced options for the current backup task can also be set. For guidance see: Backup Options,Schedule Backup and Backup Scheme.

- When performing Disk Backup, AOMEI Backupper allows you to back up several disks at a time. The selected destination must have sufficient space to contain the data on these disks. Backing up disks with a large amount of data may take a long time to complete. When restoring this image, you may restore these disks one by one.

- You may not back up dynamic disks using this option, because of the different properties between a dynamic disk and basic disk. To backup volumes on dynamic disks you should choose Partition Backupoption.

Partition and Volume Backup

This option enables you to back up one or multiple partitions/volumes (including dynamic volumes) to an image file. If you just want to back up particular partitions and volumes rather than the entire disk, this feature is the best choice.

To back up partitions/volumes:

- In the left tab item, select **Backup** and then select **Partition Backup**.
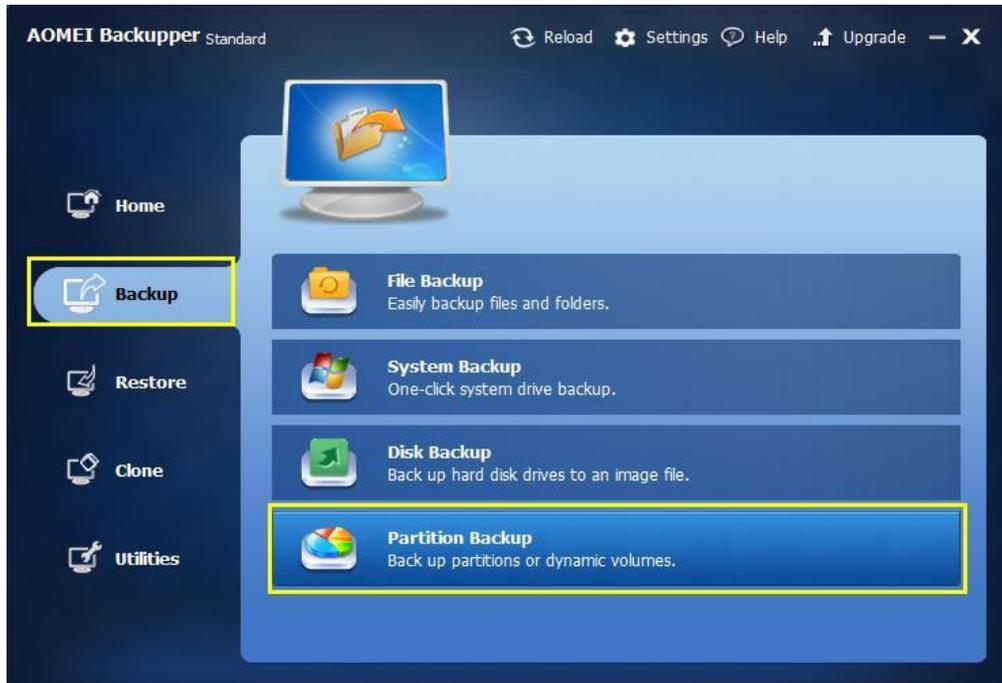
- You may enter a task name in the box to help you distinguish it from others.
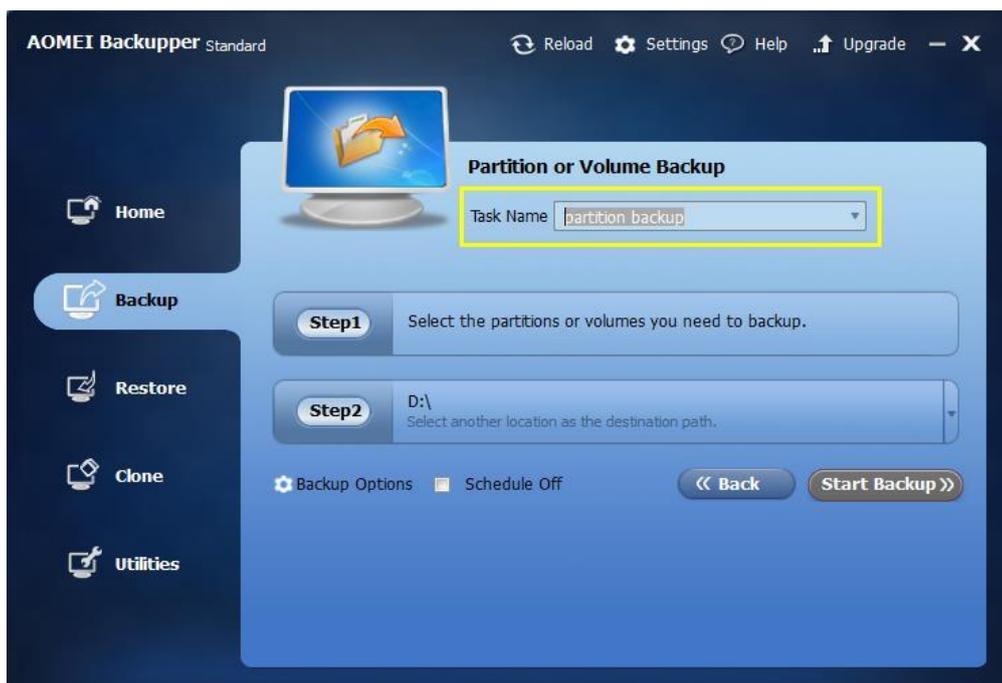
- Click **Step1**. In the popup window, select the partitions or volumes that need to be backed up.
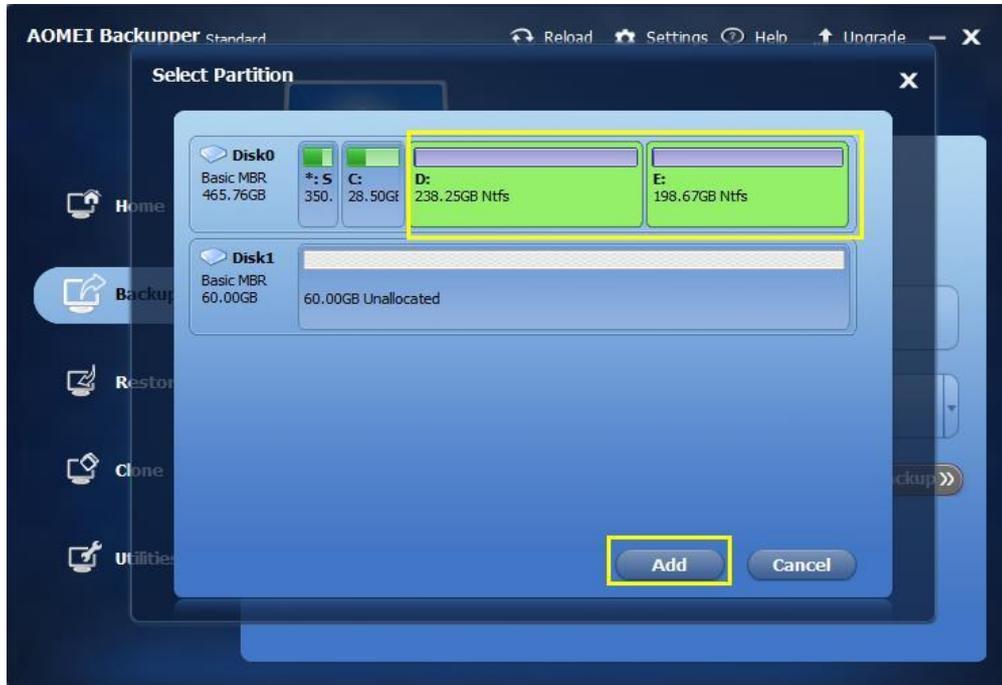
- Click **Step2** to select a destination path to save the backup.
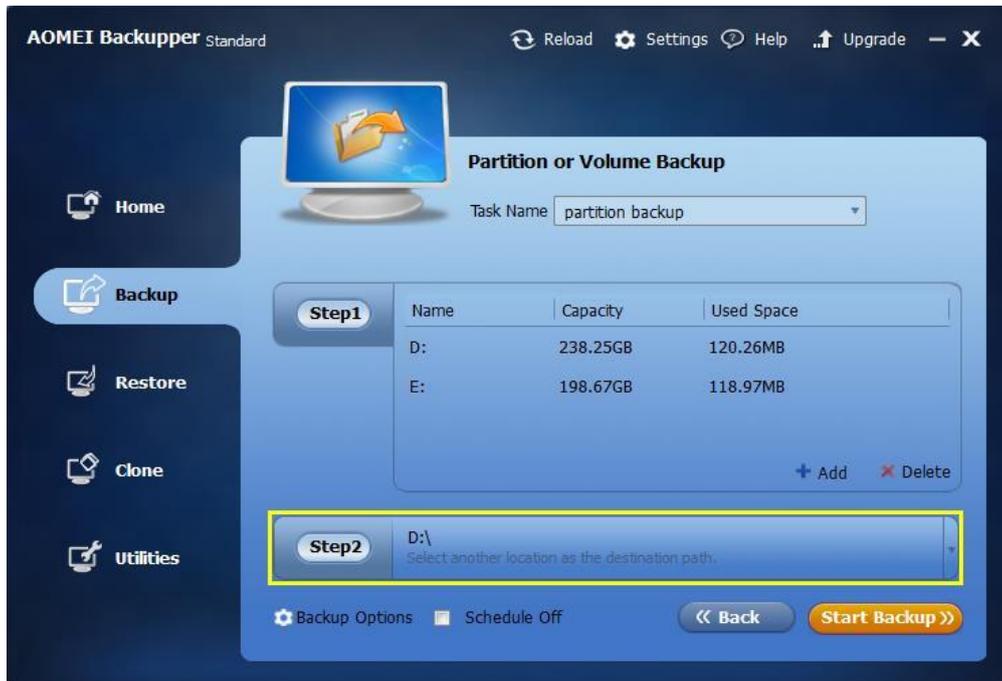
- Click **Start Backup** button and wait for the process to complete.
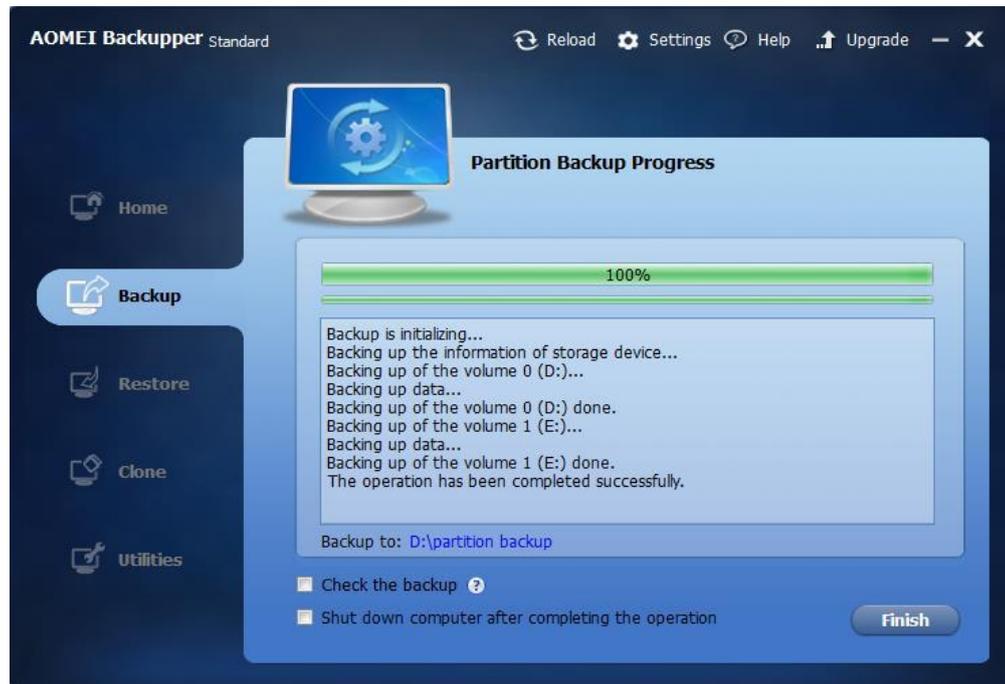
For more detailed guidance with screenshots see: **How to Backup Partition/Volume**.

📝 **Tips:**

- To specify advanced options refer to Backup Options, Schedule Backup and Backup Scheme for detail guidance.

- For ExT2/3, ReFS, ExFAT and other non-Windows file systems AOMEI Backupper will back up in sector-by-sector mode.

File Sync

File Sync is a feature which allows you to synchronize files and folders to other locations, including a local disk, an external hard drive, another computer on the network, NAS, and removable USB flash drive, etc. So you can always keep your important data in sync on your computers. For example, you can backup your working files or other files by sync them to other location.

To synchronize files

1. Click "**Backup**" tab on the left column. Then drag the scrollbar downwards to select "**File Sync**".

2. You can enter a name for the sync in the Task Name box to help you distinguish it from other syncs.

3. In the "**Step1**" area, click "**Add Folder**". Then in the pop-up window, click "**Browse**" to select the folder which you want to synchronize. Click "**OK**".

4. Click "**Step2**" to select a destination location to store the folder. Then click "**Start Sync**" to perform the operation.

Notes:

1. There are two options in the Sync Options window. One is Comments. You can write a comment for the current operation in the comment box. The other is Notifications. After enabling this option, you will receive emails about the results of the file sync.

2. Clicking the Schedule Off button, you can schedule the sync task to sync files regularly.

3. Please don't modify the folder name of the source, otherwise the program will not be able to synchronize it. If you did, you need to edit the sync task in AOMEI Backupper to fit the change.

4. For more matters needing attention, please read "FAQ about AOMEI File Sync".

Schedule Backup

AOMEI Backupper is able to back up data for you automatically and periodically after the release of Version 1.5. This will greatly enhance the security of your data. There are three modes to set up a backup schedule: Daily Mode, Weekly Mode and Monthly Mode.

To set the scheduled times, in the main tab page area of the Backup option, ensure the Schedule check box is checked, and click the label marked "Schedule On".
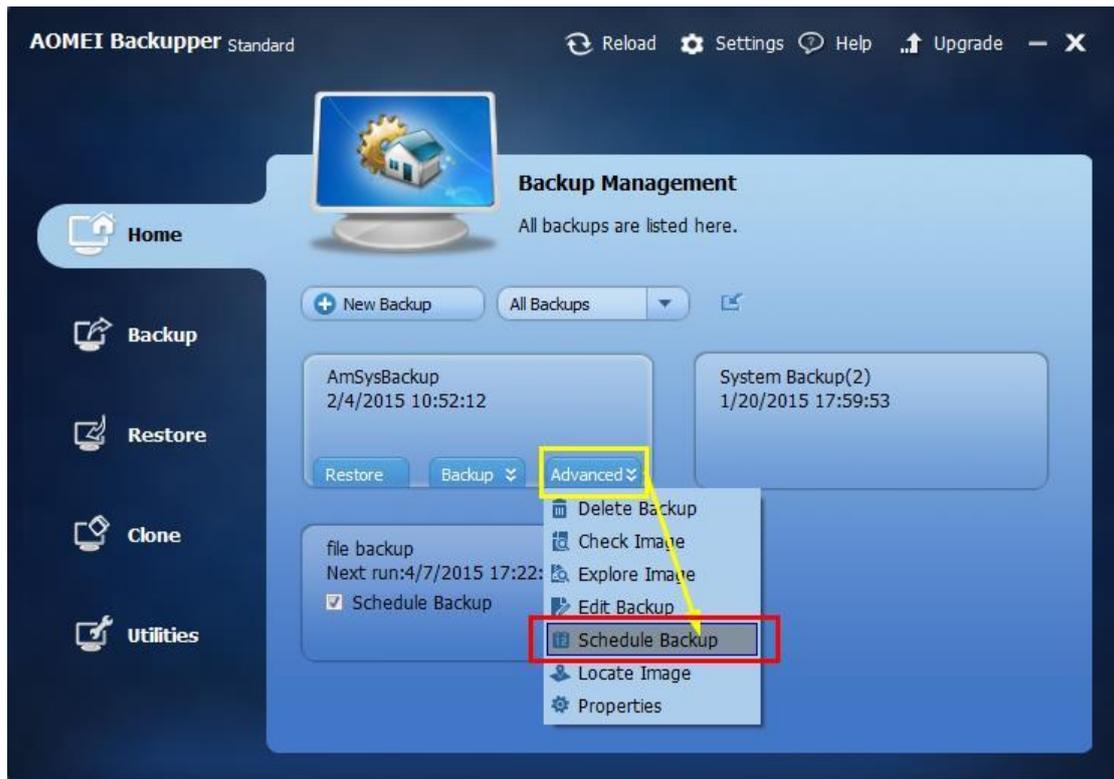
Daily Mode

1. Set a time point in the future to perform the backup task only once.

2. Set a time point to perform the backup task once every day.

3. Set a time frame in a day first. Then choose the time interval between each backup. The program will perform the backup at intervals of 1, 2, 3, 4 or 6 hours within this time frame every day.
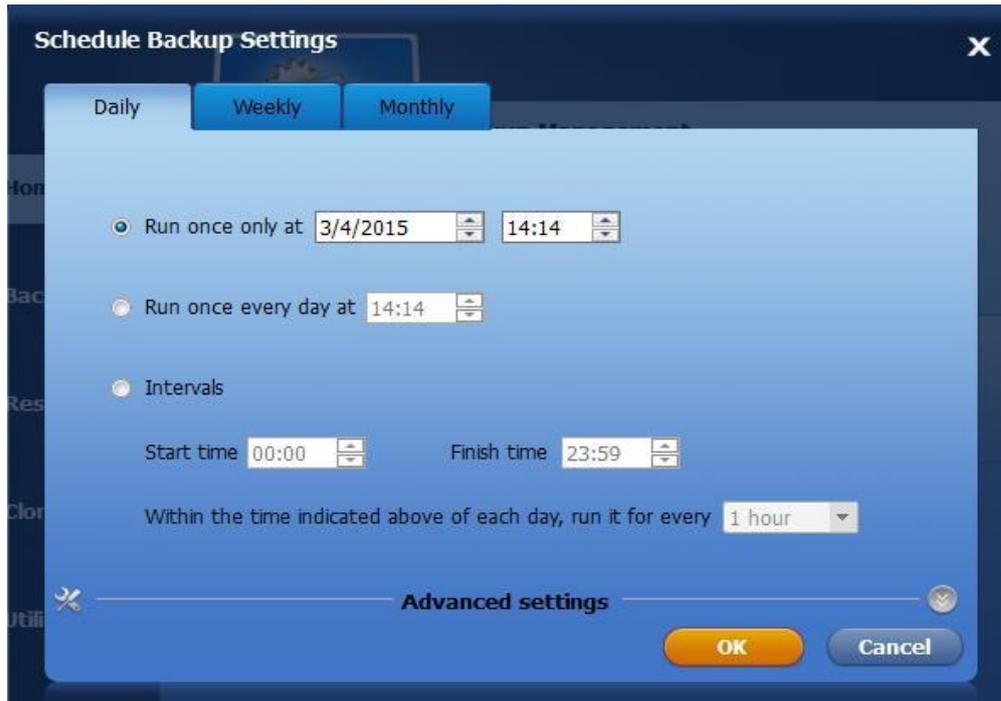
Weekly Mode

1. Choose the day(s) for the backup task from Monday to Sunday

2. Set a time point. The program will automatically perform the backup at a fixed time point on the chosen day(s) in every week.
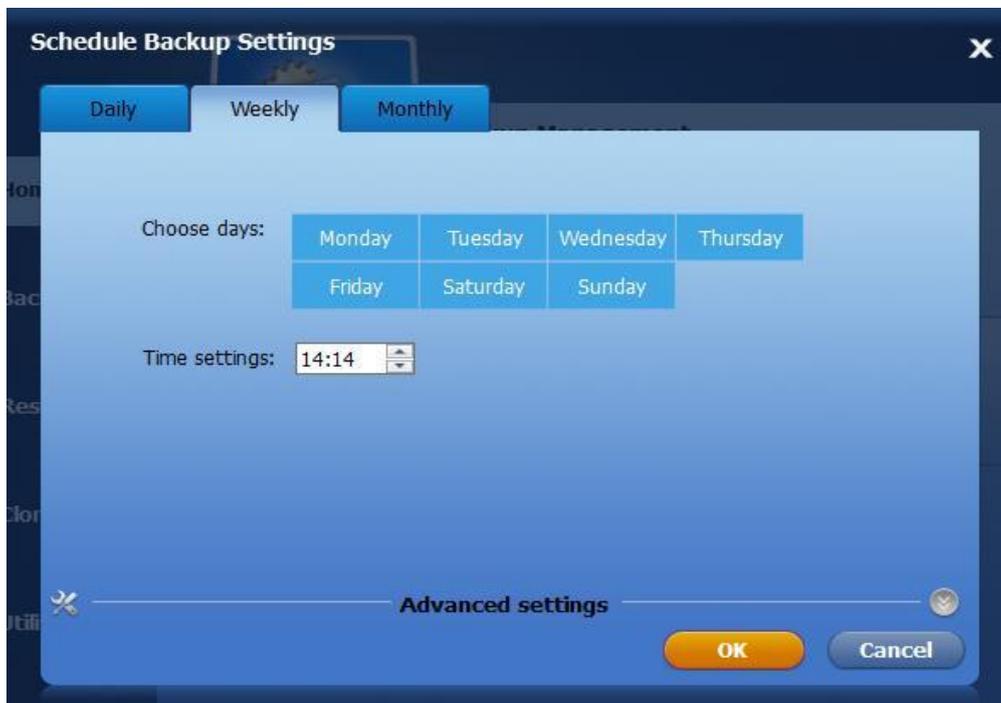
Monthly Mode

1. Choose the day(s) from the calendar to perform the backup task in every month. To select multiple days, click each day on the calendar while holding the "Ctrl" button.

2. You can specify one day to perform the backup task each month. For example, you can let the program perform the backup on the third Tuesday in every month.
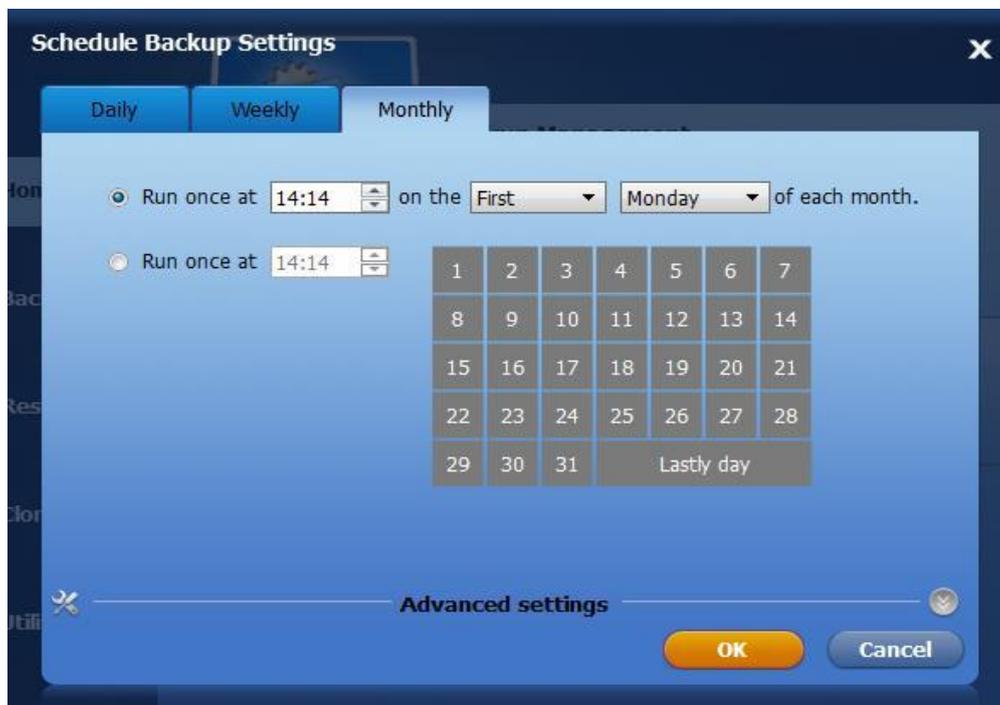
Check out this tutorial with screenshots to learn more about Schedule Backup: How to Use Schedule Backup.

Backup to NAS

NAS is the acronym for Network Attached Storage, mostly used as file servers by small business users. Backing up to NAS may save users' local storage as well as ensuring the safety of the backup image.AOMEI Backupper enables you to back up data to NAS devices easily.

Backup to NAS

1. The system, partitions and a whole disk can all be backed up to NAS. Click on "Select other location as the destination path" bar in the Backup option once the source disk/partition/system has been selected.
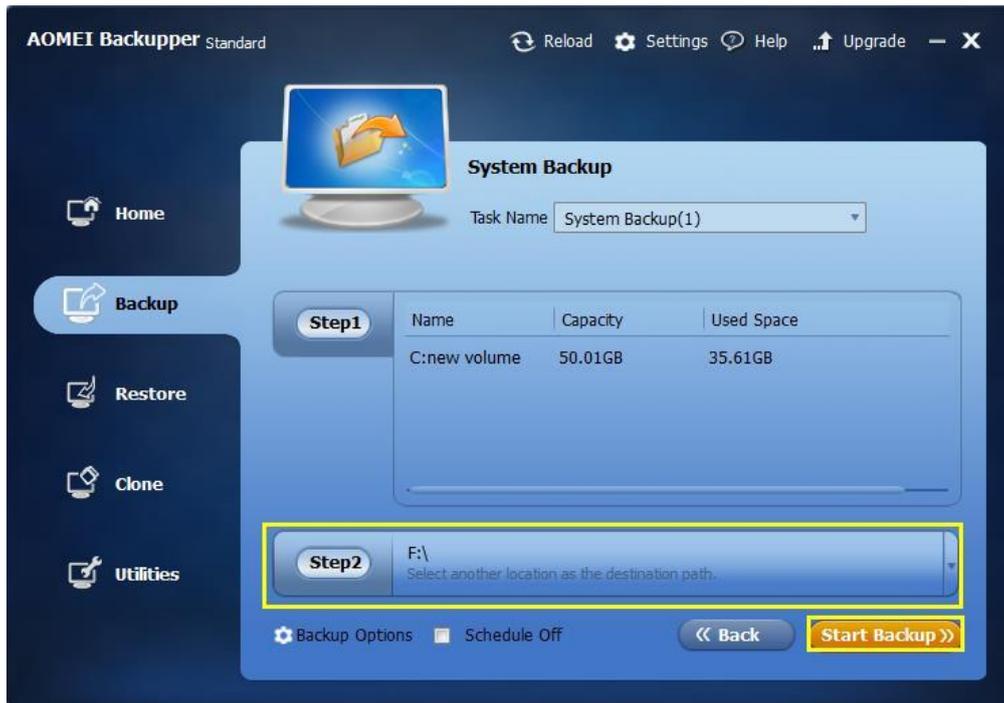
2. When the window pops up, Click **Share/NAS Device** on the left-hand side
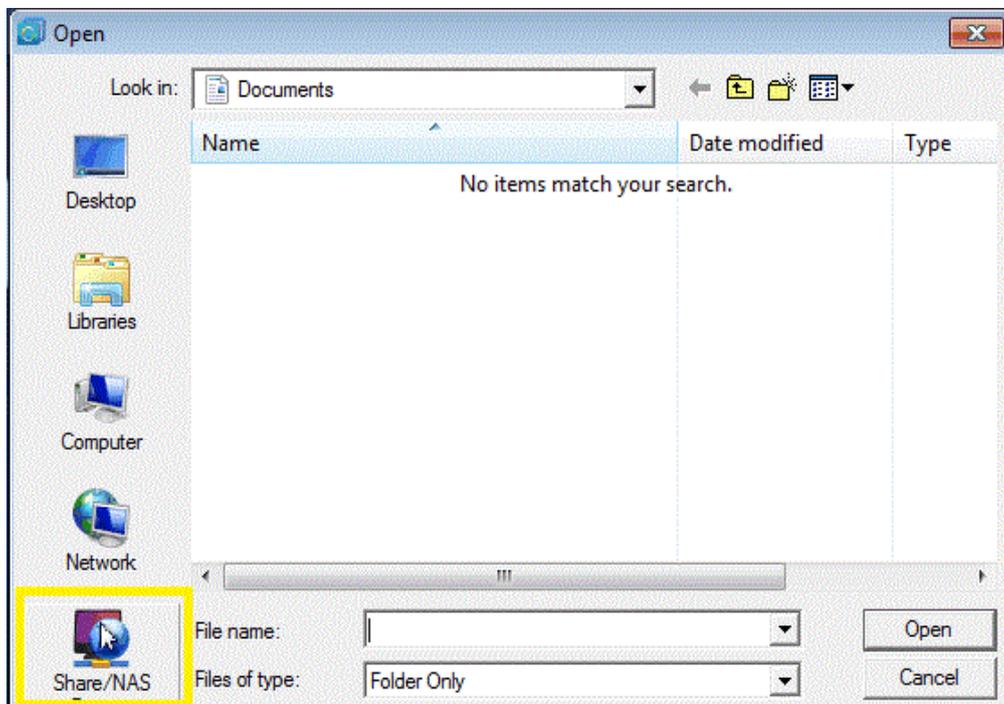
3. Click **Add share or NAS device** button in the lower-left corner.
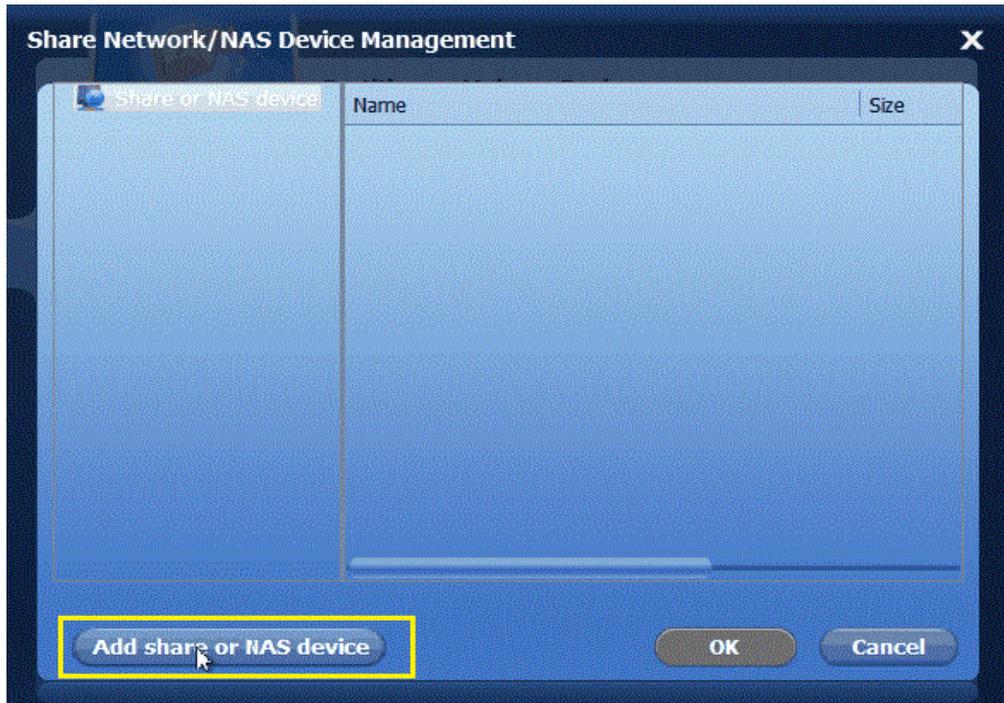
4. Enter the IP address or name of your NAS. Also, you may input a display name for this NAS device.
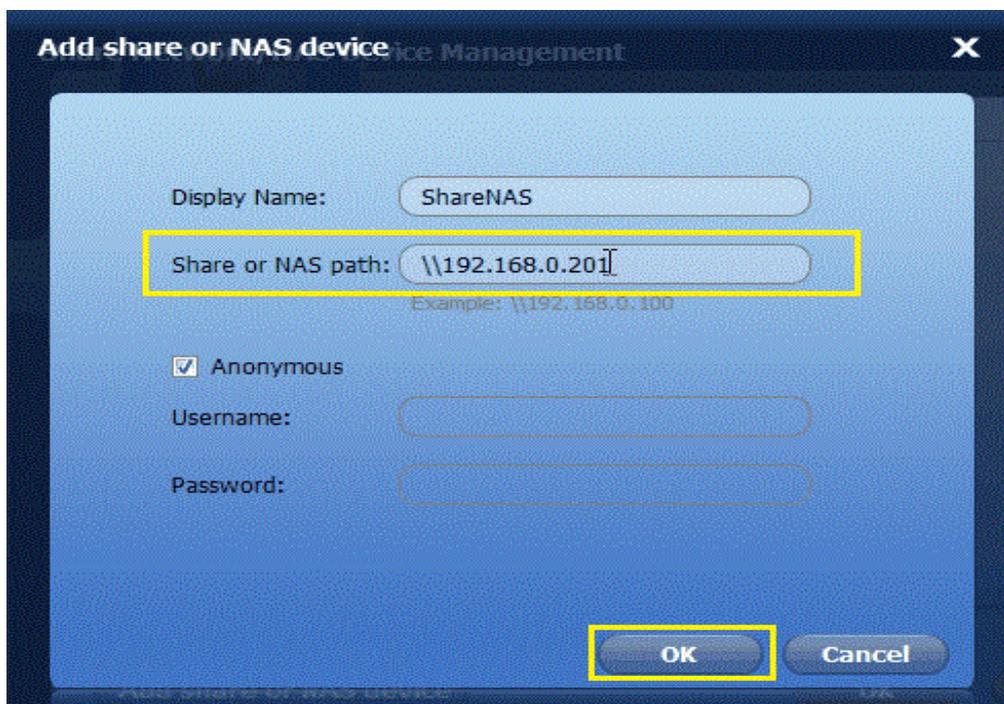
5. After the NAS device has been added, all the folders in the NAS will be listed in the right-hand side list box. Choose one folder as the destination path then click OK.

For greater detail of backing up to NAS, please check the tutorial: AOMEI Free Backup Software for Windows Backup to NAS Devices. This will guide you step-by-step through the whole process, with screenshots.

Backup Management

Select **Home** on the left tab page.

You can manage all your image files in this section. All your image files will be listed here, with built-in shortcut options to start or manage your backups. These include: **New Backup**, **Restore**, **Backup** and**Advanced** option. You may list your backups by day, week, month or any other custom time.

New backup: After click the button, a wizard will guide you through the process.
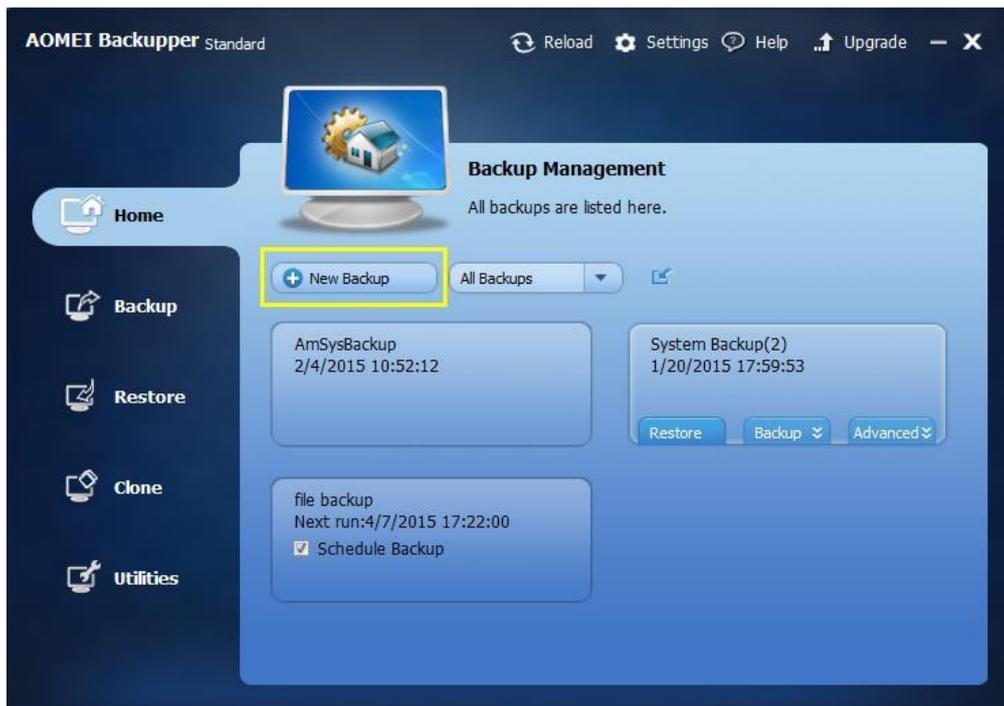
By moving the mouse over any named backup, three additional options are revealed:

Restore: Click the button and the program will enter the "Restore" tab page, to enable you to choose what you want to restore.
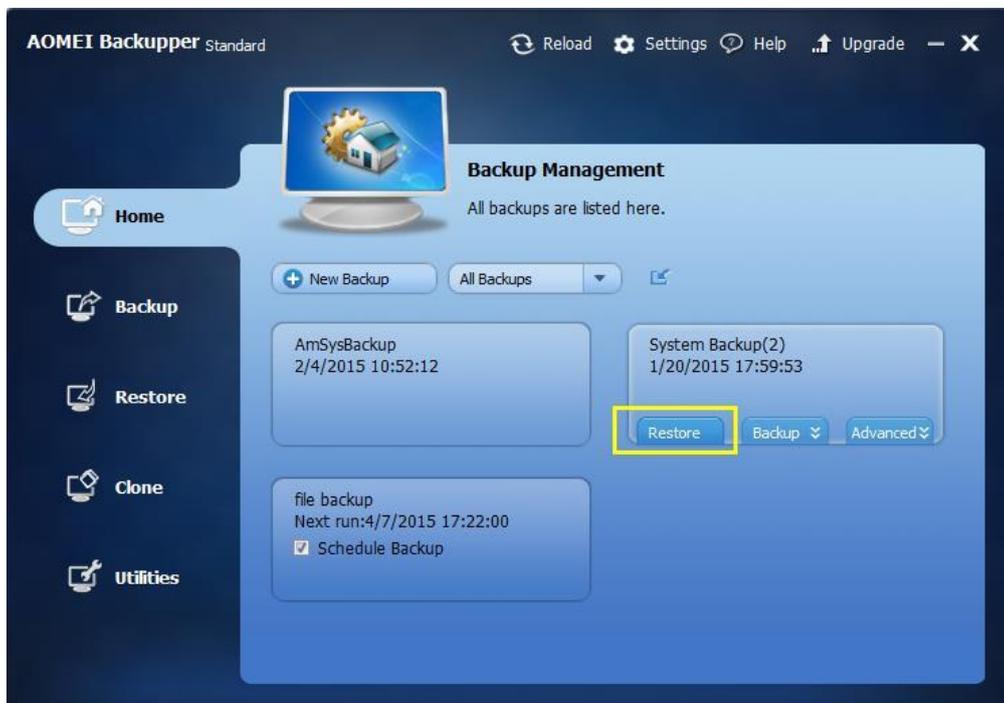
Backup: After making a full backup, you could do an incremental or differential backup based on the full backup. The Backup button will provide options to allow you to create incremental or differential backup.
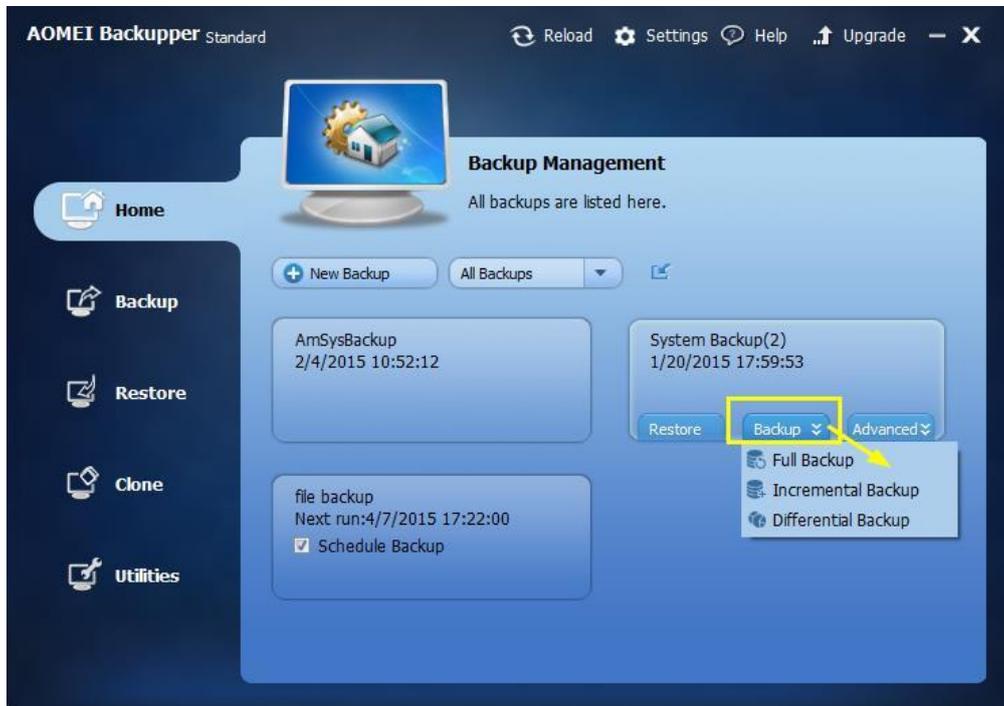
Advanced: Clicking the "Advanced" button opens a drop-down menu with further options for managing your backups as follows:
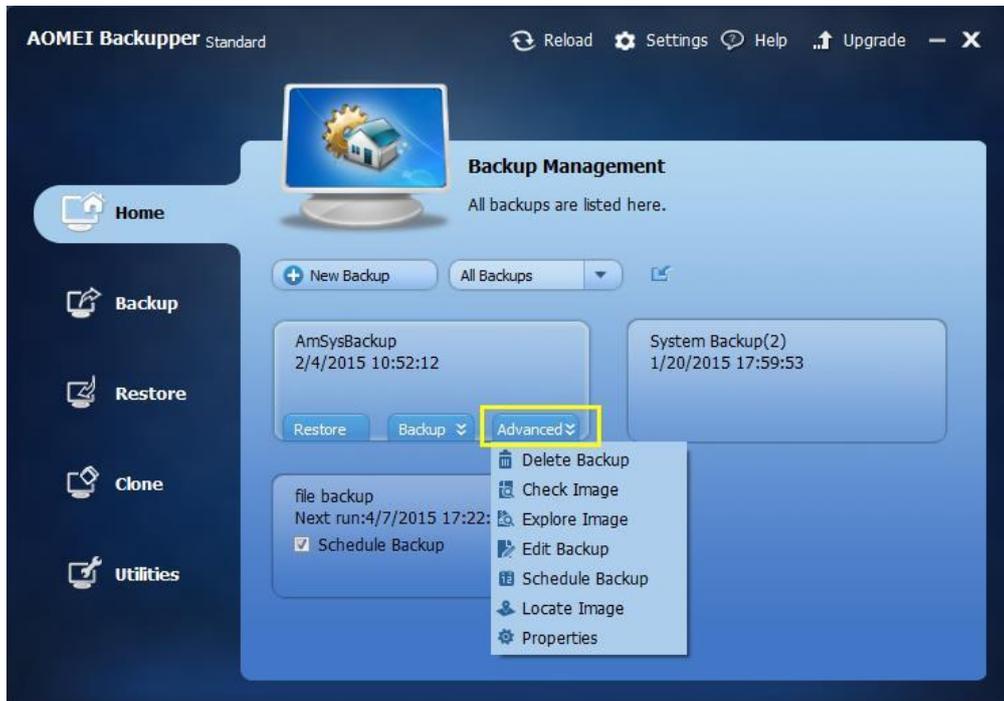
- **Delete Backup:** Deletes this backup file.

- **Check Image:** Checks the data integrity of the backup image to ensure you could successfully restore data.

- **Explore Image:** Mounts the image file to a virtual partition to enable you to explore your data in "My Computer".

- **Edit Backup:** Enables you to add files/folders to a backup task, or remove from a backup task.

- **Schedule Backup:** Reveals the schedule to backup data automatically with Daily, Weekly and Monthly Mode.

- **Locate Image:** Opens the folder where this backup located in.

- **Properties:** Shows more detail about this backup. It contains some general information of this backup.

Incremental and Differential

As time progresses, there will be more and more data and files stored on your system drive, data partitions, etc. In order to ensure data integrity, it is important to back up changed data regularly.

There are 3 options available: **Full**, **Incremental** and **Differential** Backup. The following paragraphs describe the differences, and can help you decide your backup plan:

Tips: For a step-by-step guide with screenshots displaying how to perform an Incremental or Differential backup, please click here: **How to Do Incremental and Differential Backup**.

Full Backup

A full back up takes a snapshot of all the data on the selected folders, partitions or hard disks at the time the backup is performed, and saves it to an Image file. A full backup is always the basis of any incremental and differential backup. A Full Backup can be used to restore all the files and folders in its image, to the state when the image was created.

Once you have performed a Full backup, you can create Incremental and Differential backups. These are much quicker to create than a Full backup of the same data and the images created are smaller
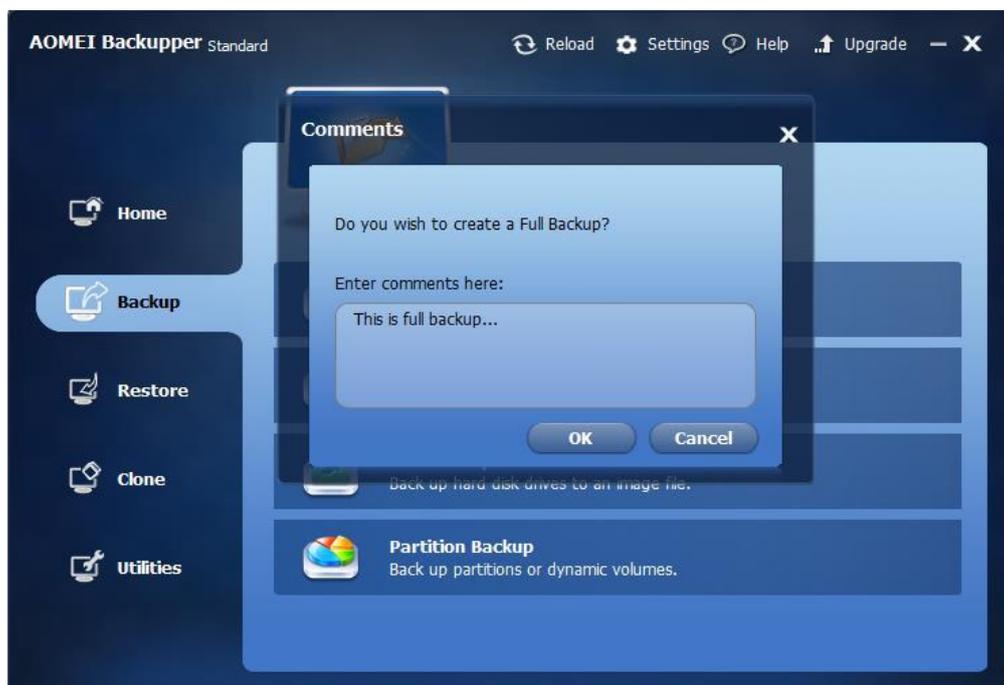
Incremental Backup

An Incremental backup takes a snapshot only of the changed and newly added files based on the previous related backup, be it a full or incremental backup. Data that have not changed will not be

backed up. A Full Backup must exist as the start point of a series of incremental backups. A typical set would be, in time sequence:

Full Backup, as basis

Incremental Backup 1

Incremental Backup 2

…..

Incremental Backup n

All the image files of incremental backup series share a sequential relationship.

All data can be recovered to the state when any Incremental Backup was done, by recovering the parent Full Backup, followed in turn by each Incremental Backup in between.

If any one of the incremental image files in the sequence is damaged or missing, subsequent image files will be invalid.

"Full Backup + regular Incremental Backup" is the most commonly-used backup scenario.
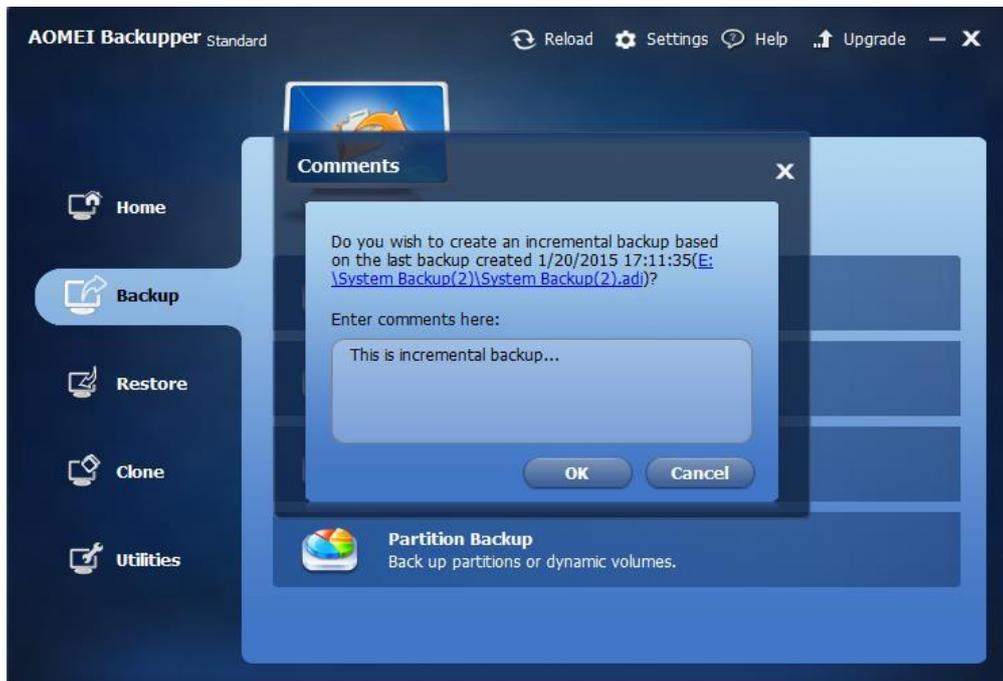
Differential Backup

A Differential Backup is always directly related to its originating Full Backup. It will back up all data added and changed since the Full backup was done. If one of the differential backup image file becomes damaged or lost, it will not affect others.

All data can be returned to the state when the Differential Backup was done, by recovering the parent Full Backup, followed by the required Differential Backup. As time progresses, each Differential Backup will become progressively larger, because each will contain more changes made since the Full Backup was done.

Compared to Incremental back up, Differential back up can cost more time and disk space.
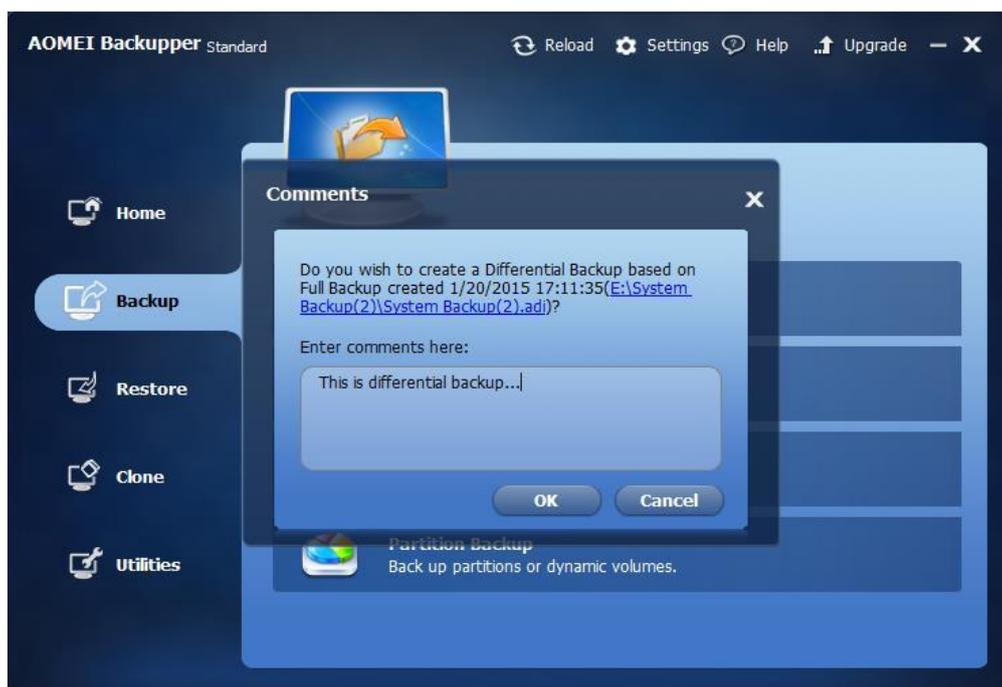
Full Backup + Incremental or Differential

With the demonstrations above, you might have found out that the method of "Full Backup + Incremental Backup" or "Full Backup + Differential Backup" will be more convenient than single full backup. Therefore, after a full backup, you can choose whether incremental or differential backup to only deal with the changed and newly added data and files. It will be more efficient.

What's more, the way of "Full Backup +Incremental Backup" has been employed more frequently than other approaches. It will only deal with the changed files since the last backup. Therefore, if you need to back up data regularly, this way will be more appreciated and time saving. The way of "Full Backup + Differential Backup" is also a good solution. However, compared to incremental backup, it will cost more time and also it needs more space to store the image file.

Backup Scheme

The Backup Scheme (or Backup Strategy) feature helps you automatically to manage and save disk space usage as a result of having many image files.

To enable the "Backup Scheme" feature:

Method 1: In the process of creating a backup task in AOMEI Backupper paid version, tick "Schedule". You will then see a "Scheme" button. Click on it to set.

Second 2: Click on the Home page, and select a backup task. Then click on "Advanced" -> "Edit Backup" -> "Backup Scheme" to be set.

Detailed Introduction of Backup Scheme:

Differential Backup Scheme

1. Always retain the latest xxx versions of backup image file. When it exceeds the number of versions, the older backup image files will be deleted automatically.

2. Differential backup scheme is similar to a circular queue. When the queue is full and if new members want to join the queue, then old members have to exit from the queue.

Example:

Differential Backup backups what has been added or changed since the last full backup. And it provides scheme for you to choose how to deal with the backup image files.

FULL(original full backup)→FULL1→DIFF1→DIFF2→FULL2 (delete DIFF1)→DIFF3 (delete DIFF2)→DIFF4 (delete FULL1)

For example, as above, we assume that you have set "3", and this means AOMEI Backupper will always retain the latest three versions of backup image file. When it exceeds 3 versions, the older backup image files will be deleted automatically. So if here are FULL1.adi, DIFF1.adi, DIFF2.adi and after creating backup FULL2.adi, then the older differential backup DIFF1.adi will be deleted automatically.

Incremental Backup Scheme

1. At least retain the latest xxx versions of backup image file. When it reaches to the number of versions, the previous xxx versions of backup image file will be deleted automatically.

2. Incremental backup scheme is more similar to a group queue. The former group has to be removed from the queue when the later group meets the requirement of joining the queue. (A group is composed of a full backup and multiple differential backups)

Example:

Incremental backup scheme allows you to decide newest group of backup image files you are willing to keep and when to delete those you don't want to keep.

FULL (original full backup)→FULL1→INC1→INC2→FULL2→INC3→INC4(delete FULL1, INC1, INC2) →FULL3→INC5→INC6 (delete FULL2, INC3, INC4)

For example, as above, we assume that you have set "3", and this means you have chosen to keep 3 latest versions of image file. And 3 versions of image files will be regarded as a group. When

next group is created, the older group will be deleted automatically. So if here is a group of backup image files as FULL1.adi, INC1.adi, INC2.adi and after creating a new group of backup as FULL2.adi, INC3.adi, INC4.adi, then the older backup group including FULL1.adi, INC1.adi, INC2.adi will be deleted automatically.

Space Management Scheme

1. Please specify for the scheme that creating a full backup after xxx versions of differential backup being created.

2. This scheme will run as the differential backup way and it is the extension of differential backup. If the program detects insufficient space when performing backup, it will automatically delete old backup image files to free up disk space for storing new backup image files. Note: To manage space effectively, the program needs to create a full backup when the number of differential backup version reaches to certain value. We suggest you to create a full backup after 10 (or specify an upper value) versions of differential backup being created.

Example:

Space Management Scheme help you manage your backup image files by making your own settings. It can automatically delete older versions of image file when there is not enough space.

FULL (original full backup)→FULL1→DIFF1→DIFF2→DIFF3→FULL2

For example, you can set the scheme to create a full backup after 3 versions of differential backup being created like above.

FULL (original full backup)→FULL1→DIFF1→DIFF2→FULL2→DIFF3→DIFF4→FULL3 (not enough space, so delete DIFF1)→(since the space still is not enough, delete DIFF2)→DIFF5→DIFF6 (not enough space, so delete FULL1)→FULL4 (not enough space, so delete DIFF3)

For example, as above, we assume you have had several versions of backup image file FULL.adi, FULL1.adi, DIFF1.adi, DIFF2.adi, DIFF3.adi, FULL2.adi, DIFF3.adi, DIFF4.adi. And when you create a new full backup FULL3.adi, the program detects that there is not enough space, then Backupper will delete DIFF1.adi. And if there is still not enough space, Backupper will continue deleting DIFF2.adi. Then, it comes to another differential backup DIFF5.adi. Later when you create DIFF6.adi, and there is not enough space, it will delete FULL1.adi. Next you create a new full backup FULL4.adi, and "not enough space" again, then DIFF3.adi will be deleted automatically. Finally if there is still lack of space, Backupper will tell you "here is not enough space" to let you do a manual cleanup or reporting error.

Full Backup Scheme

1. Always retain the latest xxx versions of full backup image file. When it exceeds the number of versions, the older full backup image files will be deleted automatically.

2. Full backup scheme will retain the number of backup image files you specified. When it reaches to the specified number, the program will automatically delete old backup image files.

Example:

Full backup scheme provides you the function of manage the existing backups, which are to make decisions on which to keep and which to delete.

FULL (original full backup)→FULL1→FULL2→FULL3→FULL4 (delete FULL1)→FULL5 (delete FULL2)→FULL6 (delete FULL3)→FULL7 (delete FULL4)

For example, as above, we assume that you have set "3", and this means you want to always retain the latest 3 versions of full backup image file. When it exceeds 3 versions, the older version of backup image file will be deleted automatically. So if here are FULL1.adi, FULL2.adi, FULL3.adi, and after creating a new full backup FULL4.adi, the older backup FULL1.adi will be deleted automatically.

Other Scheme

After the next backup finishes and create a new image file, the program will automatically delete all the previous image files of the backup task when they remain more than XXX Days/Weeks/Months.

FULL(original full backup)→FULL1→INC1→INC2→FULL2 (delete FULL1, INC1 and INC2) →INC3→INC4→FULL3 (delete FULL2, INC3 and INC4)

There are two ways to delete all the previous versions of backup image file:

- **By version**: For example, we assume you have these versions of backup file as above and you have selected "3 versions" , then after creating FULL2.adi automatically, then FULL1.adi, INC1.adi and INC2.adi will be deleted.

- **By time**: For example, we assume you have several backup as above and you have selected "3 days". If FULL1.adi, INC1.adi and INC2.adi are created three days ago from today, after creating FULL2.adi automatically, these previous versions (FULL1.adi, INC1.adi and INC2.adi) will be deleted.

Edit Backup

This option is listed in the Advanced drop-down menu on every backup task management, so you can edit the backups after you create the task completely. You can change the task name, or change the destination to save the image to other locations by using this feature.

To Edit Backup

1. In the Home Screen, all the backups are listed there. Move the cursor to the backup task which you want to modify, click **Advanced** to open the drop-down menu, then select **Edit Backup**.

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2. On the top of the pop-up window, click the edit button behind the Task Name, then type the new name in the editable box, click **OK**.
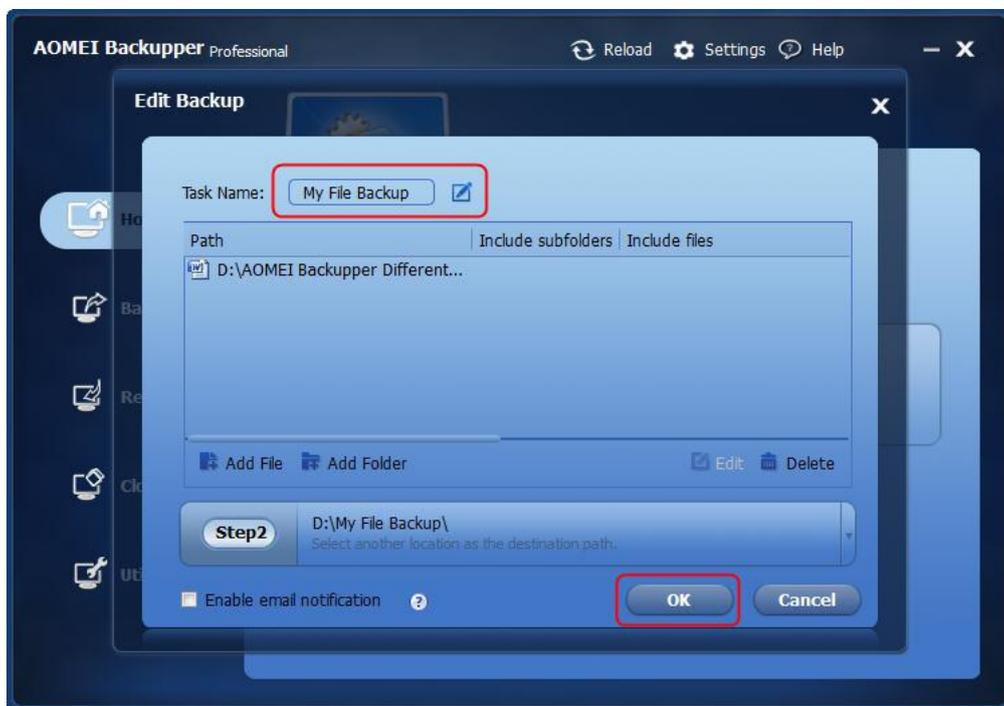
3. If the selected backup task is a File/Folder backup, click **Add File/Add Folder** or **Edit** the source. For other backups, the source cannot be edited.
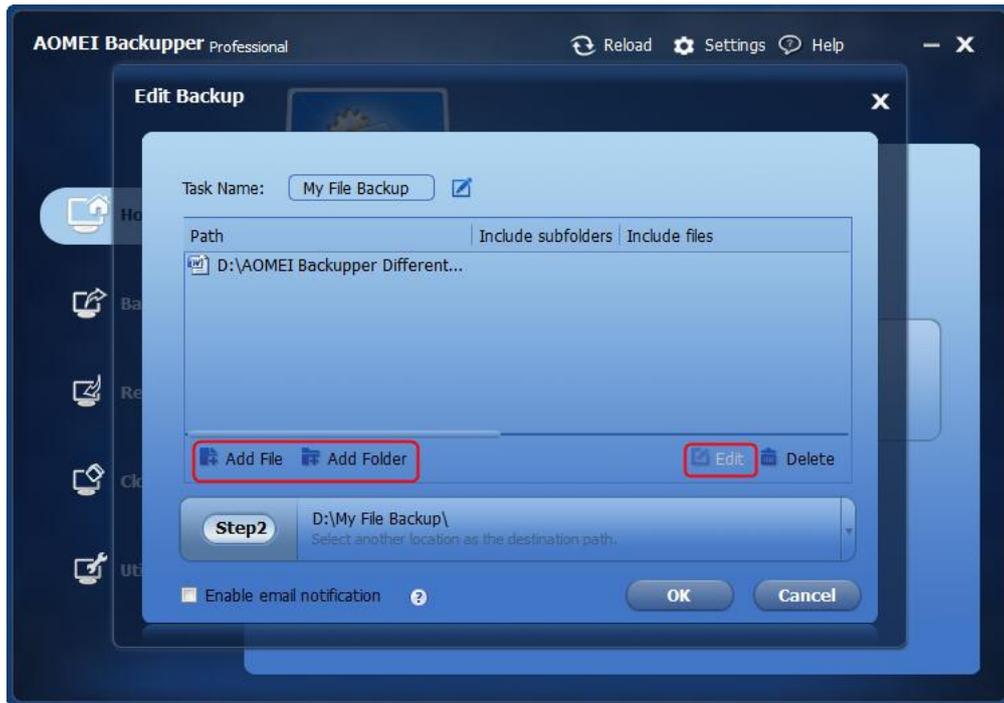
4. Click the Step2 button; you can browse another path as the destination location to store the backup image.
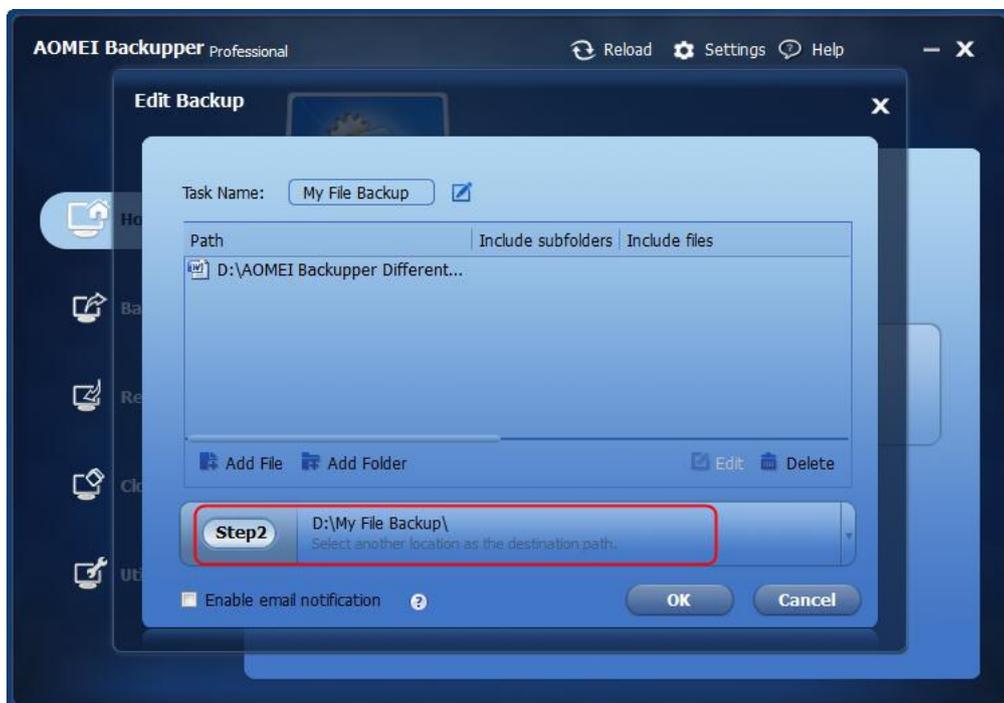
5. Click **OK** to save all the changes.

Tips:

- In the Edit Backup window, there is an option Enable email notification in the lower left corner, check this option, you will receive backup result via emails, learn more about email notification, please visit this site: Email Notification

- If you are using AOMEI Backupper paid version, you can configure backup scheme to manage disk space.

- If you change the destination location where you saved the images, all the images will be moved to the new location and this will take some time for the move operation.

- Only File/Folder backup tasks offer the options to edit or add the source files/folders. For system, disk and partition backup, the source cannot be edited.

Backup Options

Advanced settings for your current backup task

At the top of the main screen you will see a symbol marked "Settings". There you will find the default parameters that will be applied to every new backup task.

You can individually customize the global parameters when backing up data, including the compression level, encryption, the way the image is to be split to fit the storage media in use, intelligent sector, and VSS.

- Compression
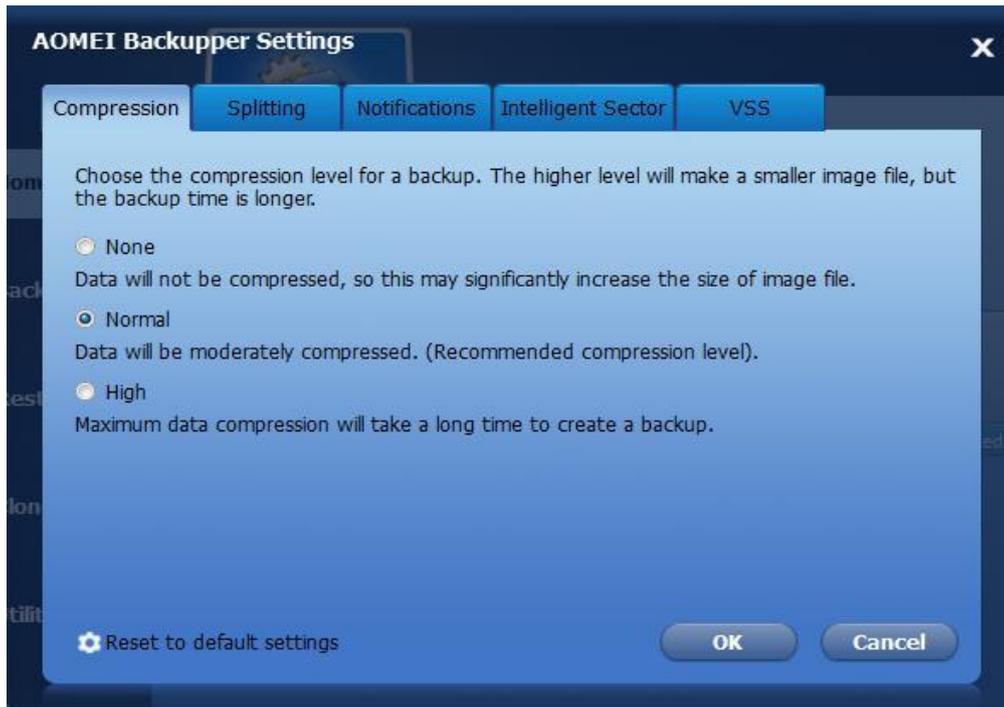
- Encryption

- Splitting
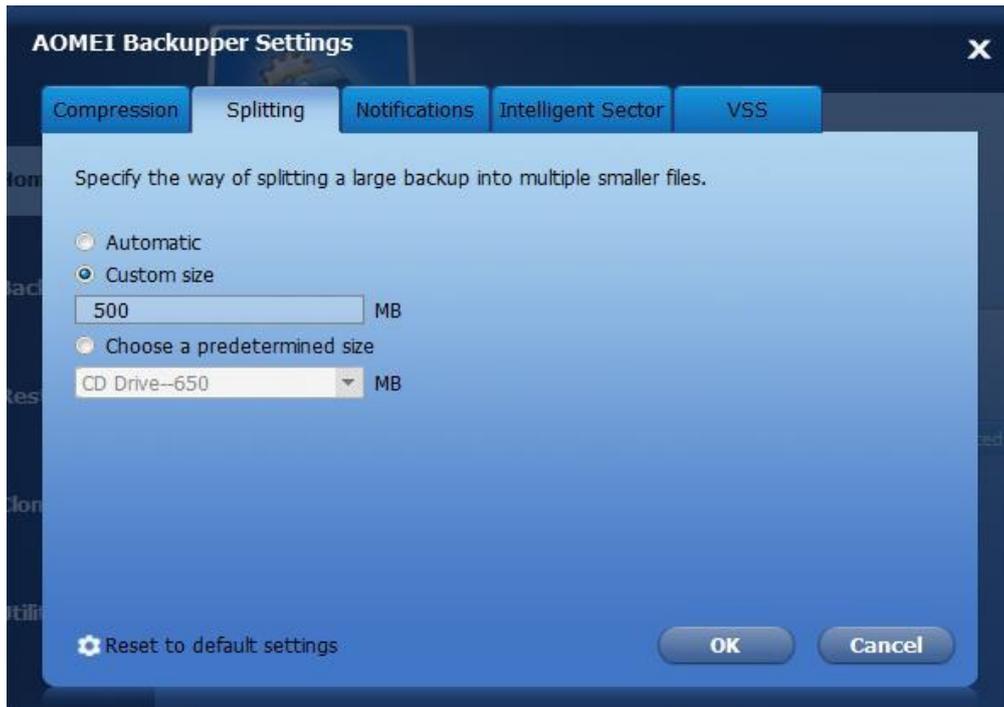
- Email Notifications
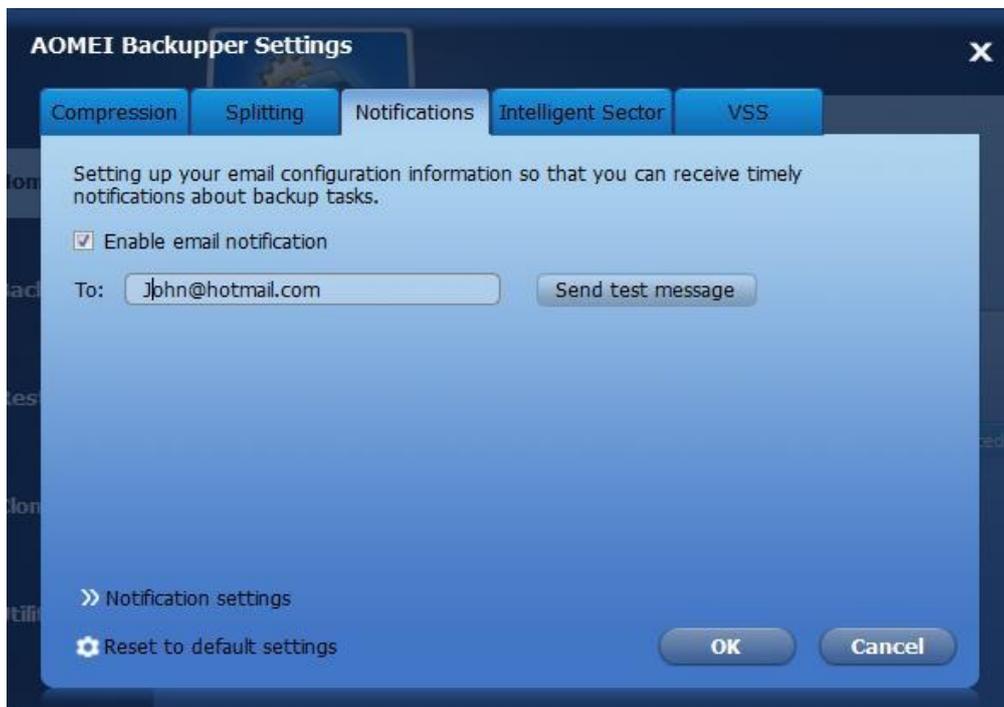
- Intelligent sector
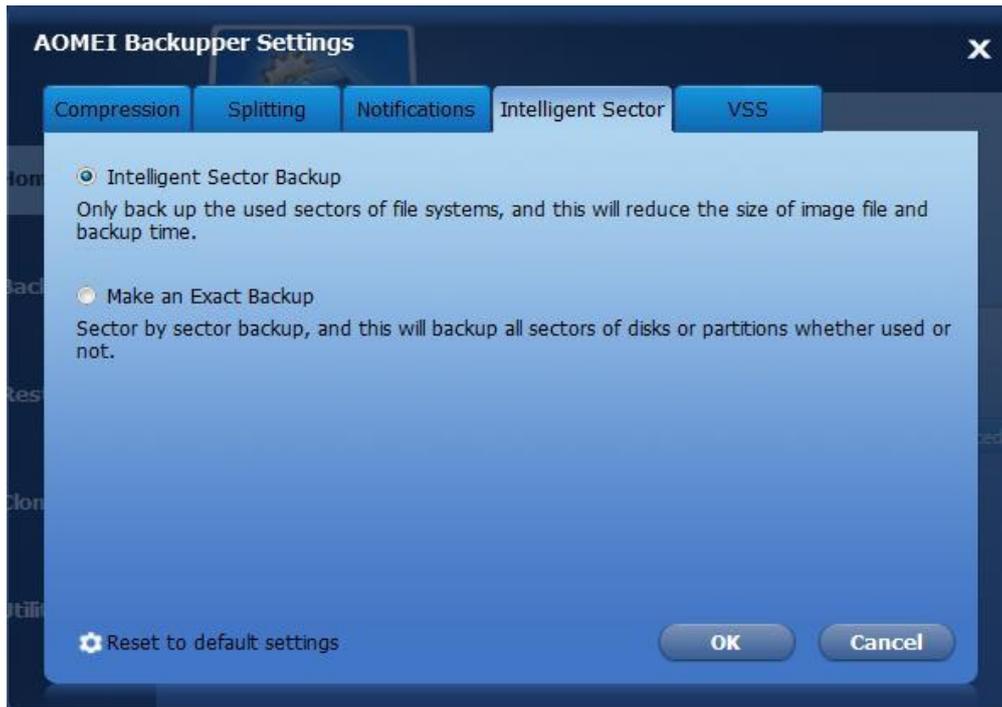
- Use VSS
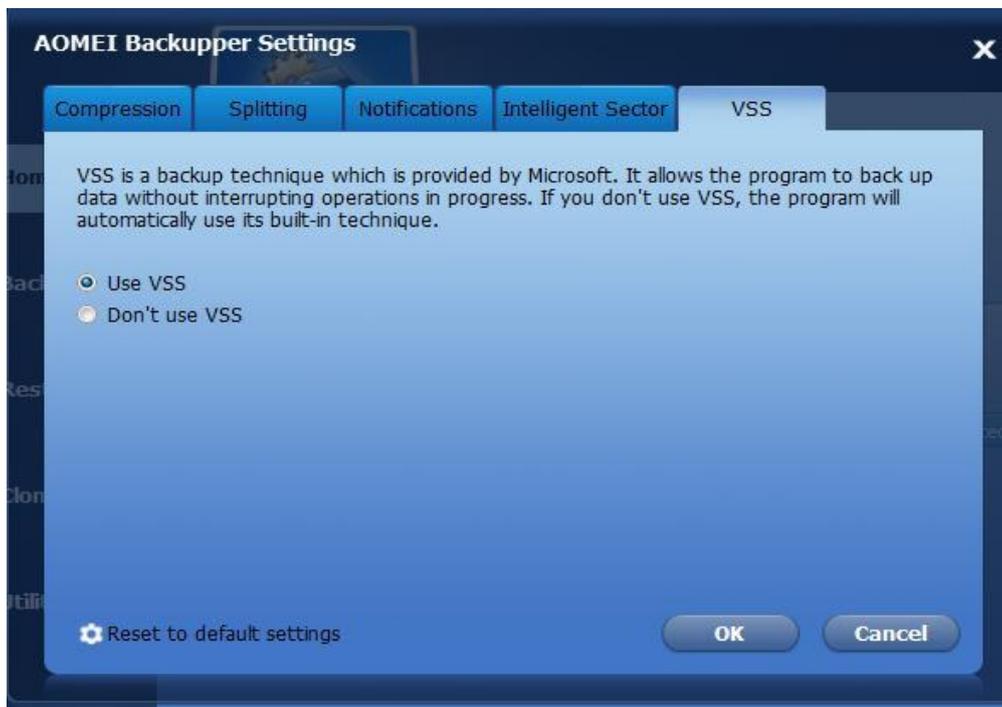
- Comments

Compression

Determine a proper compression level for your current backup task. The Normal option is selected by default and is recommended, but you may also select Higher or None. See more details as follows:
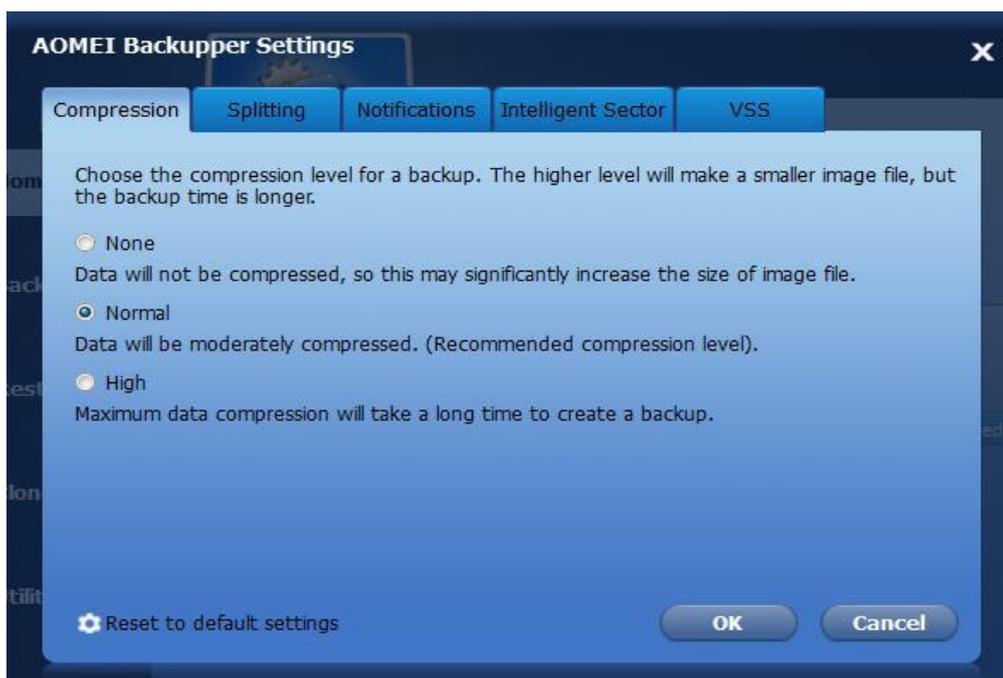
- **None:** Data will be imaged without any compression, so the image file size will be equal to your original data.

- **Normal:** Data will be compressed to a moderate level. It is a recommended compression level. (Default)

- **High:** A much higher compression level is used during the backup. The image file will be smaller than other levels but the backup will take longer to complete.

Please note some kinds of file are essentially compressed, such as .jpg, .pdf or .mp3. If your backup contains many such files, the generated image file might not significantly decrease even when High compression level is selected.

Encryption

Because an image file could be accessed and restored by anyone, in order to protect your data from unauthorized access, you can encrypt it by setting a password. Enter your password in the password field to encrypt the data. A maximum of 64 characters is allowed.

1. Tick the small box to enable the encryption for backups.

2. Type in your password in the first field and then retype it in the second field to confirm it.

📝 **Notes:**

- You must remember your password or it will be impossible to recover your backup. The methodology is not simple password protection; the password is used as a key by the industry-standard AES (Advanced Encryption Standard) cryptographic algorithm, which will totally encrypt all data in the image.

- Currently the program does not support changing the password of a password-protected backup after the backup was created.

Splitting

Image files can be split into several smaller files to fit into different smaller storage media. The program supports automatically splitting one image file into several parts during the backup process.
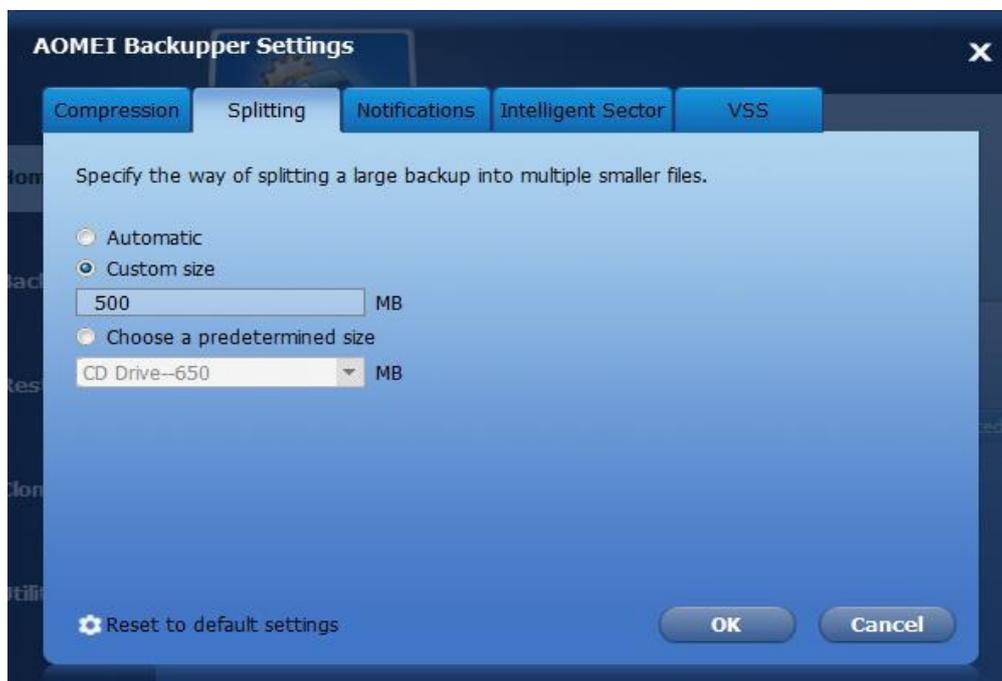
- **Automatic:** The split size depends on the file system of the destination storage medium.

- **Customize size:** Input a proper value and the image will be split to this size. Note that the minimum file size is 50MB.

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- **Choose a predetermined size:** Choose the storage medium type in the drop-down menu. The program will then split the image file to suit your medium.

Email Notification

In unattended operations, you may wish to be advised about the results of backup plans. This function can be used to send a report of the execution result to an email address you provide.

To configure Email Notification:

Click **Settings** in the menu and select **Email** or before you start the backup, you are able to set email notification by configuring **Backup Options**, as follows:

Tip: AOMEI Backupper Standard version does not support send email with customized SMTP. If you want to send email that is configured for customized SMTP server, please download and install AOMEI Backupper Professional version.

> **To**: Enter an email address to which the program will send the execution result.

> **Don't use AOMEI SMTP server**: By default, the program will choose AOMEI SMTP server

to send the report. If you check out this option, you will need to define the SMTP server according to which mail service you use.

> **SMTP Server**: Specify the email SMTP server depending on your mail service.

> **Port**: Enter the port number of your email server, e.g. 25.

> **Encryption**: Support plain text, SSL and TLS.

> **SMTP authentication**: Select this if your email server requires SMTP authentication.

> **Notification Settings**: Specify the conditions for sending email notification.

> **Test:** Verify if your settings are correct or not. AOMEI Backupper will send a test message to your mailbox.

Tips:

- By default, this program will choose AOMEI SMTP server to send you an email report, so that you don't have to configure Simple Message Transfer Protocol (SMTP) if you are unsure of the settings.

- Notification Settings is a multiple-choice, so check out all the options. You will get a report irrespective of whether the operation completed successfully or failed.

Intelligent Sector

Intelligent Sector Backup: Only backs up the used sector of file systems. This will reduce the size of image file and backup time.

Make an Exact Backup: this method is also called **Sector by Sector Mode**. This will back up all sectors of the disks or partitions whether they are in use or not.
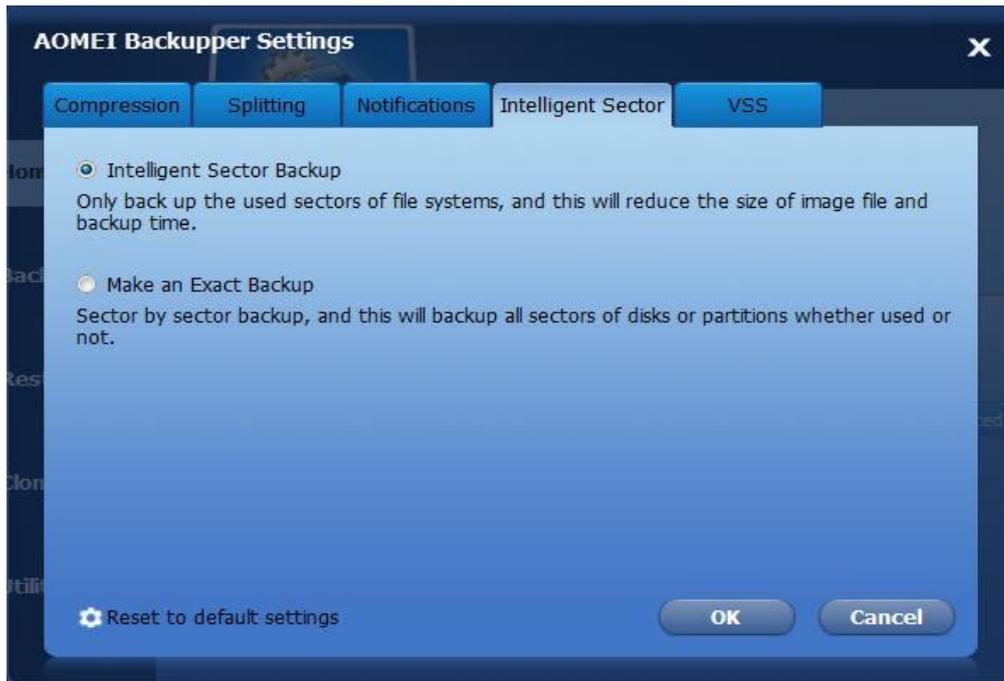
Use VSS

VSS is short for Volume Shadow Copy Service. This technology allows you to continue working while the backup is in progress. If you don't use VSS, the program will automatically use the built-in technique instead of live backup. Choose one of the modes to begin your backup task.
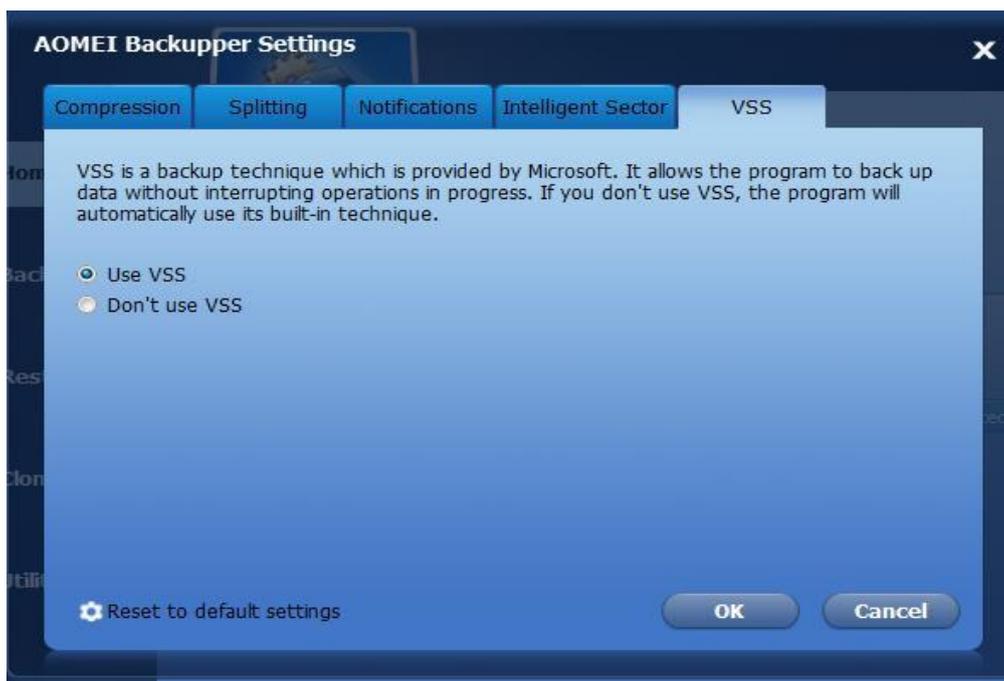
![note icon] **Note:** We highly recommend you to use the VSS service.

Comments

In this field you can write a comment of up to 1024 characters describing the backup task to remind you more about what the backup is, and to distinguish it from others.
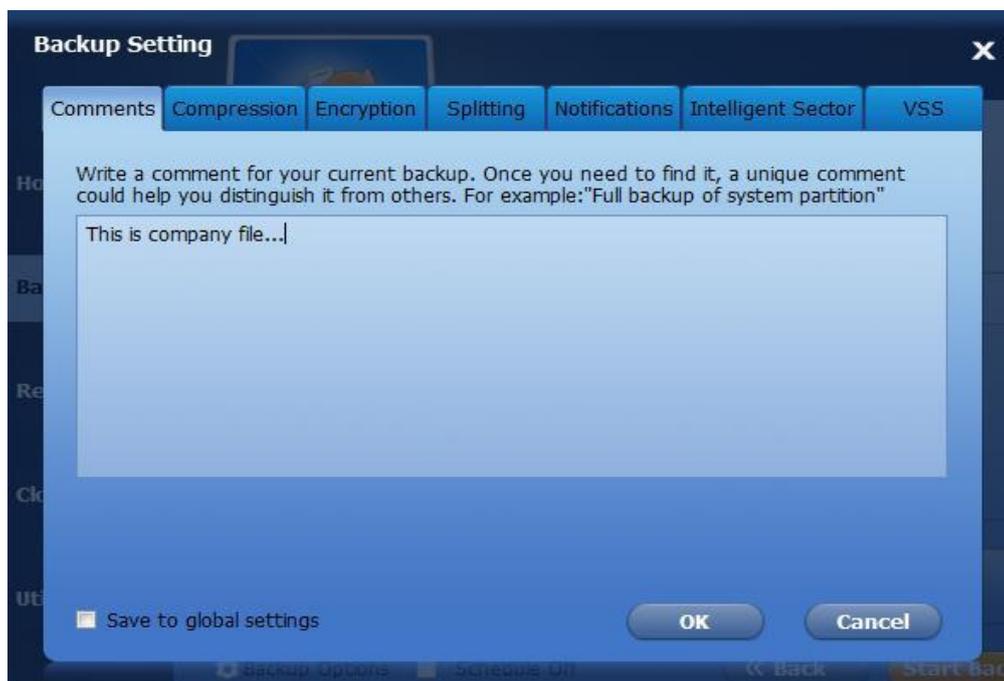
Restore

If you encounter unexpected problems, such as a system crash, data loss, disk corruption or failure, you can easily recover all your data by restoring it to its original state from the backups.

Files and Folders Restore

If your original files/folders are lost or damaged, with the help of AOMEI Backupper, you can use the **File Restore** feature to restore them to their original state at the time you backed them up into an image file.

To restore files/folders:

1. In the left tab page, select **Restore** and select the file backup item that you want to restore from the list box, then click **Next** to continue.
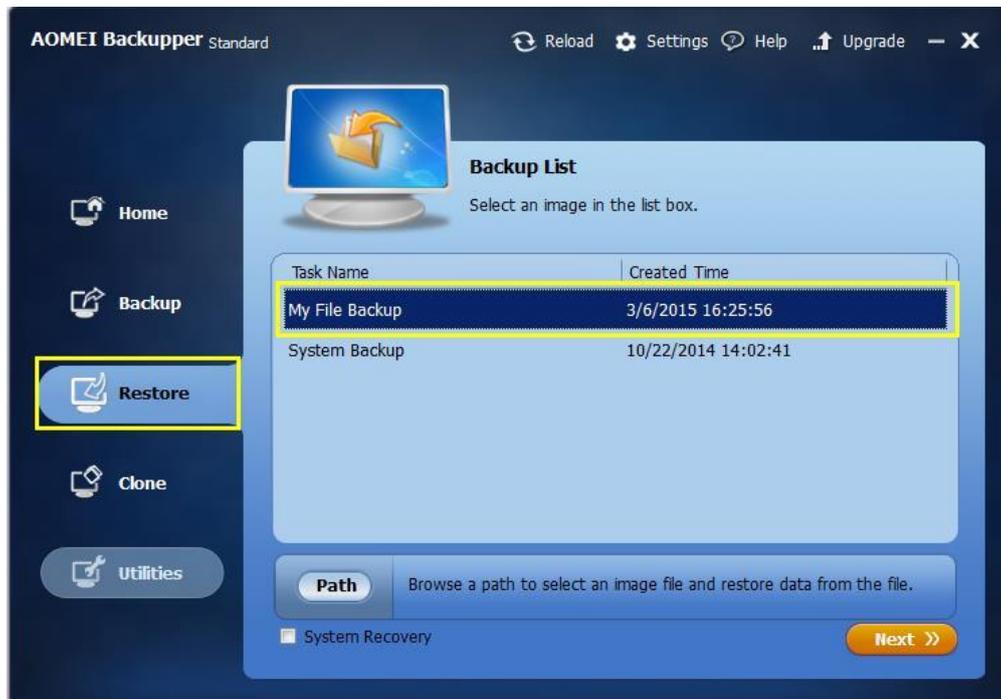
2. Select a point-in-time from the list box, and click the **Next** button. Here, Backup type, Created time and Backup description will help determine the proper point-in-time.
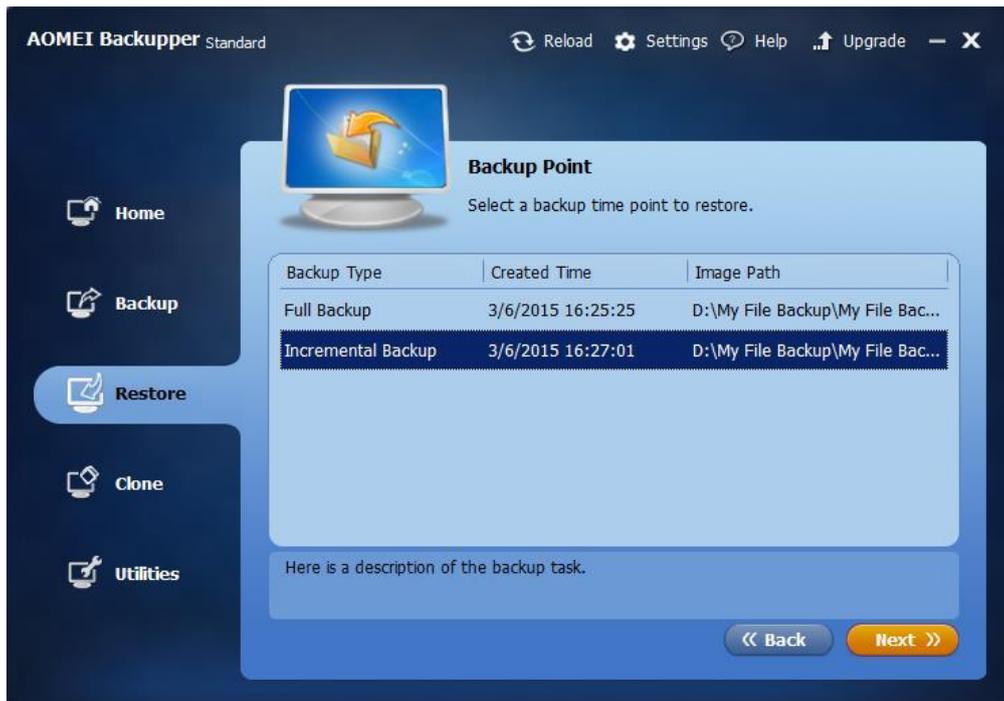
3. Select the files or folders that you want to restore, and click **Next**.

4. Select a destination path to save the files. You can choose whether to "Restore to original location" or "Restore to a new location". You may also tick "Replace existing files" to overwrite existing files with the same name.

5.   Click **Start Restore** to execute this task.

For a more detailed guide with screenshots, see: How to Do Files and Folders Restore.

Tips:

- Some files may be in use by other programs exclusively, and may not be overwritten. In that event AOMEI Backupper will prompt you; you just need to follow the prompts. You could consider restoring to a new location to solve the problem.

- When backing up files, AOMEI Backupper automatically backs up the NTFS files' permissions. You can check the "Restore NTFS Permissions" option in order to make it easier to set file permissions during the restore process.

System Restore

If your system has crashed or cannot boot, restoring your system from a system backup is a better solution rather than reinstalling the OS.

To restore system:

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1. In the left tab page, select **Restore** and then in the left bottom tick the "Only show system backup" option; all your system backups will be listed. Select one and click **Next** to continue.
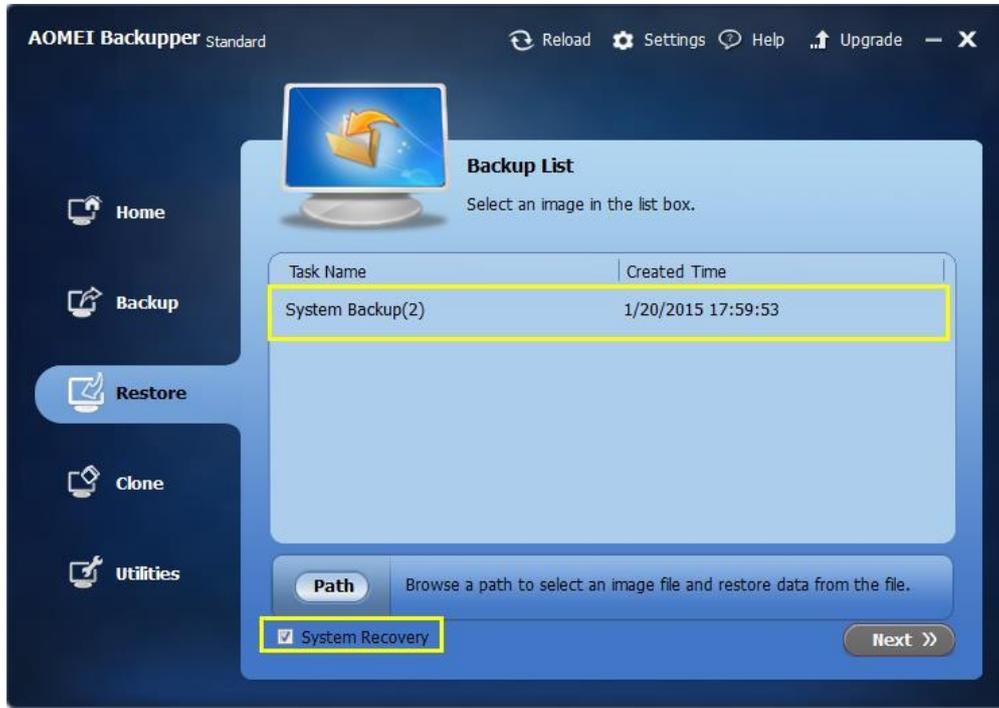
2. Select a latest point-in-time of your system backup and click the Next button, to recover your system to this state.
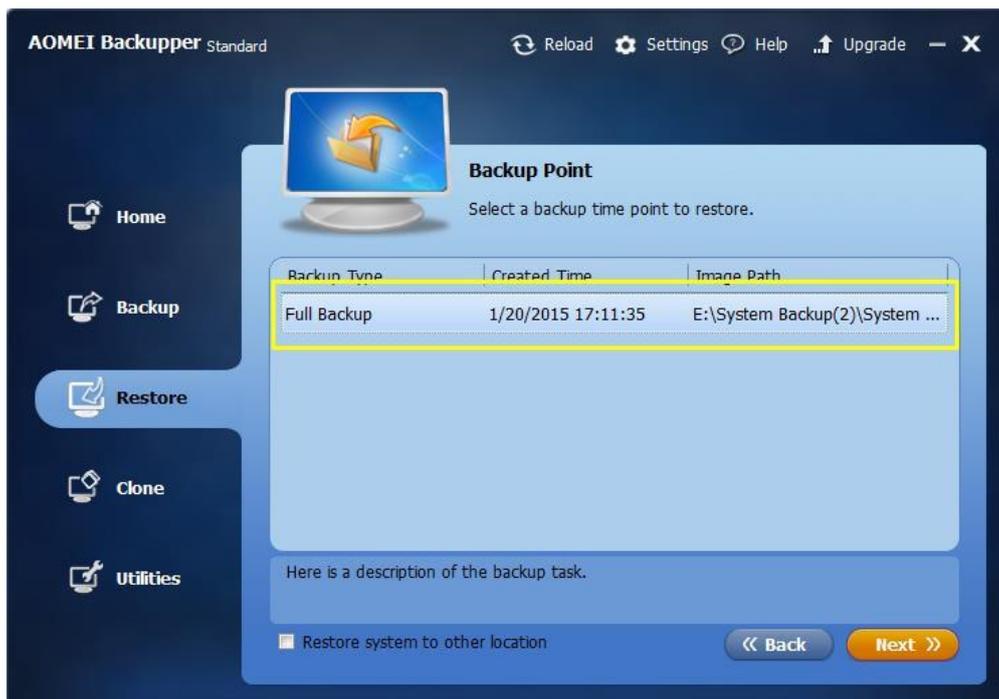
3. You must specify the destination system drive where you want to recover to if the size or location of the original system drive has changed. If they have not changed, the program will directly skip this page and enter into the next page.
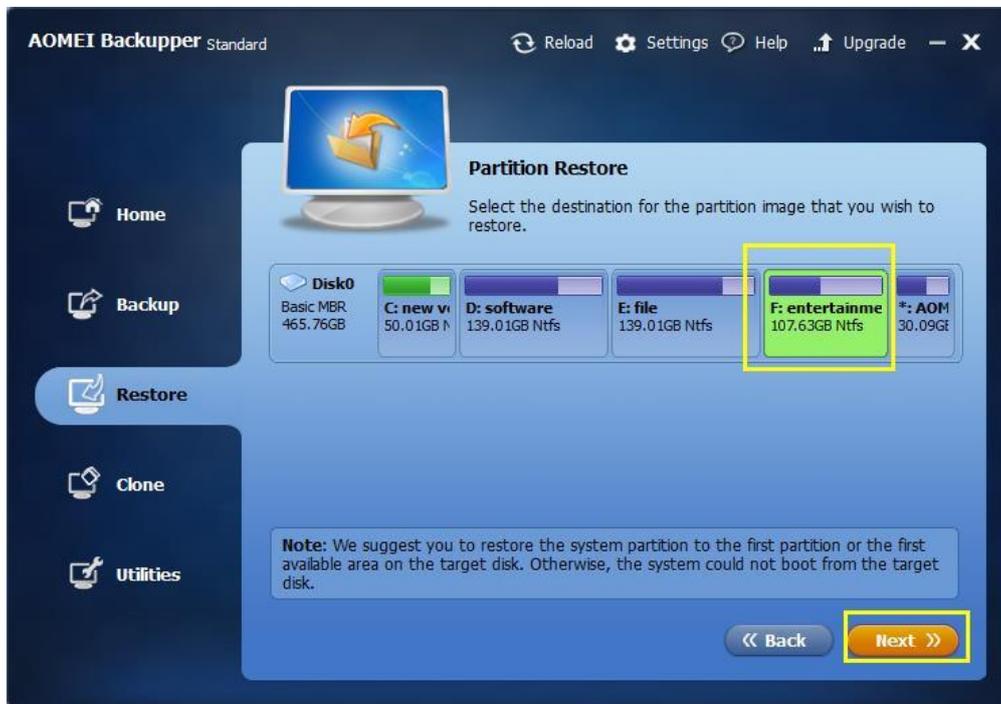
4. In the "Operation Summary" page, preview the operation that will be executed. If you want to adjust the partition size, in the left bottom click "Edit the size of partition". Generally it is not necessary to tick any other option, but you could also restore using "Sector by sector mode", or if restoring to SSD, use the option "Align partition to optimize for SSD".

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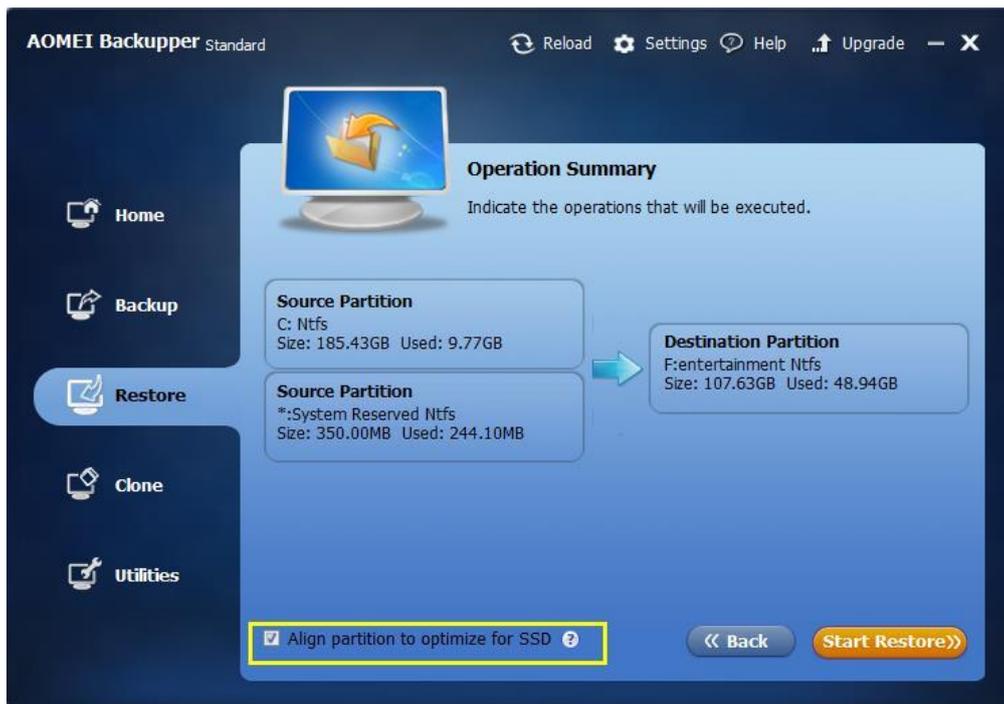
5. Click **Start Restore**. Wait for the process to complete, and then click **Finish**.
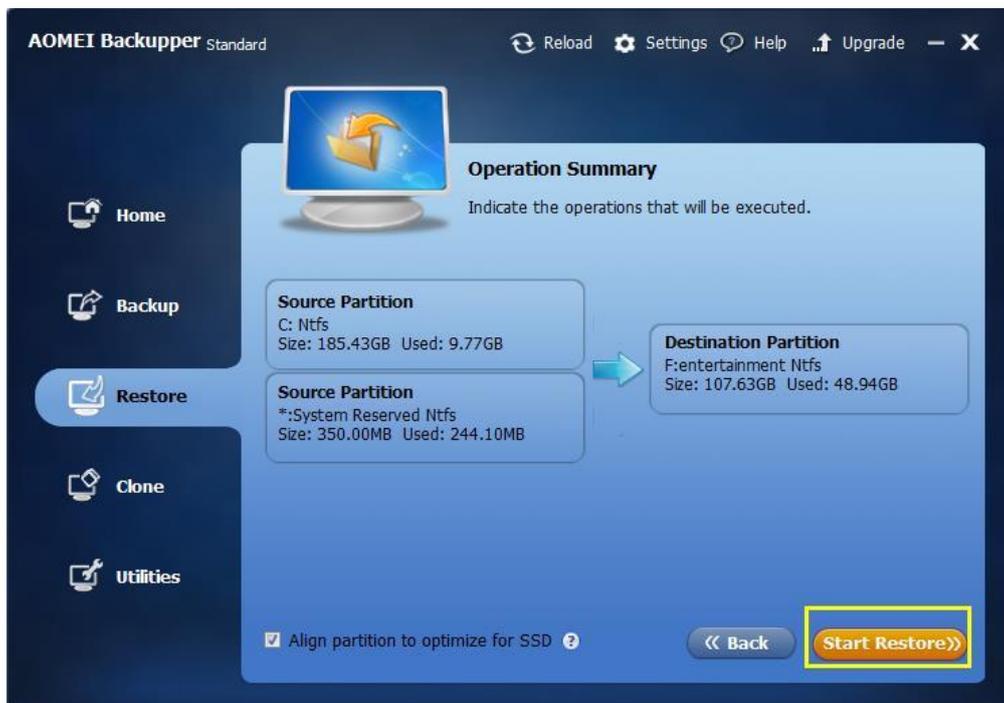
For further detail with screenshots, see: **How to Do System Restore**.

Tips:

- If you regularly back up your system, each backup will generate an image at a given time, so there may be multiple time points to choose from.

- The destination disk/partition will be totally overwritten. If the destination contains any essential data, it should first be copied to another location.

- During a system restore, the program will prompt you to restart the computer, and then enters "Restart Mode" for the restore operation.

Disk Restore

If your disk is damaged causing data or partitions loss, or is physically damaged, you could fully restore your disk to the state of the latest backup.

To restore disk:

1. In the left tab page, select **Restore** and from the list box choose the backup that you want to restore. Click **Next** to continue.
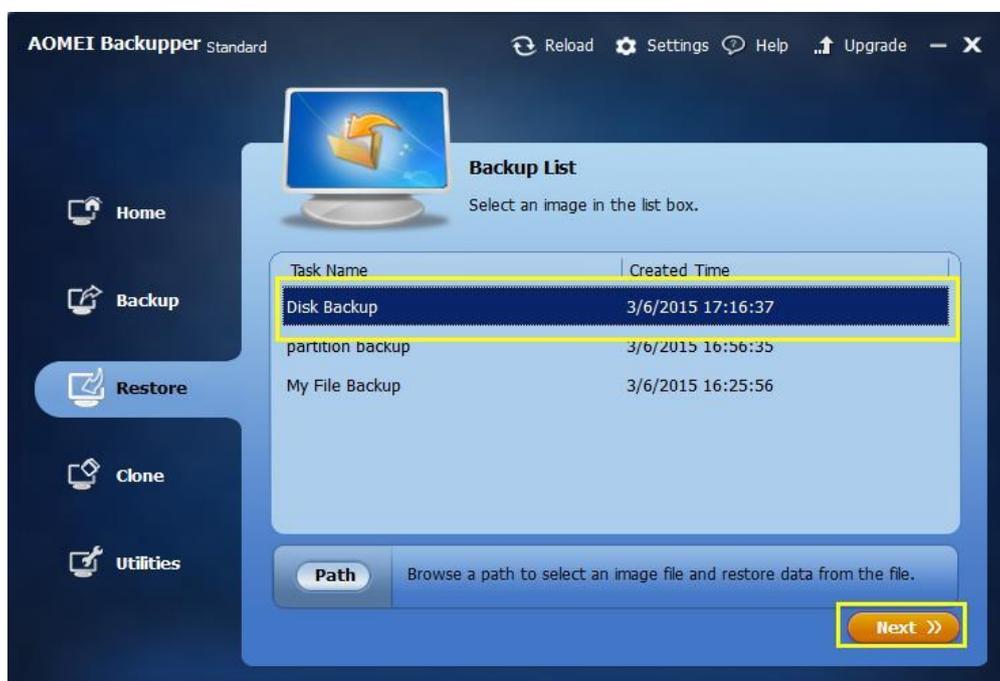
2. Select a point-in-time and click the Next button. The Backup type and Created time helps determine the appropriate point in time.
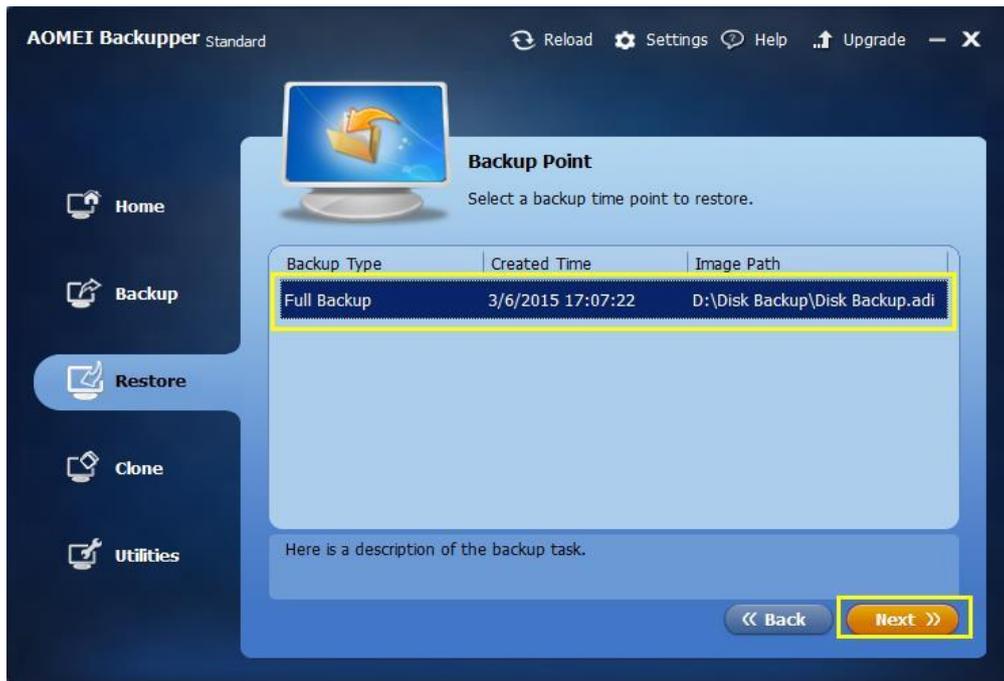
3. Select the disks/partitions in the image file that will be restored:
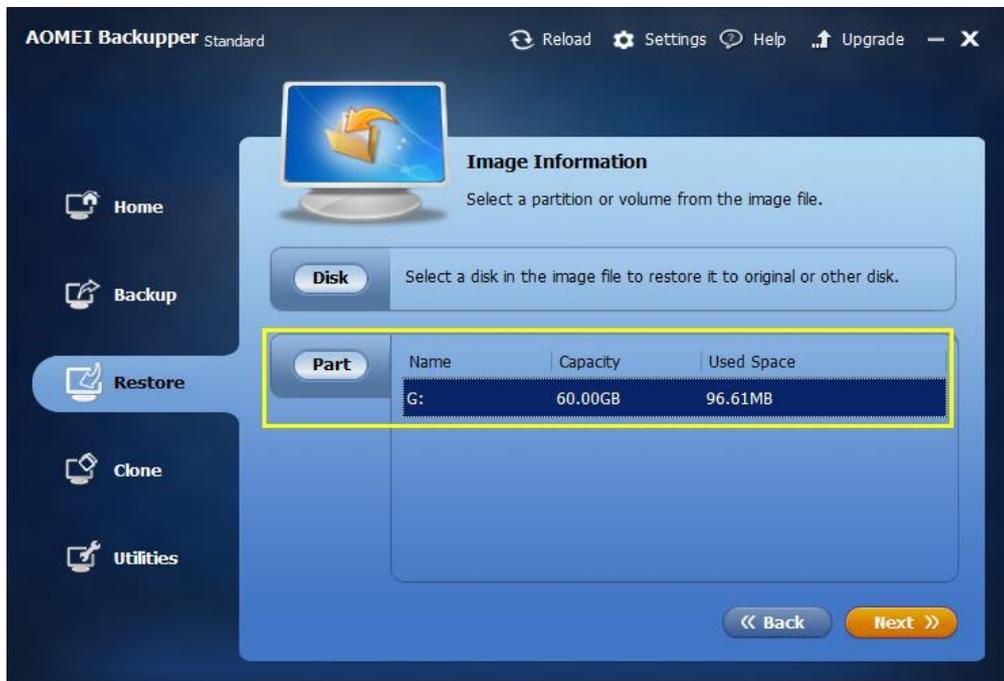
1. Clicking the Disk button will list the disks contained in this image. Select one of the disks to restore, and click **Next** to continue.

2. Clicking the **Part** button will list the partitions that contained in the image. Select one of the partitions, and click **Next** to continue.

4. Select the Destination disk/partition to restore the selected disk/partition to, and then click **Next**.
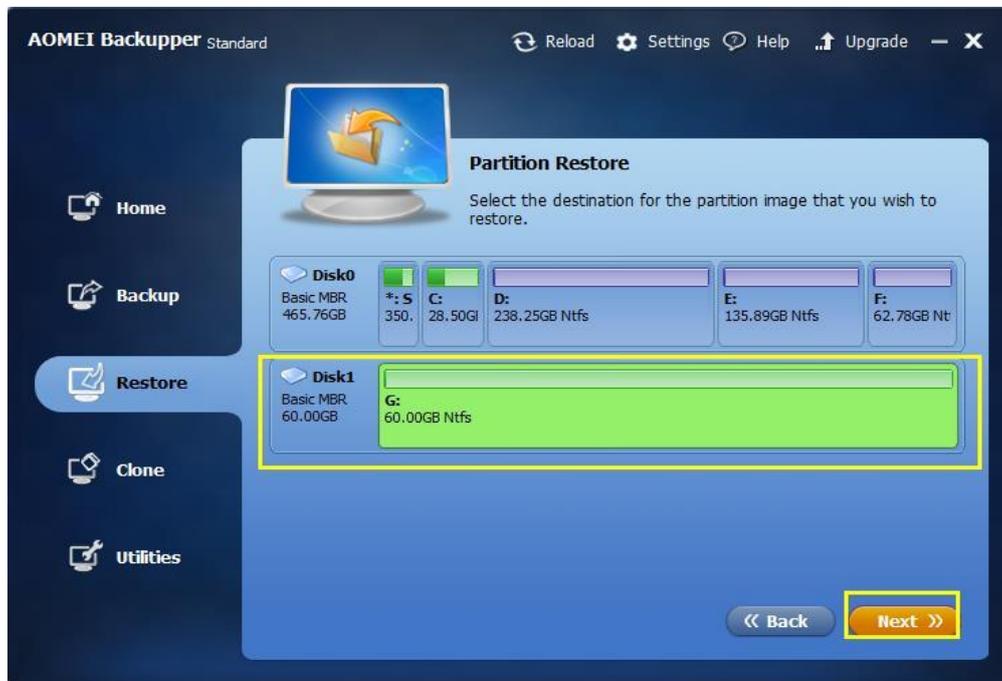
5. Now, enter the "Operation Summary" page to preview the restore operation to be executed. If you want to adjust partitions, in the left bottom click "Edit partitions on the destination disk". Other choices - "Sector by sector restore" and "Align partition to optimize for SSD" are optional.
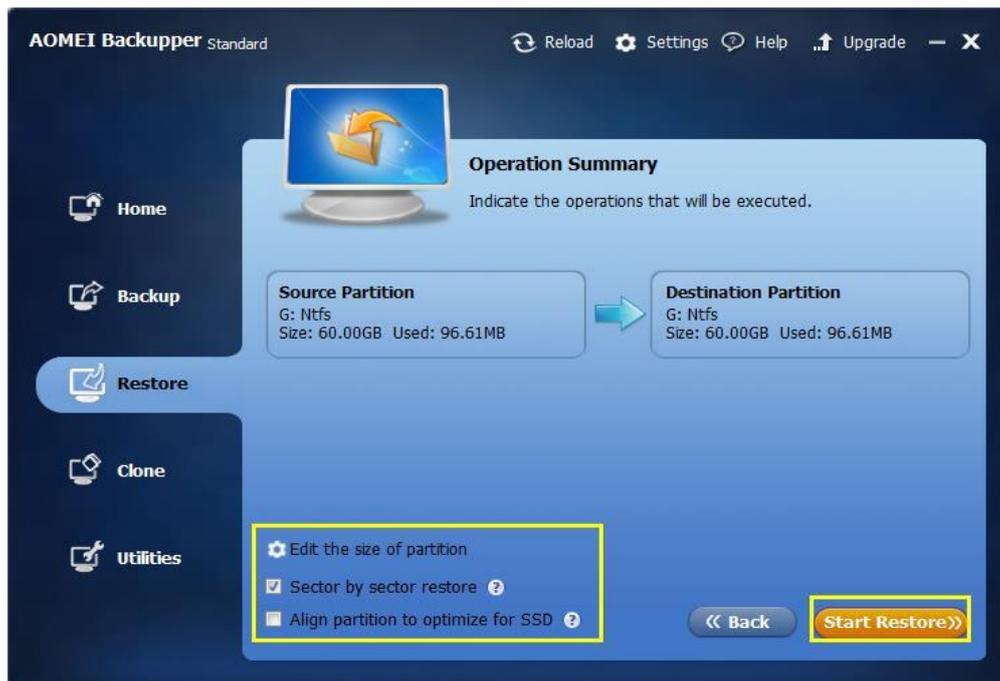
6. Click **Start Restore** and wait for the process to complete, and then click **Finish**.

For greater detail, with screenshots, see: **Disk Recovery with AOMEI Backupper**.

Tips:

- If you regularly back up your system, each backup will generate an image at a given time, so there may be multiple time points to choose from.

- The destination disk/partition will be totally overwritten. If the destination contains any essential data, it should first be copied to another location.

- If any applications are running on the destination partition/disk, AOMEI Backupper will require that you restart computer and will execute the restore operation in "Restart Mode".

Partition or Volume Restore

This feature is used to restore a particular partition or volume. If the data on the partition is damaged, you can quickly restore it to the normal state with the backed up image file.

To restore partition/volume:

1. In the left tab page, select **Restore**. From in the list box select the backup that you want to restore. Click **Next** to continue.
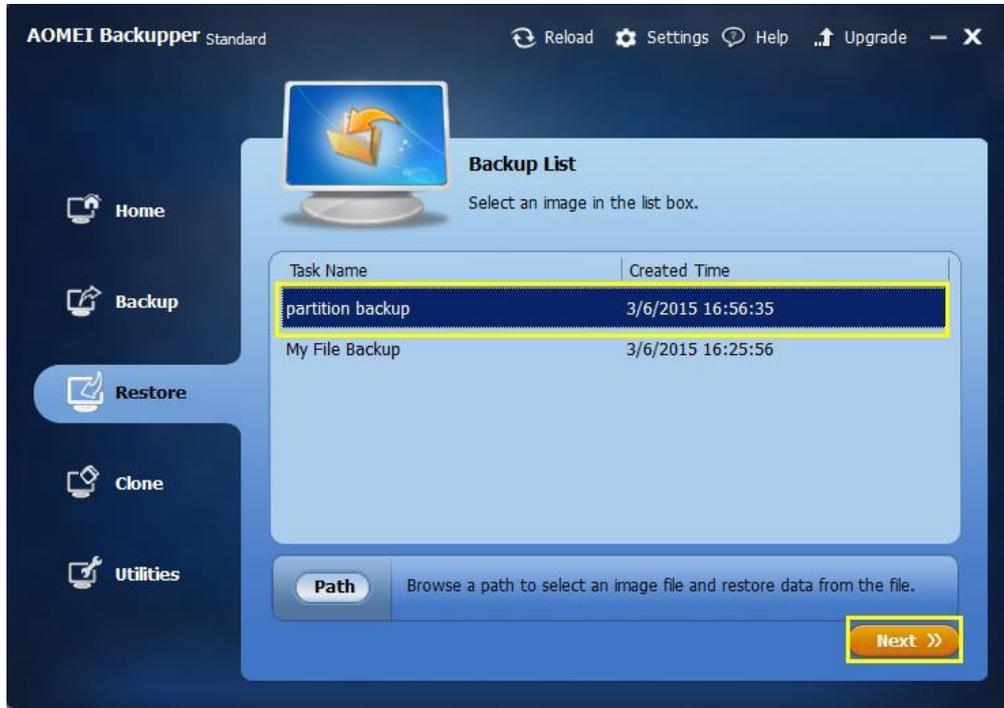
2. Select a point-in-time and click the Next button. The Backup type and Created time is helps determine the appropriate point in time.
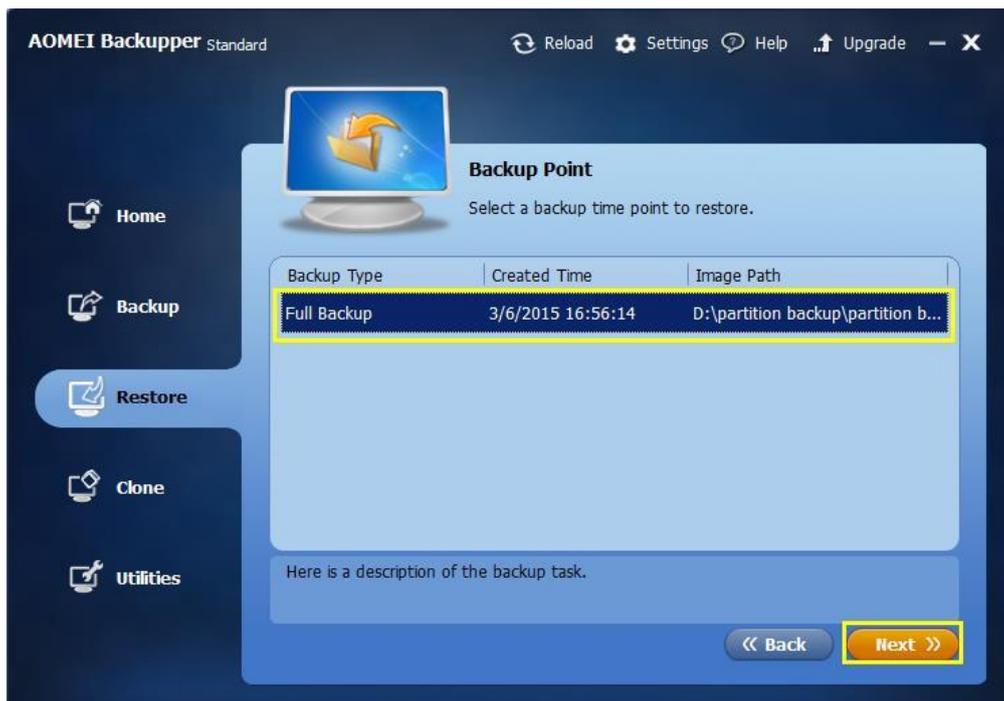
3. In this page, AOMEI Backupper lists the partitions or volumes contained in this image file. Select one of the partitions you want to restore, and click **Next** to continue.
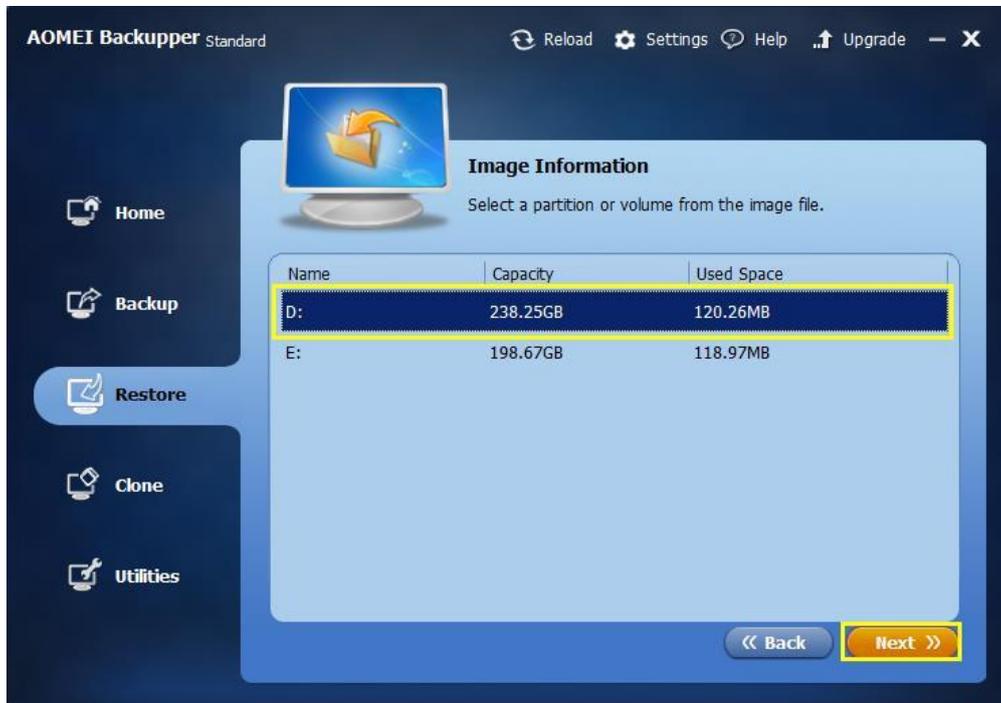
4. Select a destination partition or an unallocated space, to which to restore the selected partition in the previous step. Click **Next**.
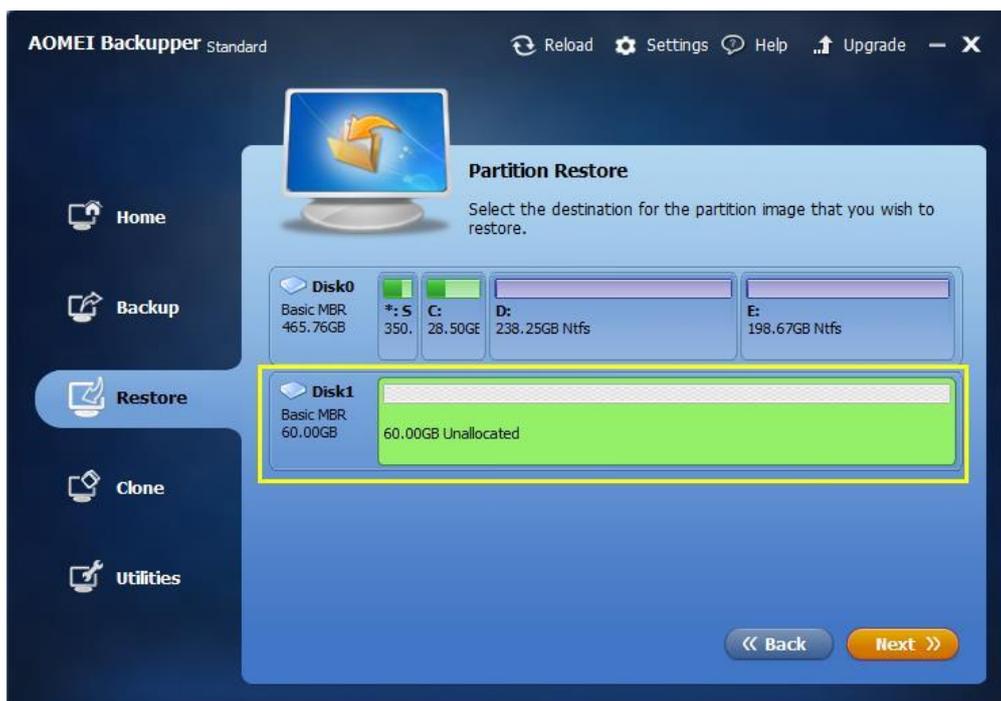
5. Now, enter the "Operation Summary" page to preview the restore operation to be executed. If you want to adjust partitions, in the left bottom click "Edit the size of partition". Other choices - "Sector by sector restore" and "Align partition to optimize for SSD" are optional.
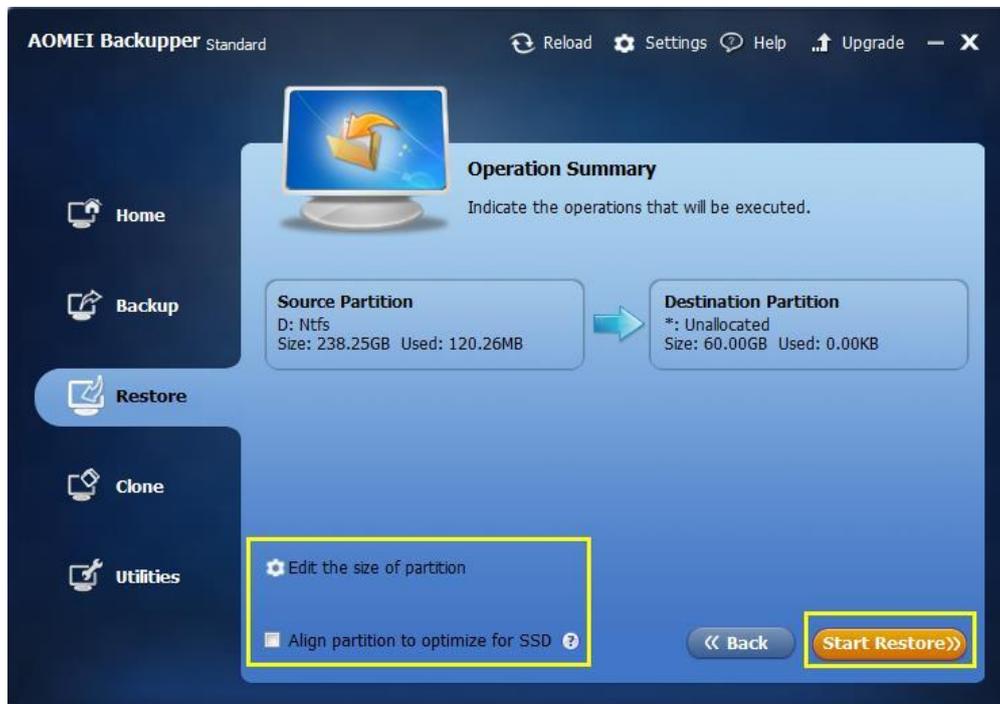
6. Click **Start Restore** and wait for the process to complete, and then click **Finish**.

    For greater detail with screenshots, see: **How to Restore Partition/Volume**.

Tips:

- If you regularly back up your system, each backup will generate an image at a given time, so there may be multiple time points to choose from.

- The destination disk/partition will be totally overwritten. If the destination contains any essential data, it should first be copied to another location.

- If any applications are running on the destination partition/disk, AOMEI Backupper will require that you restart computer and will execute the restore operation in "Restart Mode".

Universal Restore

About AOMEI Universal Restore

AOMEI Universal Restore, the feature in AOMEI Backupper Pro, Server and Technician version. With this function, you can recover the image of your system to a machine with dissimilar hardware. If you don't backup any data and file in your computer, notably operating system, once you computer break down, you can use this function to recover it.

AOMEI Universal Restore is applicable for:

- **Instant recovery of a crashed system on different hardware**. If one computer crashed, and if you want to restore it, you can create system image with AOMEI Backupper, and then use it to rescue system broken computer.

- **Migration to a machine with dissimilar hardware**. You can use AOMEI Universal Restore to restore system image that is created in other computer to your computer.

- **Real-to-virtual and virtual-to-real computer migration for system recovery, as well as testing and other purposes**. For better install different system to test software or other function, software testers can use it to install system between real computer and virtual machine.

- **The computer that is changed hardware**. If you change hardware such as mother board, CPU etc, the computer will require being reinstalled system; to prevent reinstall system, you can use AOMEI Universal Restore to install system.

- **Computers that need to be installed system**. If you want to maintain computers in LAN, you can install computer firstly, and configure drives and applications for this computer, and then backup system image. Then, you can boot all other computer with AOMEI PXE Boot tool or bootable media, and use AOMEI Universal Restore to restore system image. Due to different computer and configuration, this way can save much time on installing system and applications in different computers.

How to recover a broken computer with system image of other computer

As mentioned above, There are so much conditions we can use AOMEI Universal Restore, and Instant recovery of a crashed system on different hardware can be set as an example to demonstrate to you. this steps will involve two computers, so, you have to install AOMEI Backupper in one computer in good condition and use it to create a system image. Due to computer crashing, you have to create a WinPE with AOMEI Backupper or AOMEI PE Builder. It will help you start computer and use other computer's system image to recover your computer. In summarize, there are some tools you should prepare:

- A good computer system image.

- A booted media created by AOMEI Backupper or AOMEI PE Builder

Tip: After you create a bootable media with USB flash drive, you can use copy system image to USB drive, or you can upload your system image to LAN.

After your prepared well, we can follow the steps below to do your operation:

Step 1. You have to set AOMEI Bootable media as the boot device in your computer, and launch AOMEI Backupper. Click the "Restore" this option and select the system image that you want to recover.

Tip: There may not be system image you can restore in Backup List, because the image system you want to restore is created in other computer, So, you have to click the Path button and add system image manually.

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Step 2. In this step, there are many backup time points to let you choose. By the way, you can tick "Restore system to other location", after doing that, one partition will be selected to store new system. After finishing the step above, please click "Next".
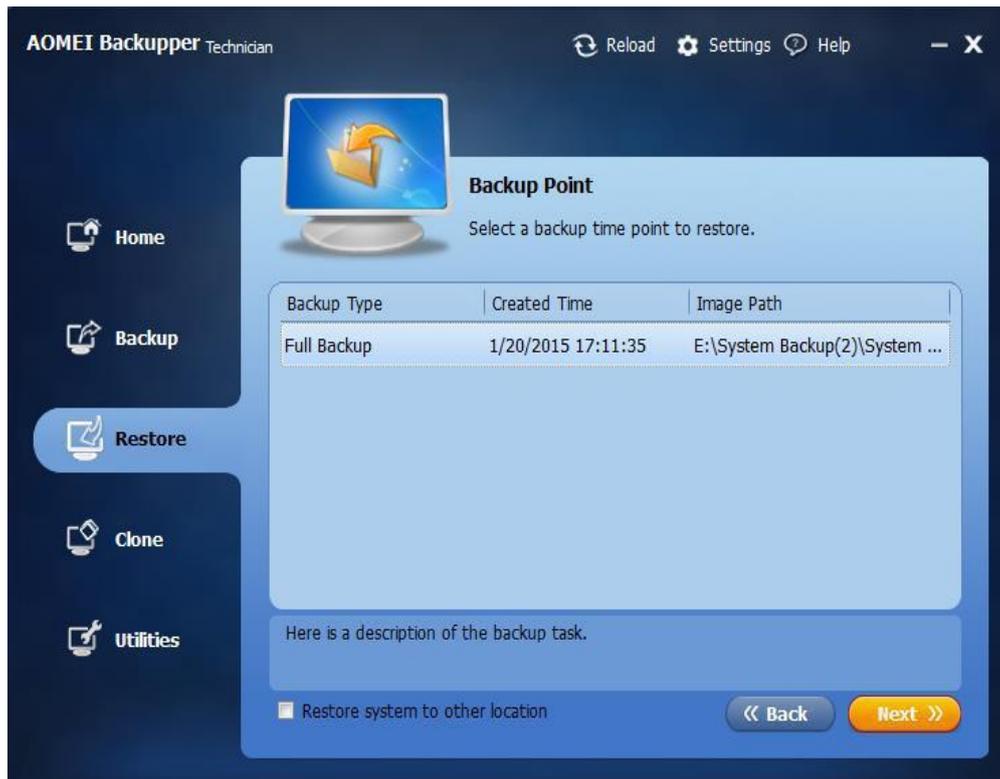
Step 3. In this step, you can verify the system image, and choose where you want to restore. If you want restore system to places except for C drive, you can tick "Restore system to other location" in the bottom of interface. If you want to recover the current system partition, please click "Next".

Tip: Make sure that all data in the partition you choose are backed up, because the partition you select will be overwritten or deleted.

Step 4. AOMEI Universal Restore will work in this step. Due to the system image you want to restore is created in other computer, and there may be difference about applications, software, even system in two computers. Therefore, you have to tick "Universal Restore". Finally, you can click "Start Restore".
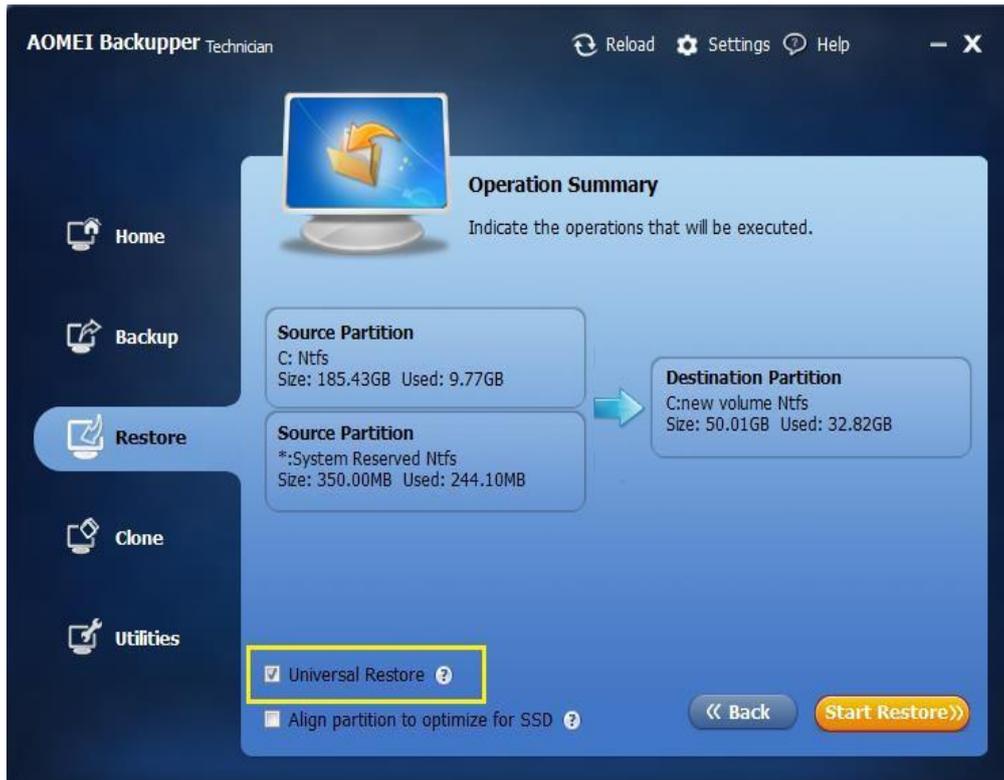
Tip: If the destination partition you choose is in SSD, you can tick "Align Partition to optimize for SSD" to improve the speed of reading and writing.

The whole process is very simple and easy. AOMEI Universal Restore is just a function added in restoration of AOMEI Backupper. The whole process of restoration is not different from the restoring operations in former version. The only difference is that you can restore system image that created in other computer to your computer. This function is like a bridge among dissimilar computers, and with this function, you can fix, and install your computer indefinitely, even you don't backup your system. You can say good bye to grief caused by computer crashing.

Note: After restoring, many other drivers, such as Display driver, NIC driver, or Audio driver, etc, need to be reinstalled and then the devices of the computer can be used normally.

Sector by Sector Restore

If you backed up your disks or partitions in sector-by-sector mode, you can subsequently restore them in sector-by-sector mode. For sector-by-sector backup, refer to the "Intelligent sector"

section in "Backup Options". This method will back up all sectors of the disks or partitions, including unused sectors. Some deleted files are backed up too.

When restoring in sector-by-sector mode, the program will copy all used and unused sectors to the destination disks or partitions. In a non-sector-by-sector restore, only used sectors will be restored, and unused sectors will be ignored.
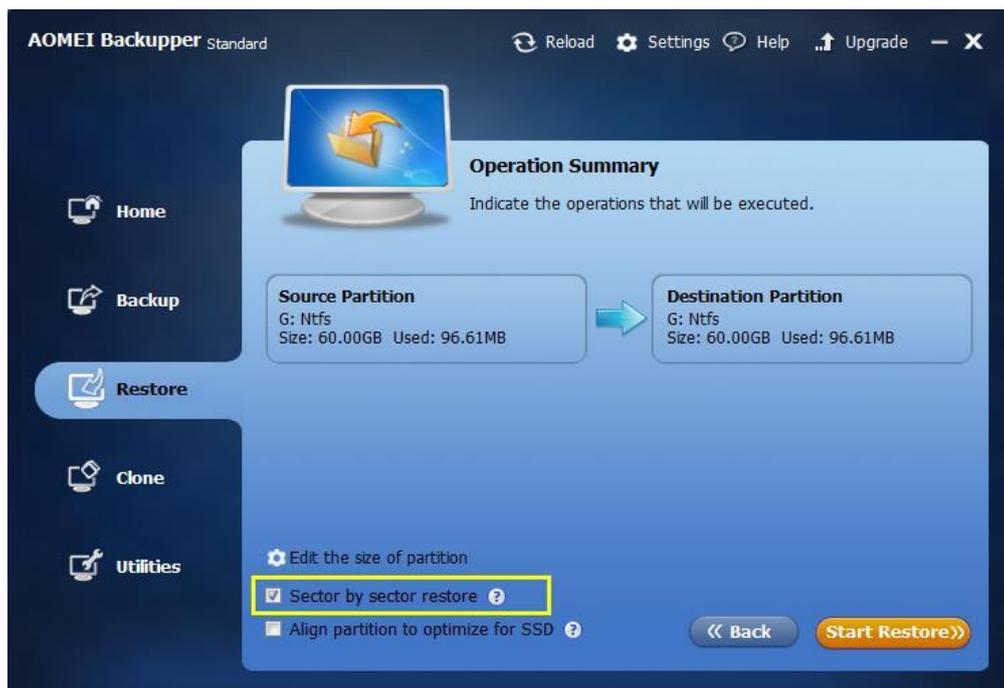
Tip: Your destination partition or disk size must be equal to or larger than the source one.

Edit Partitions

You can adjust the partitions size or location on the destination disk in disk restore mode. In the "Operation Summary" page, click the "Edit partitions on the destination disk" button.
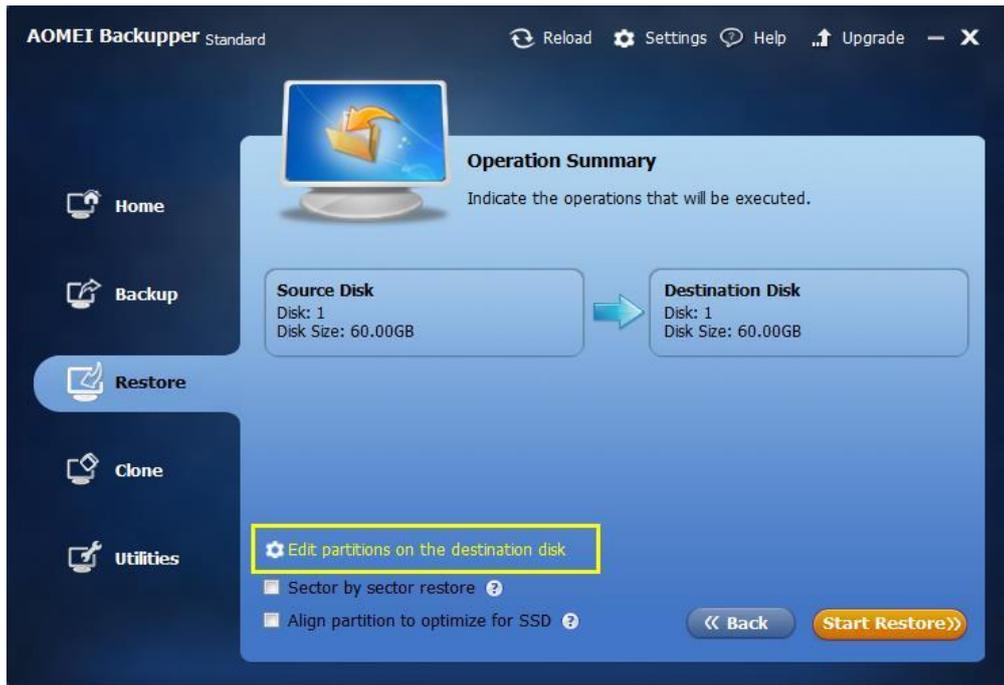
In the Edit Partitions dialog, three further options are provided:
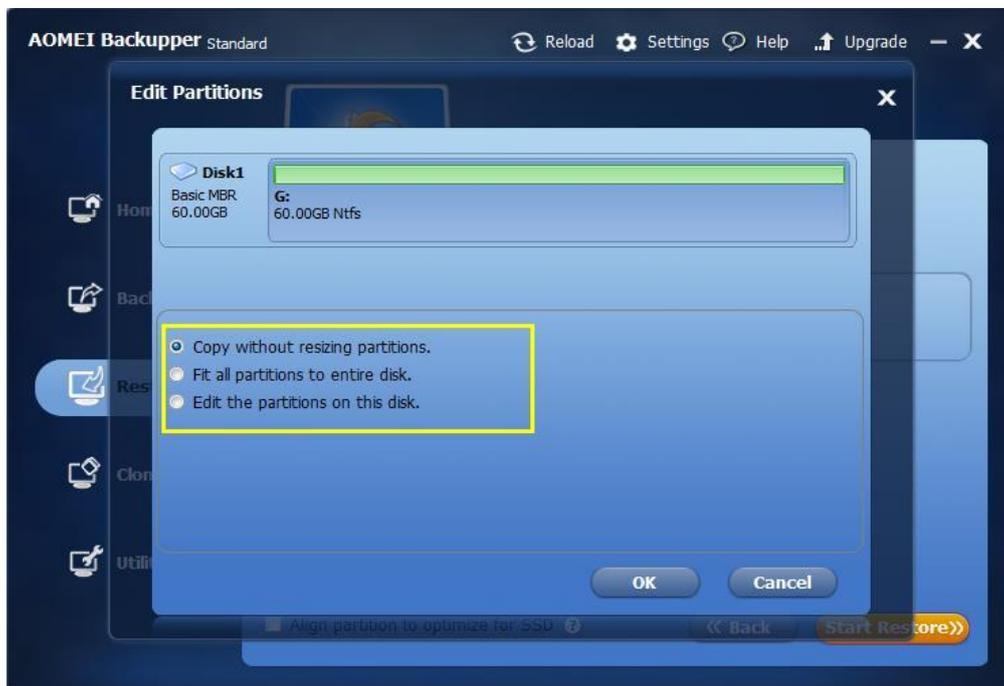
- **Copy without resizing partitions:** Do not do any changes.

- **Fit partition to entire disk:** The destination disk partitions will be automatically resized to the entire disk, appropriate for the disk size.

- **Edit partitions on this disk:** Manually adjust the partition size and location by dragging a slider bar.

In addition, when you restore a system drive or partition, you can click "Edit the size of partition" button in the "Operation Summary" page. A popup window enables you to assign a drive letter and set primary/logical to the partition. You are also able to drag and move the graphical Partition Bar to change the size or location of the partition on this disk.

Clone

Clone is a very useful feature designed to migrate or transfer your data directly. It will not compress the data, and enables you to make an exact and complete copy of a disk or partition directly from one to another.

Disk Clone

Disk clone faithfully copies a hard disk drive from one to another. All data on the disk including operating system, applications, configuration settings and all partitions etc. will be transferred to the destination. This feature is especially useful when your system disk starts to run out of space,

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enabling you to upgrade your disk to one with higher capacity. You can also use Disk Clone to migrate from HDD to SSD, or for making a duplicate of a HDD.

To Clone Disk:

1. In the left tab page, select the **Clone** option and then select **Disk Clone**.
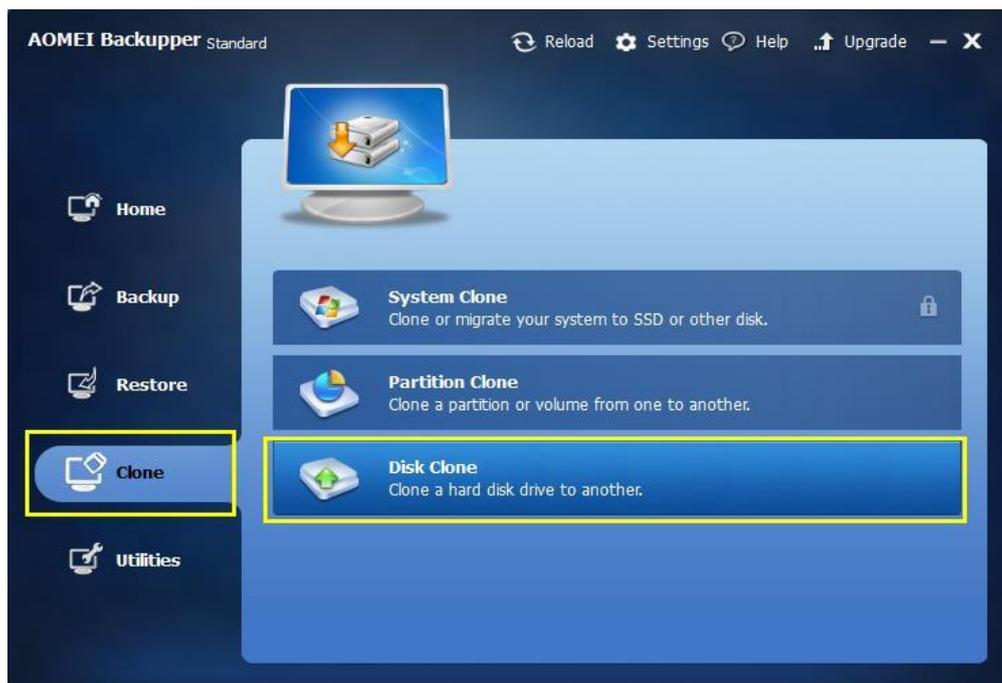
2. Select the source disk that you want to clone. Click **Next**.

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3. Select the destination disk to which the source disk will be cloned, and click **Next**.
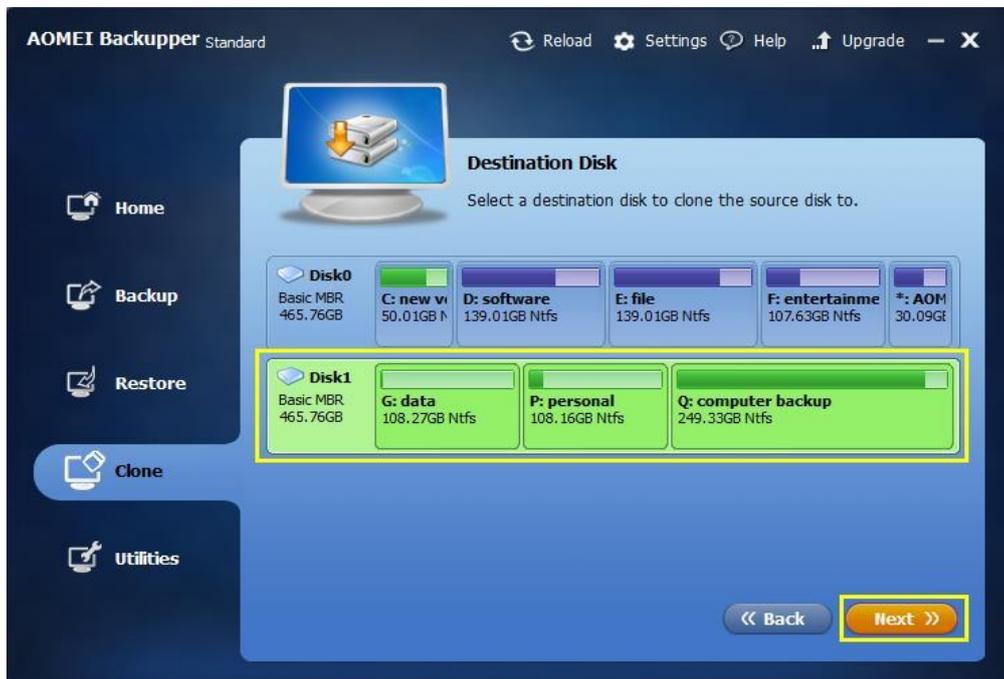
Warning! The destination disk and all existing data will be overwritten.

4. Preview the information of your source and destination disk. In the wizard page, set desired advanced settings as follows:
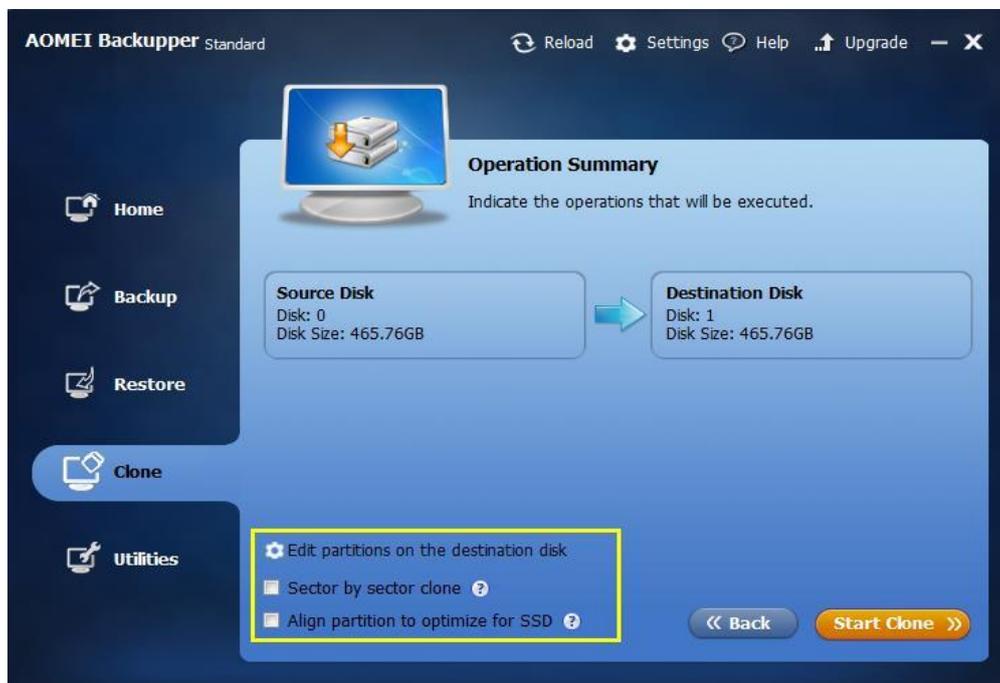
a) If you want to adjust the partitions size or location on the destination disk, click the "Edit partitions on the destination disk" button. Options available are:

1. **Copy without resizing partitions:** Do not do any changes.

2. **Fit partition to entire disk:** The destination disk partitions will be automatically resized to the entire disk, appropriate for the disk size.

3. **Edit partitions on this disk:** Manually adjust the partition size and location by dragging a slider bar.

b) Sector by sector clone: Copies all sectors of the disk to the destination disk whether in use or not. The destination disk size must be equal to or larger than the source disk.

c) Align partition to optimize for SSD: If your destination disk is SSD (Solid-State Drive), we highly recommend you to tick this option for optimizing the performance of the SSD.

5. Finally, click **Start Clone**. Wait for the process to complete and then click **Finish**. A disk clone can take several hours depending on the size of the source disk.
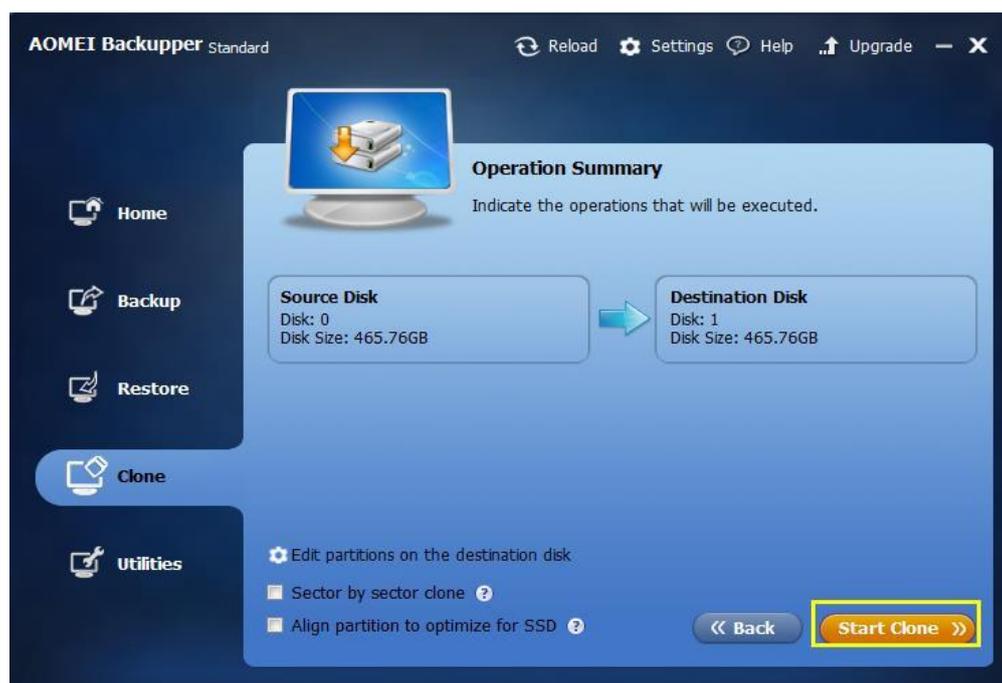
For more detail with screenshots, see: **How to Do Disk Clone**.

![Tips icon] **Tips:**

- Note that the destination disk will be overwritten. Therefore if it contains any important data, you must backup the destination disk before you apply the operation.

- If the destination disk is locked by other programs or applications running on it, AOMEI Backupper will ask to restart the computer, and will execute the disk clone operation in a "Restart Mode".

System Clone/System Migration

If you want to change a new drive for better speed and performance or just want to migrate your operating system to another drive (such as migrate to SSD), System Clone is a good feature to realize the purpose. It will clone all the related partitions which are necessary for operating system to the destination drive.

To Clone Operating System

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1. In the **Home Screen**, select **Clone** on the left column then select **System Clone**.

2. Select a destination location to migrate your system to the location, and then click **Next**. If the selected location is a used partition, a window will pop up to prompt that this partition will be deleted or overwritten, if you want to continue, please click **Yes**.
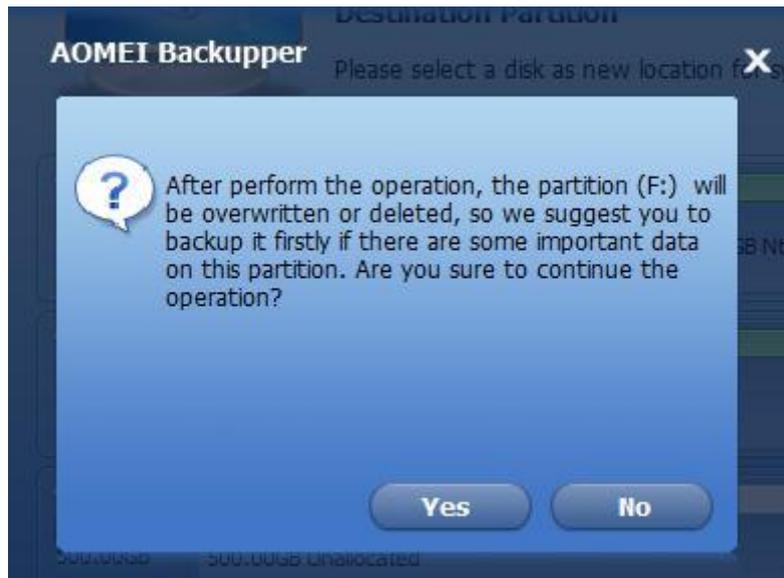
3. Review Operation Summary Window, there are two optional functions. You can tick the **Sector by sector clone** option to copy all sectors of system partition no matter whether it is used or not, but it will take much more time. You can also tick the **Align partition to optimize for SSD** option to optimize the performance if the destination disk is an SSD.

4. Click **Start Clone** to perform the operation.

For more detail with screenshots, see How to do System Clone?

Tips:

- You don't need to select the system partitions manually, the program will select the partitions by default.

- The destination location cannot be the source disk. And please make sure that the selected drive is large enough to accept the system partitions.

- After cloning successfully, please shut down the computer, and you'd better remove the source drive from the computer then restart the computer to enter BIOS to set the cloned system disk as the first boot device then boot from the destination disk. After that, you can connect the source drive to the computer again as a secondary storage device.

- System Clone is locked in AOMEI Backupper Standard version, you need to unlock it first.

Partition or Volume Clone

AOMEI Backupper provides the feature to clone a single partition rather than the whole disk. For example, the (C:) drive could be cloned to (D:), or (E:) could be cloned to another disk.

To clone Partition or Volume:

1. In the left Tab page, select the **Clone** option, and then select **Partition Clone**.
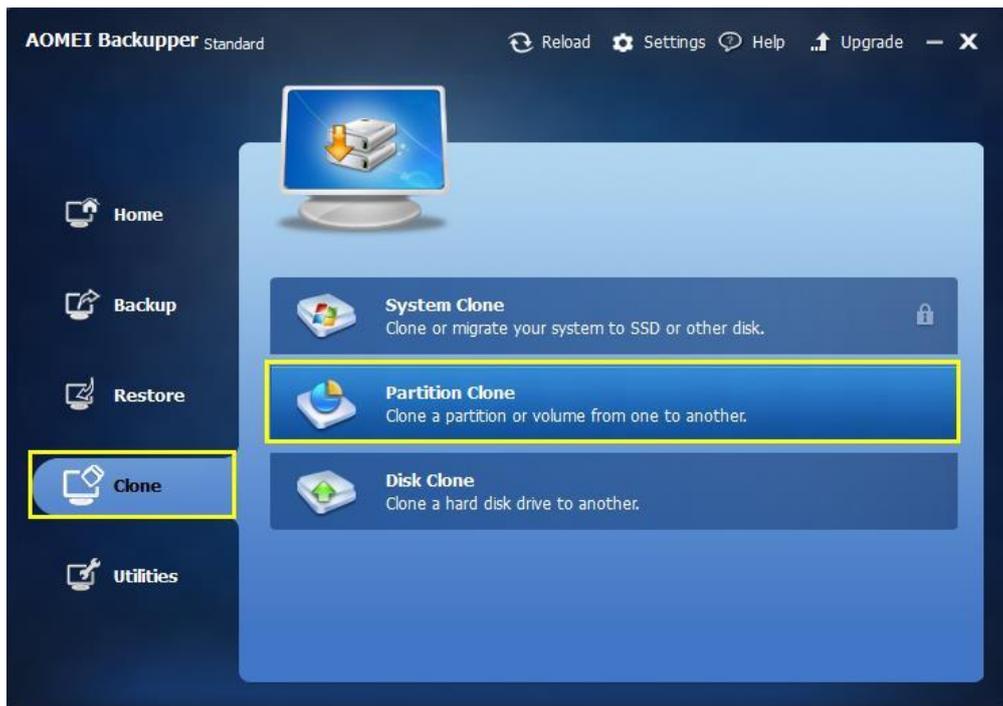
2. Select a partition or volume you want to clone as source partition and click **Next**.
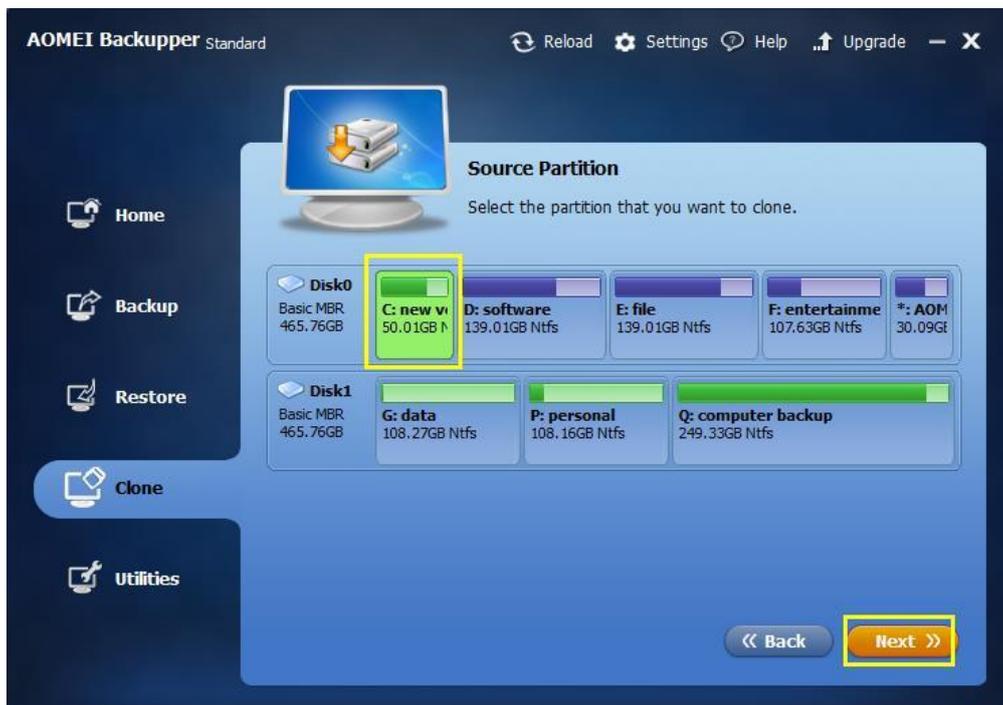
3. Select an appropriate unallocated space or an existing partition as destination partition, and click**Next**.
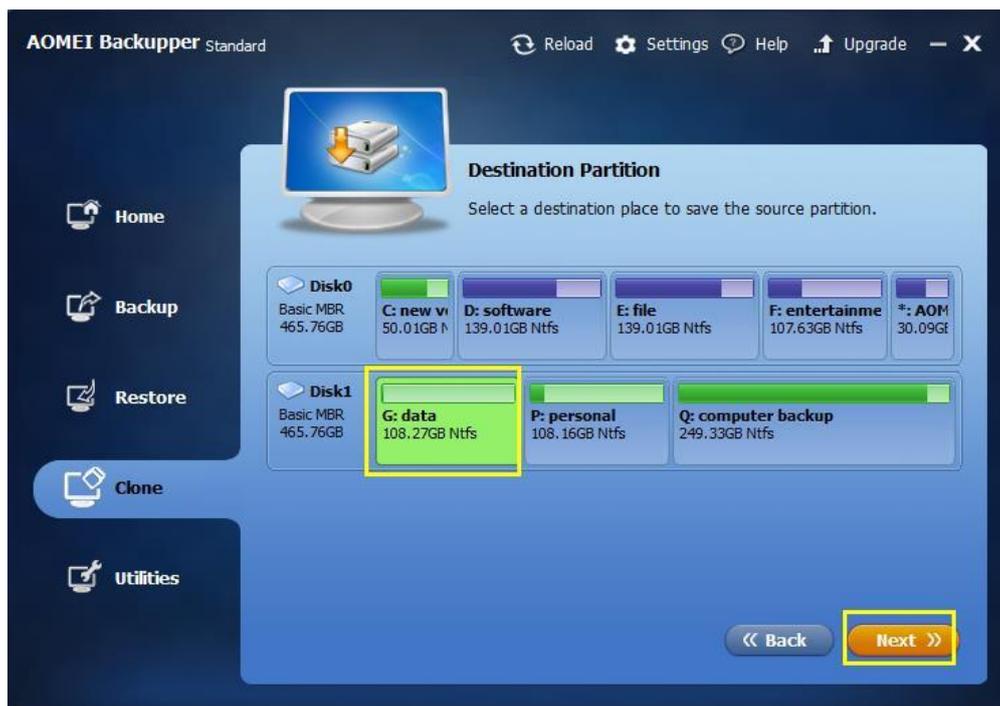
4. Preview the information of your source and destination disk. In the wizard page, set desired advanced settings as follows:

- If you want to adjust the partitions' size or location on the destination disk, click the "Edit partitions on the destination disk" button. Options available are:

  - **Copy without resizing partitions:** Do not do any changes.

  - **Fit partition to entire disk:** The destination disk partitions will be automatically resized to the entire disk, appropriate for the disk size.

  - **Edit partitions on this disk:** Manually adjust the partition size and location by dragging a slider bar.

- **Sector by sector clone:** Copies all sectors of the disk to destination disk whether in use or not. The destination disk size must be equal to or larger than the source disk.

- **Align partition to optimize for SSD**: If your destination disk is SSD (Solid-State Drive), we highly suggest you to tick this option for optimizing performance of SSD.
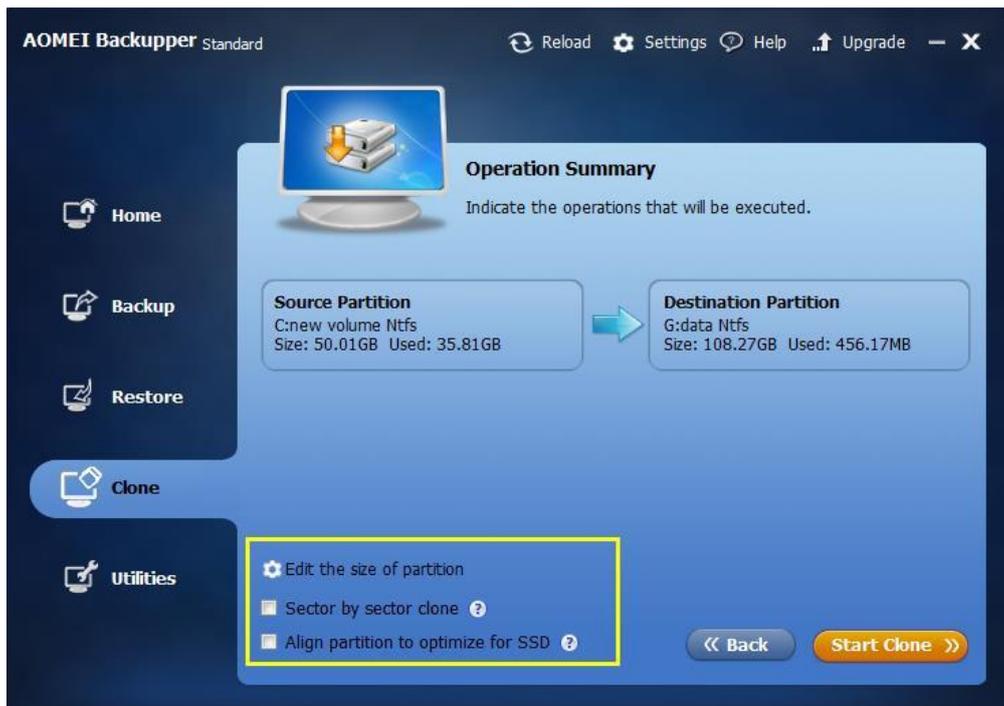
5. Finally, click **Start Clone**. Wait for the process to complete and then click **Finish**. A disk clone can take several hours depending on the size of the source disk.
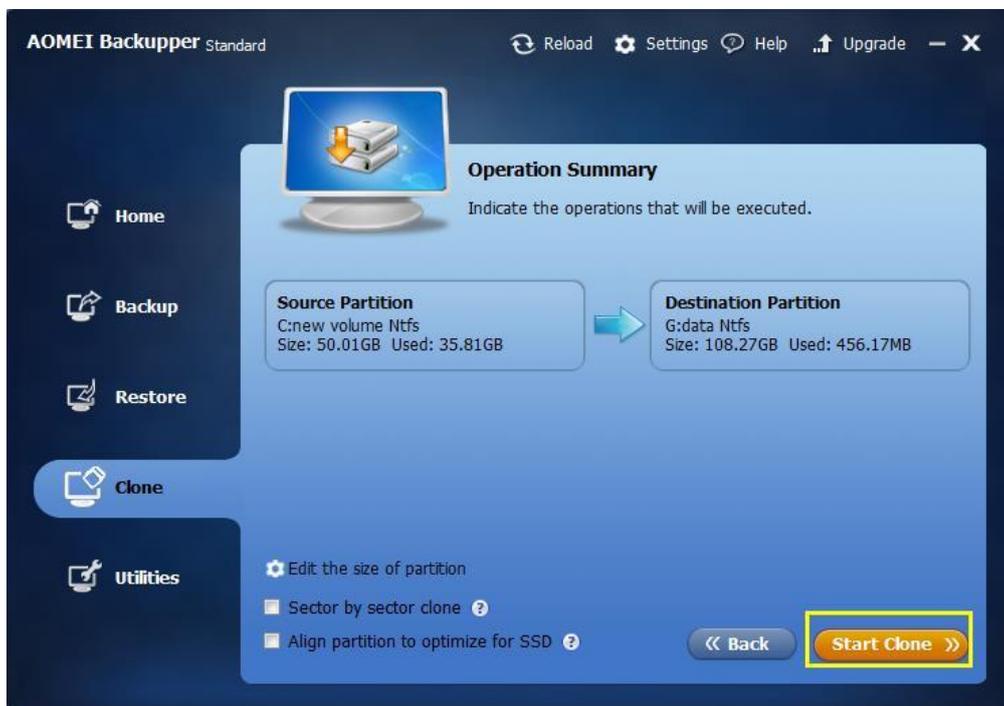
For greater detail with screenshots, see: **How to Do Partition/Volume Clone**.

Tips:

- The source partition cannot be selected as a destination partition.

- Note that the destination disk will be overwritten. Therefore if it contains any important data, you must backup the destination disk before you apply the operation.

- If the destination disk is locked by other programs or applications running on it, AOMEI Backupper will ask to restart computer, and will execute the disk clone operation in a "Restart Mode".

Utilities

A number of additional essential tools are provided to enhance your backup and recovery experience.

Check Image

This option tests the data integrity of the backup image to ensure you would successfully be able to recover data. The program looks for errors during the checking process, indicating the image file might be damaged and cannot be used for recovery. This enables you to remedy the situation in a timely way, if necessary.

To check image

1. In the left Tab, select **Utilities** and then select **Check Image**.
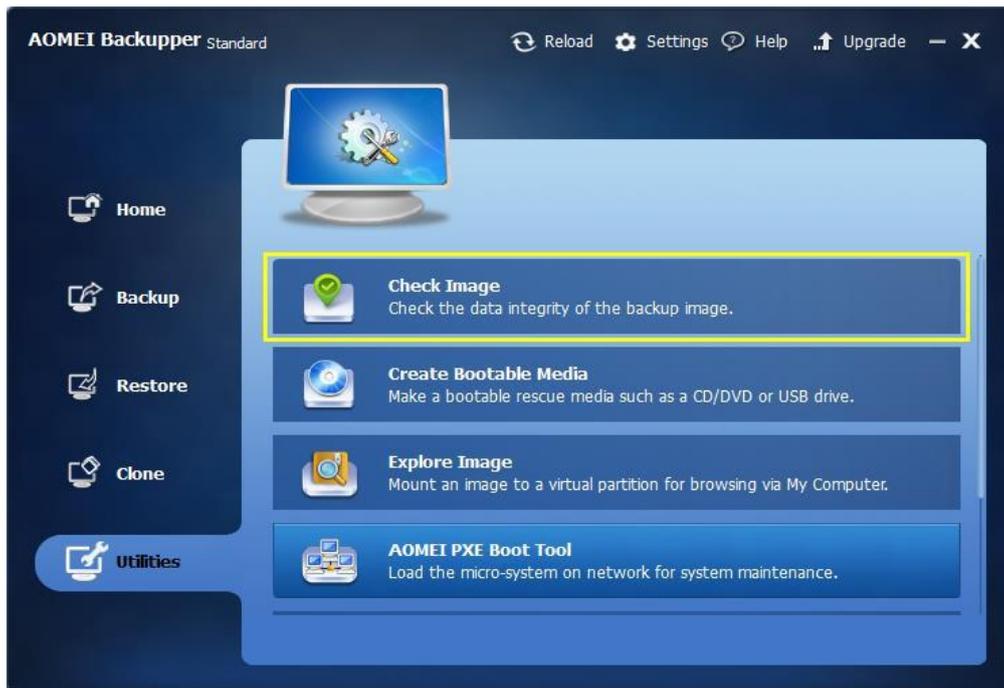
2. Select the backup that you want to test. If the list box does not show the image you would like to check, click **Browse** to locate it.
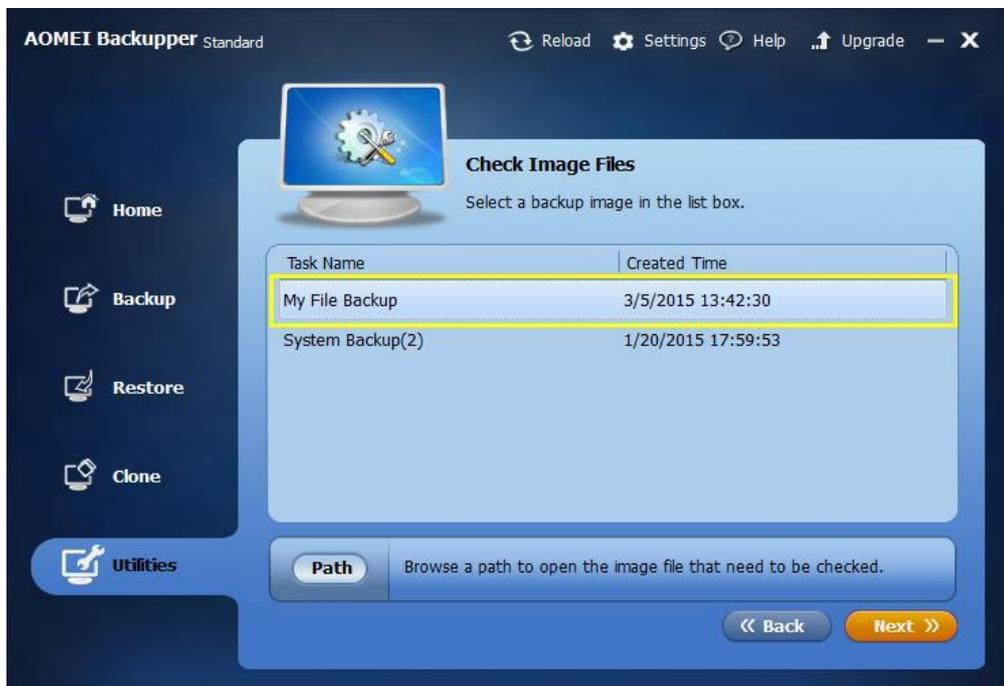
3. Select a point-in-time and click the **Next** button to start the test. Backup type and Created time help to determine the proper point-in-time.
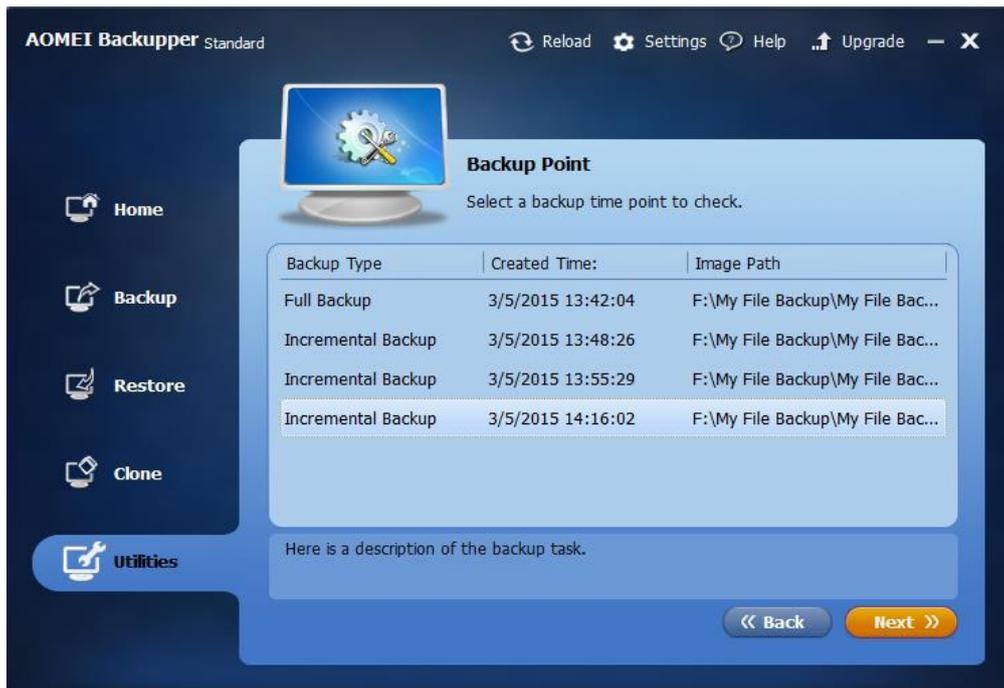
4. Wait for the process to complete, and then click **Finish**.
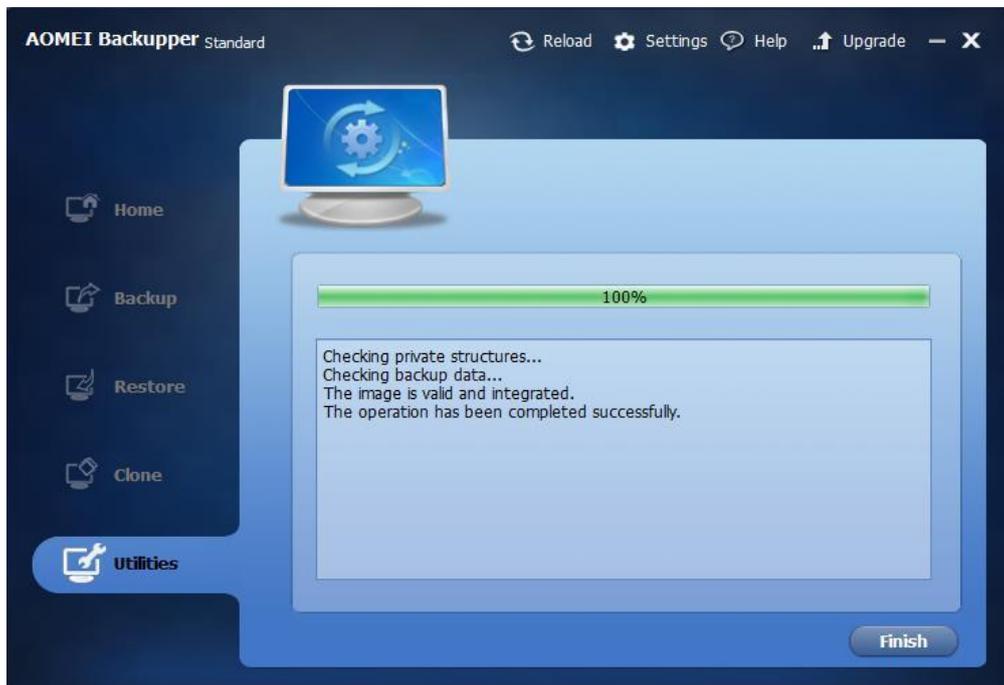
Explore Image

This option creates a virtual drive and mounts the image to it, similar to Daemon tools. After mounting the image you are able to explore its contents in "My Computer". You may copy and paste files in this virtual drive the same as for a physical drive.

To explore image:

1. In the main Tab page, select **Utilities** and then select **Explore Image**.
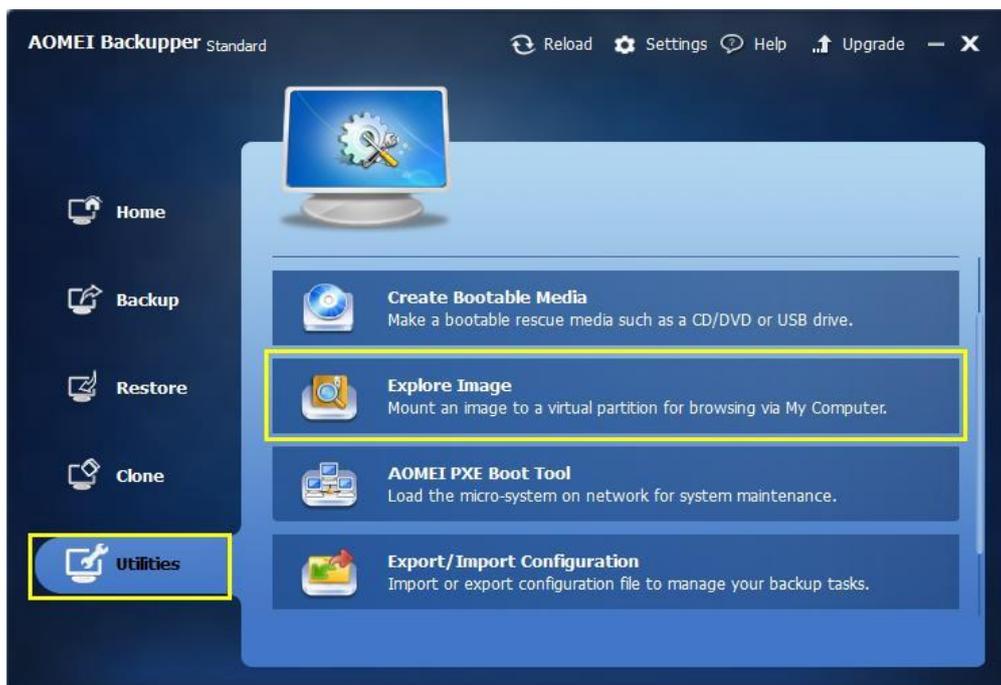
2. Select the backup that you want to explore from the list box, and click **Next** to continue.
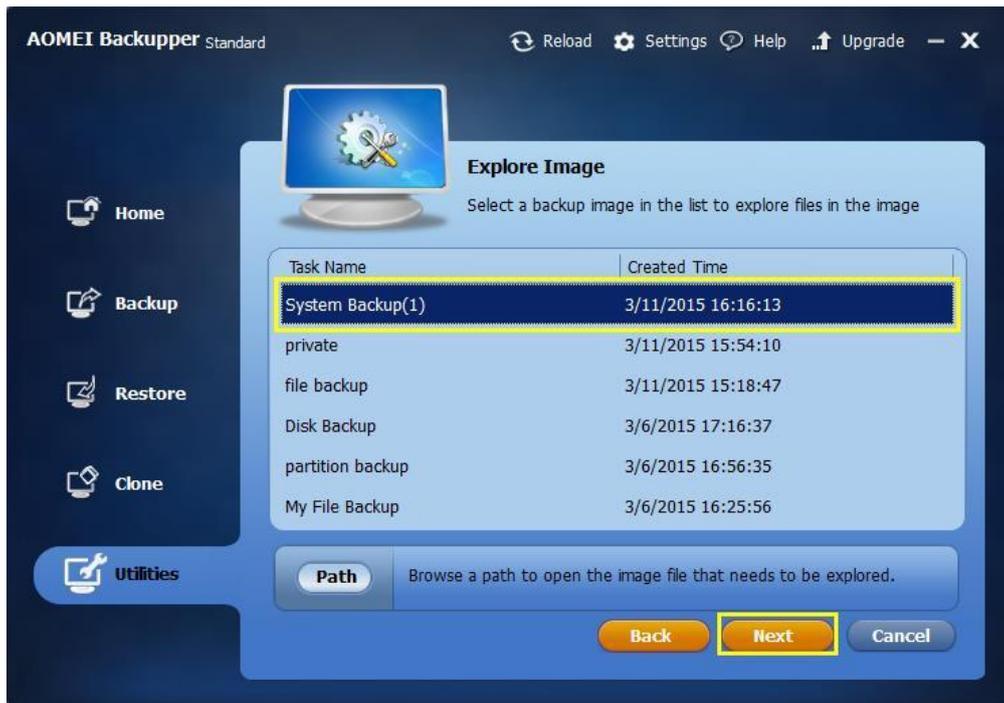
3. Select a point-in-time and click the **Next** button to explore the backup at this time point.
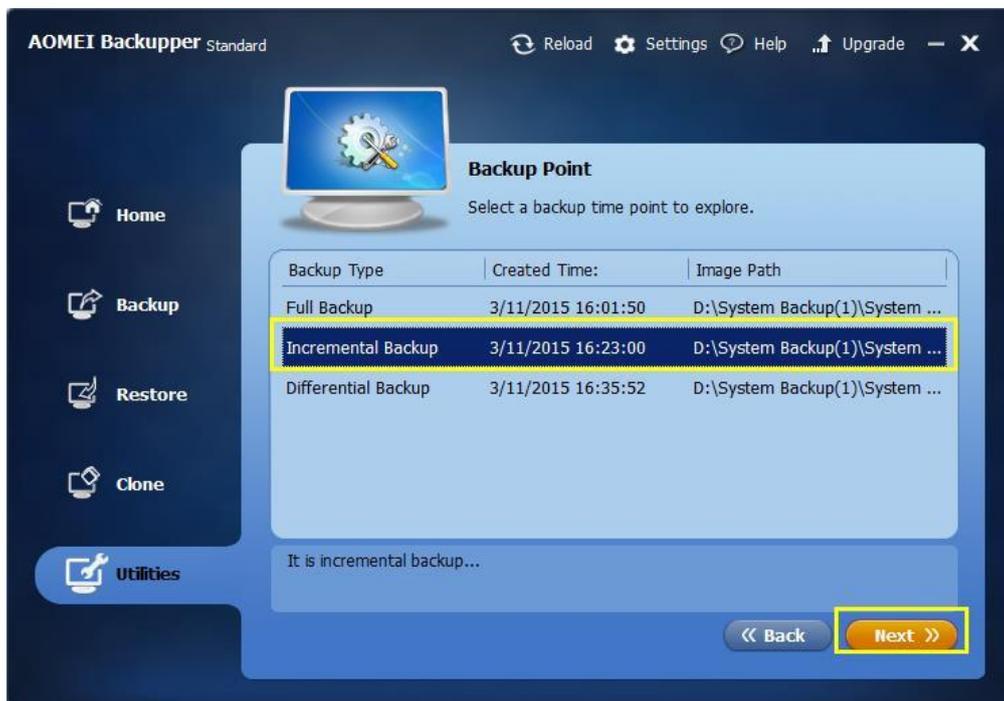
4. Assign a drive letter for the image partition, and click Next to mount the image.
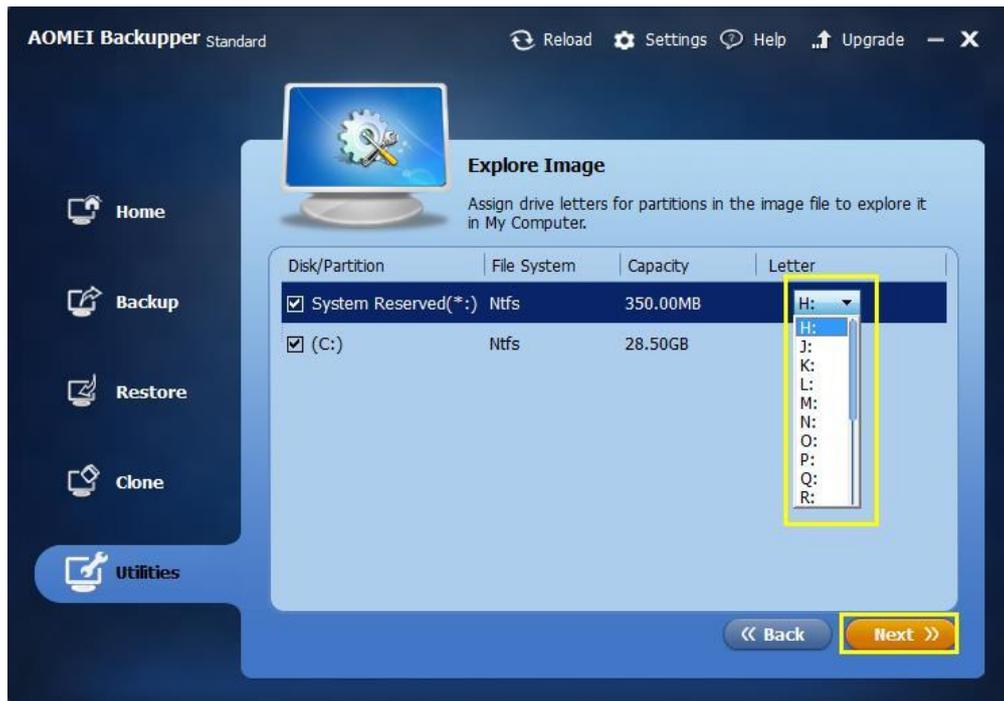
5. Wait for the process to complete and then click **Finish**. You may now explore the data in the created virtual partition using "Windows Explorer" or "My Computer".
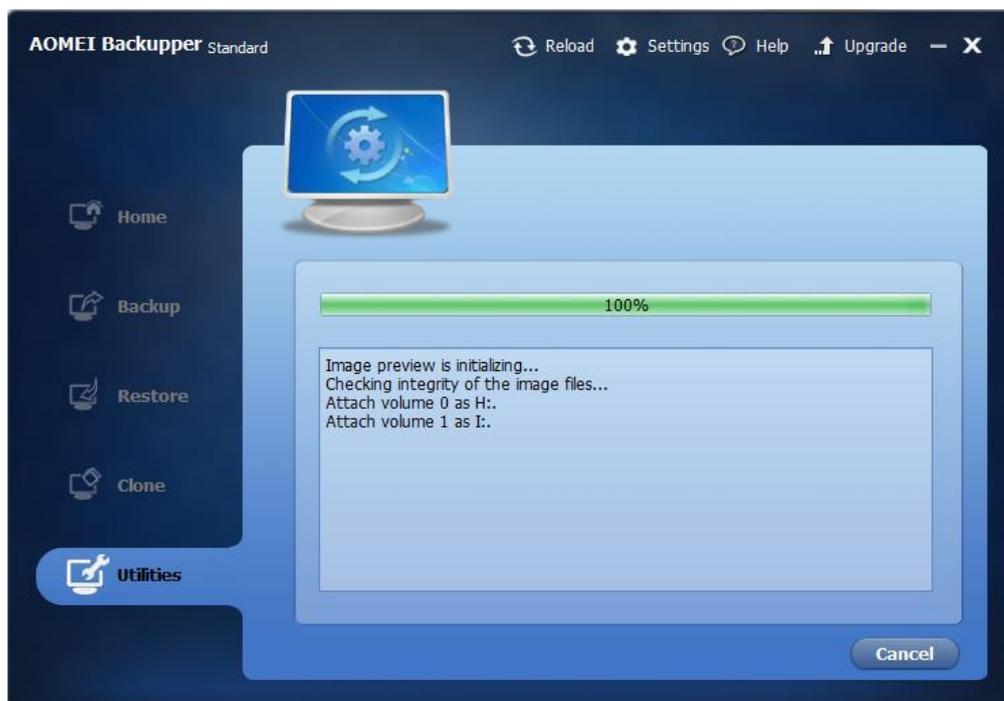
To Detach image:

After mounting the image, the program will create a virtual drive accessible in Windows Explorer. Once your necessary operations have been completed, it is advisable to detach the virtual drive.

1. In the main Tab page, select **Utilities**, and then select **Explore Image**.
2. All your current virtual drives will be listed here. Tick the appropriate box and then click **Detach**. The virtual drive will be cancelled immediately.

Tips: If you do not detach the virtual drives, they will automatically be detached when the computer is next rebooted.

Merge Images

You may wish to restore your data to a point-in-time specified by an incremental backup image. An incremental backup must always be restored along with its root Full backup, and sequentially with every other incremental backup done in between. This can be a lengthy process if you have done a large number of incremental backups since the first full backup.

For example:
You create a task which backs up D:\work every day. One month later there will be 30 image files. Every image file is a different version (also called a point-in-time). This function enables you to merge all these backup versions into a single image file.

To merge image files：

1. In the left Tab, select **Utilities** and then select **Merge Images**.
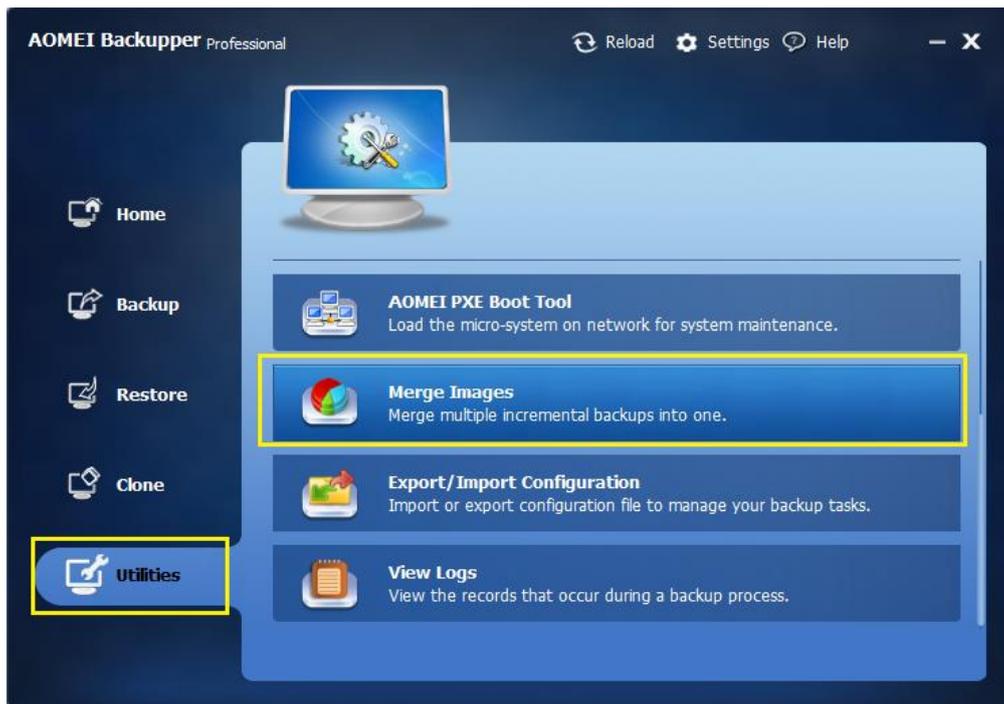
2. Select a backup task that you want to merge. If you could not find the backup from the list box, click**Browse** to locate it. Click the **Next** button to the next step.

3. You can now view all image files in the backup task, which are about to be merged into one. Click the**Next** button.

4. Select a location to save the new, merged image file. You may save to the original directory or specify a new directory to save it.
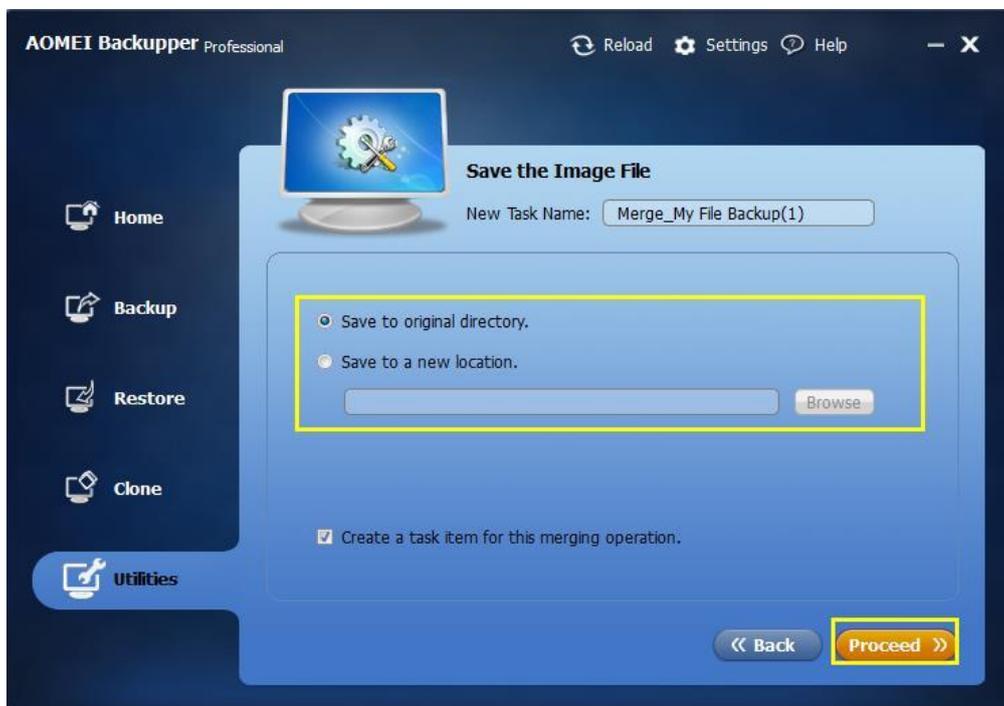
5. Finally, click the **Proceed** button to merge the image files and wait for the process to complete.
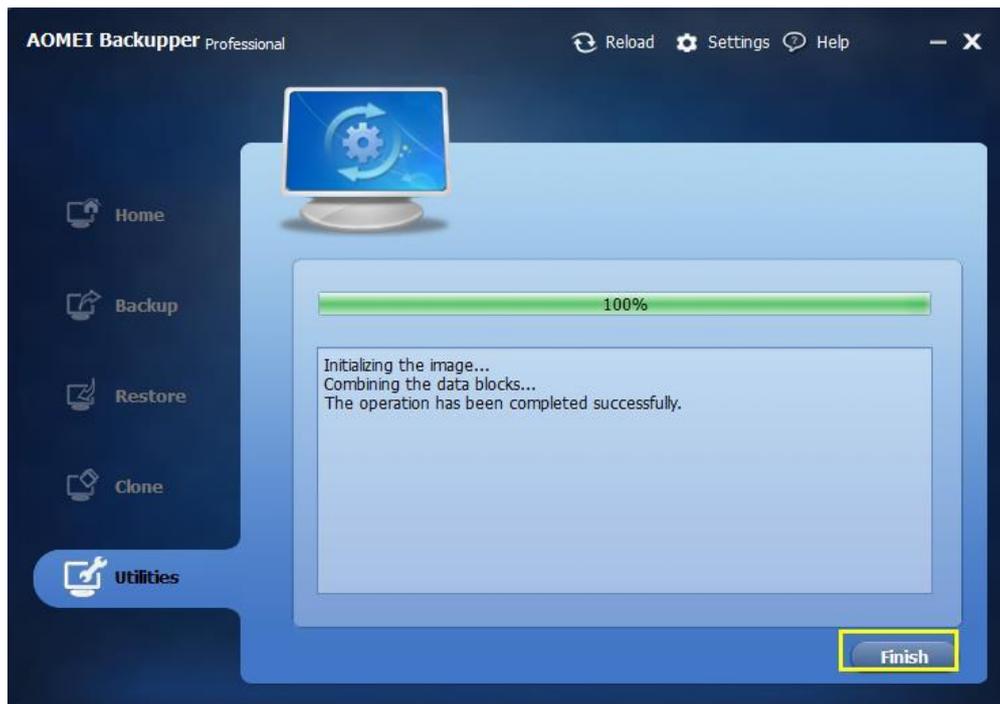
Tips:

- If a backup task comprises only one version (one image file), the program will not merge it.

- During the process of merging, AOMEI Backupper does not delete the old image files or the merged backup task.

- We suggest you tick "Create a task item for this merging operation". Then, after merging, in the left tab, select **Home** to see the new backup item.

- "Merge Images" can only merge all correctly sequenced incremental backup images. If this backup task contains any version(s) of a differential backup, AOMEI Backupper will advise you that you cannot merge them.

AOMEI PXE Boot Tool

Usually, when computer fails to boot, the way we use to boot a computer almost is using bootable CD or Bootable USB flash drive, which may be Linux micro-system or Windows PE micro system. When we need to install system in too many computers, for example, there are 100 computers that need to be installed system, we can't insert CD or USB into computer one by one and boot computer, because different computers has different configurations such as there may be not CD drive or USB flash drive portal in computers.

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How to be easy to solve such problems? In this condition, AOMEI PXE Boot Tool will be a key. The only thing you should do is to run AOMEI PXE Boot Tool in one computer (may be a server) within LAN, and boot other computers (some clients or target computers) from network.

About AOMEI PXE Boot Tool

AOMEI PXE Boot Tool can boot many computers from micro system in network. Broadly speaking, You can create a Windows PE micro system with a third party tool, also, you can do a bootable Linux image or Windows PE image file with the tool offered by AOMEI Backupper. You can use AOMEI PXE Boot Tool and make other clients or target computers boot from these micro system. After booting, you can backup, restore or maintain system with tools offered with the image file.

The Advantages of AOMEI PXE Boot Tool

Comparing with counterpart PXE function, AOMEI PXE Boot Tool has its own features:

- AOMEI PXE Boot Tool supports creating bootable micro system by yourself. Therefore, if you had a powerful Linux bootable ISO or Windows PE bootable ISO, you can boot computers that are in LAN.

- AOMEI PXE Boot Tool can directly create a Linux bootable ISO or Windows PE bootable ISO. If you don't have them, you can create them with AOMEI PXE Boot Tool. Certainly, you can create a bootable ISO file by using AOMEI Backupper -> Utilities -> Create Bootable Media.

- If you want to use powerful PE micro system with desktop, you can create ISO file with AOMEI PE Builder, which is freeware offered by AOMEI, and then, you can use it with AOMEI PXE Boot Tool.

- You don't need to deploy other plug-ins or programs. Just install AOMEI Backupper and you can use this function

How to use AOMEI PXE Boot Tool

Start AOMEI PXE Boot Service

Step 1. Install AOMEI Backupper in a server or PC that can be booted normally, and launch it. Select "Utility" and then select "AOMEI PXE Boot Tool".
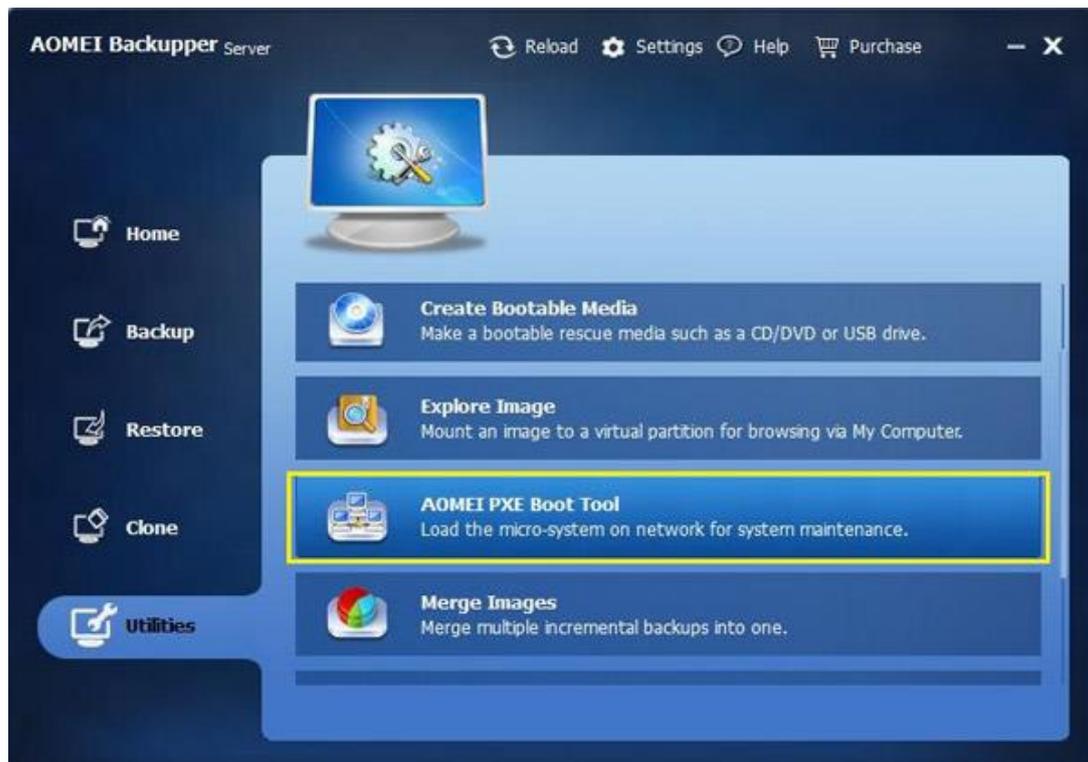
Step 2. Choose the one of environment to load system and start computer.
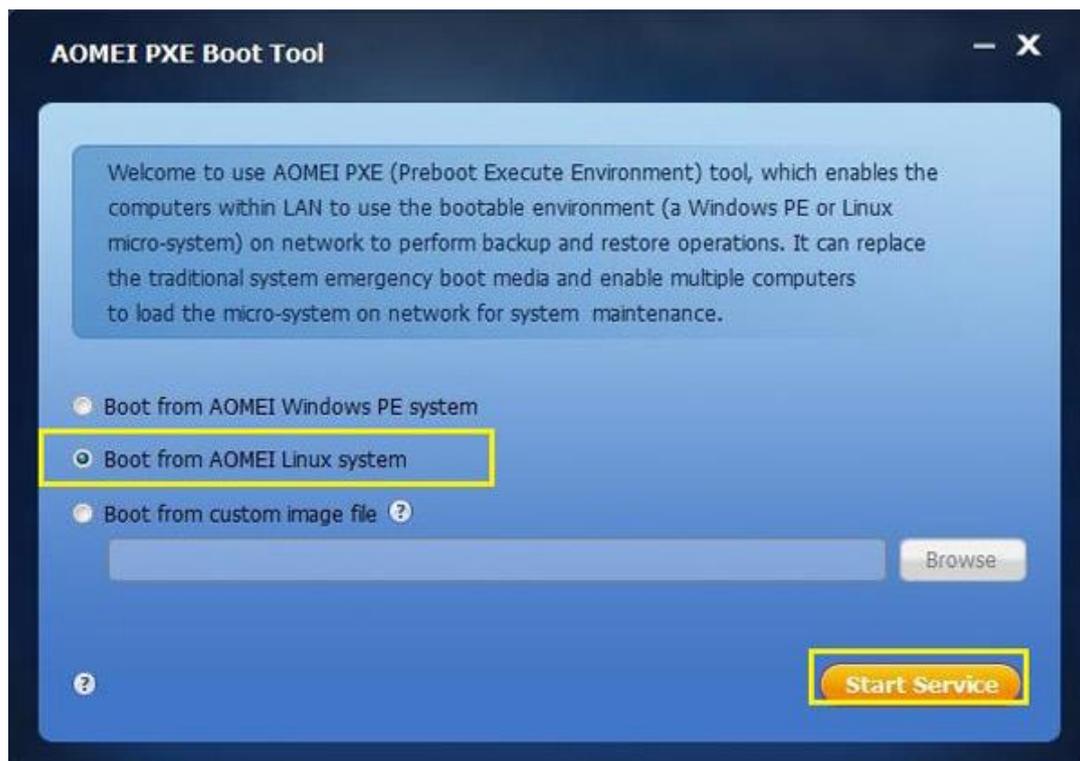
The Three Options:

- Boot from AOMEI Windows system: This is a recommended option, so the tool helps you to create directly a Windows PE system for network boot.

- Boot from AOMEI Linux system: This option can make other clients load a Linux system image in network.

- Boot from custom image file: You can load the special micro-system created by AOMEI PE Builder or Bart PE.

Step 3. After clicking "Start Service", AOMEI PXE Boot Tool will configure related data automatically and start the service to wait for target computers.

Setting Clients within LAN for Network Boot

Set client computers within LAN for network boot. Open clients, then before they enter system, press specific hotkey to enter and enter BIOS (usually, hotkey is F8 or DEL, and it depends on what computer model you use), then enable "Network Boot" in the BIOS setting. If your computer boots with UEFI mode, we suggest you setting it into traditional boot mode in BOIS---"Legacy boot mode".

Restart client computer and press specific DEL key to enter "UEFI Dual BIOS". You can do following the steps for PXE network boot.

Boot mode selection

Click Bios Features -> CSM Support -> Boot Mode Selection, and press Enter in "Boot Mode Selection" and a pop-up window will appear, and you should choose "UEFI and Legacy" or "Legacy Only".

Enable the PXE boot option

Choose "LAN PXE Boot Option ROM" with down arrow, and turn its status from "Disabled" to "Enabled".

Set the PXE option as the first boot device

You can select "Boot Option # 1" in "Boot Option Priorities", and then select "Realtek PXE B02 D00" as well as press Enter.

Alternative to setting the first boot device

You can also reboot computer and hit a key (may be F12 or F11), then a window will pop-up below, and then select the first boot device: "Realtek PXE B02 D00" and press Enter.
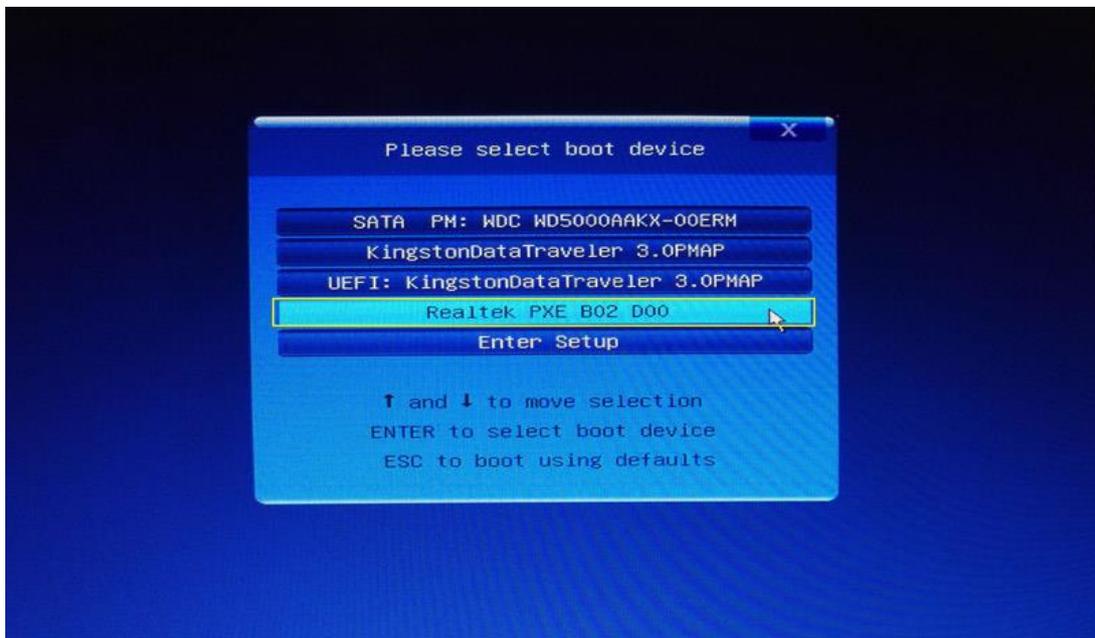
Finally, you can see the following screenshot, this means your computer is booting from PXE network. You may need to wait for a few minutes depending on the speed of network and the size of bootable image file.
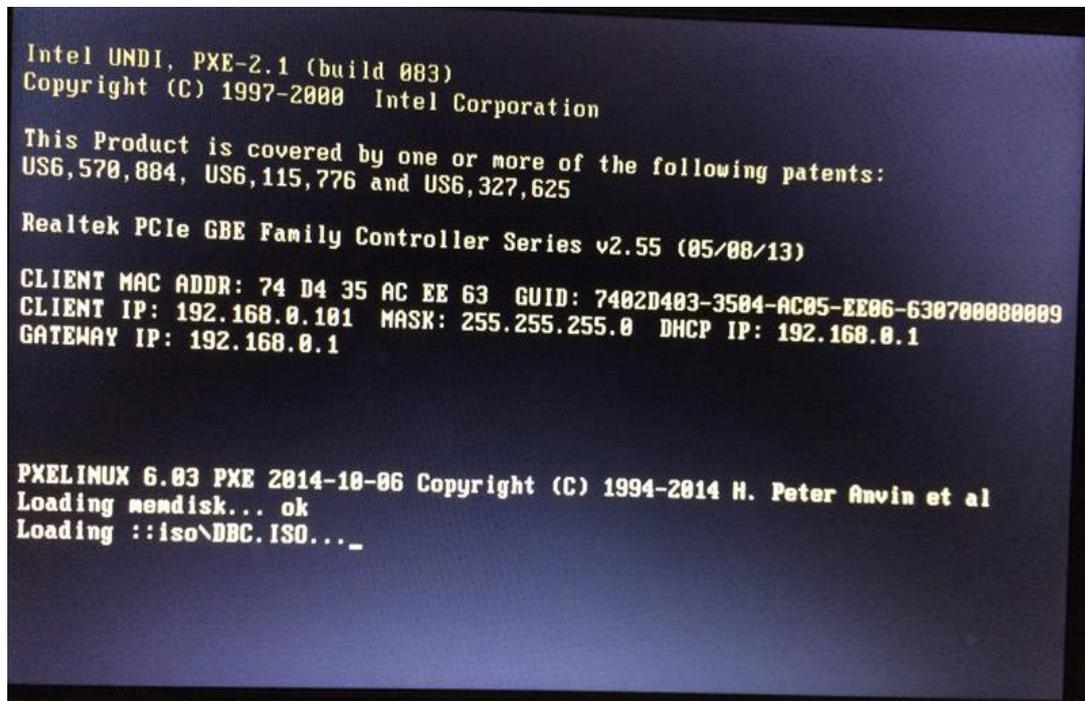
If you want to learn more cases about setting BIOS, please visit How to Set PXE Boot in BIOS?

Summary

AOMEI PXE Boot software can make bare metals boot and offer environment to install or maintain system without using CD-ROM or USB flash drive. With the tool, whatever enterprise or personals, maintaining systems in many clients will be easier. Notably to enterprises and associates, they don't need to handle one by one. You can have a try.

Tips:

- You may need to wait 1~2 minutes for the PXE boot process.

- All computers that are applied with PXE will be same network segment.

- If there are too many computers such as 100 computers to connect server, the speed of network will be slow. Thus, you should divide network into group so as to boost the network loading.

- AOMEI PXE Boot Tool can support UEFI machines currently, but only the WIM file can be used for UEFI (not ISO file), so if your file is an ISO file, we suggest you setting the boot mode as Legacy Boot Mode.

- AOMEI PXE Toot contains a DHCP server, if there is not a working DHCP in your computer, it also can work well. (Tip: DHCP is offered by router within LAN.)

- If you encounter other troubles, please visit FAQ about AOMEI PXE Boot Tool in this document.

Create Bootable Disk

AOMEI Backupper allows you to create both Windows PE (WinPE) and Linux kernel based bootable disc easily, to be used as rescue media for emergency usage.

Note: To create a bootable disc, you need to prepare blank CD/DVD-R/RW discs, USB media or external hard disk which can be written to.

To create a bootable disc click the "**Utilities**" tab, and then select "**Create Bootable Media**". In the pop-up window, there are two bootable disc types: Windows PE and Linux. We suggest you create a bootable disc based on Windows PE, which provides more flexible and convenient operations than a Linux bootable disc.
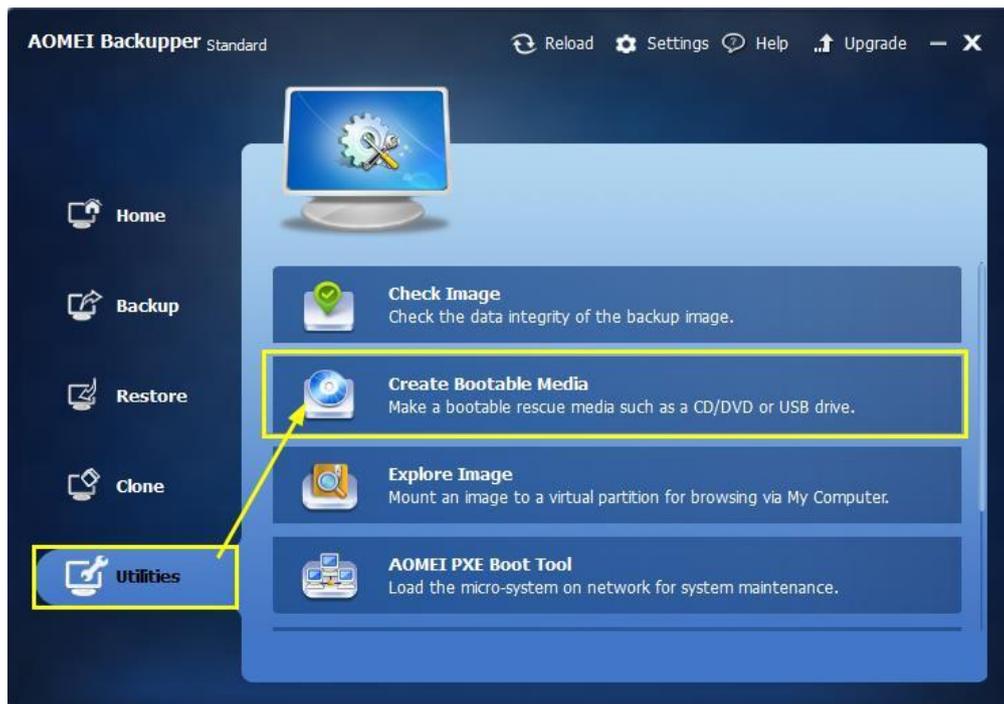
Create Windows PE Bootable Disc

1. Select "Windows PE" and click "Next" button. AOMEI Backupper will check whether your system meets the corresponding requirements. If not, you may need to install Windows AIK. Learn more about Windows AIK and how to install it.
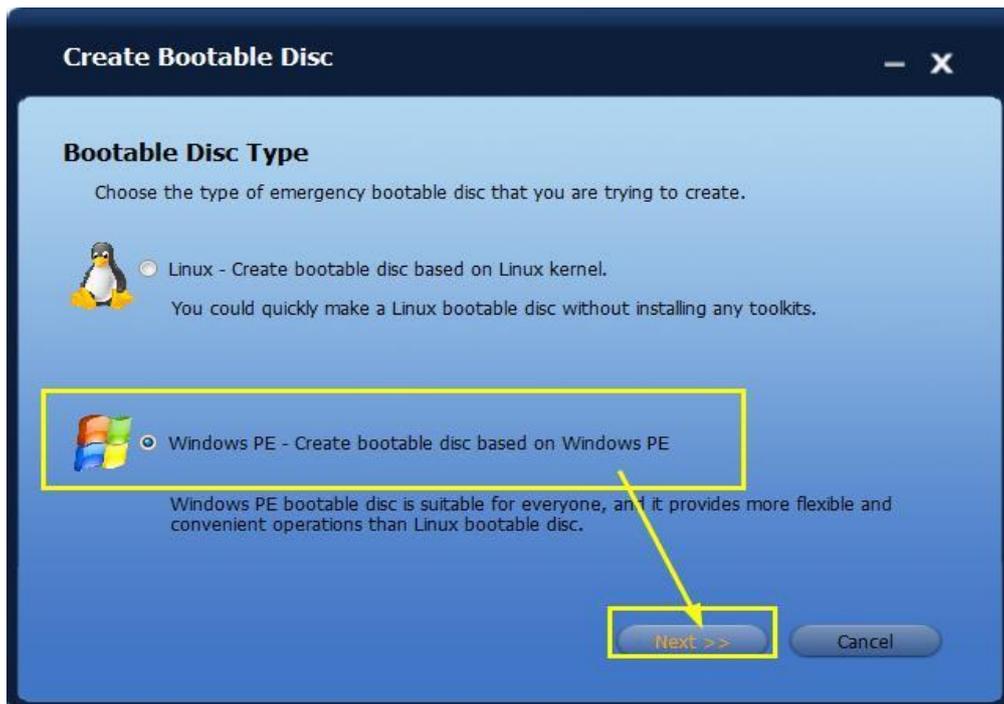
2. Click the "Next" button to continue.

3. If you want to use a USB device or CD/DVD as the bootable media, please plug it into the computer in advance. You can also choose "Explore ISO File", which enables you to create an ISO image file. Then, click the "Next" button to create Windows PE bootable disc.
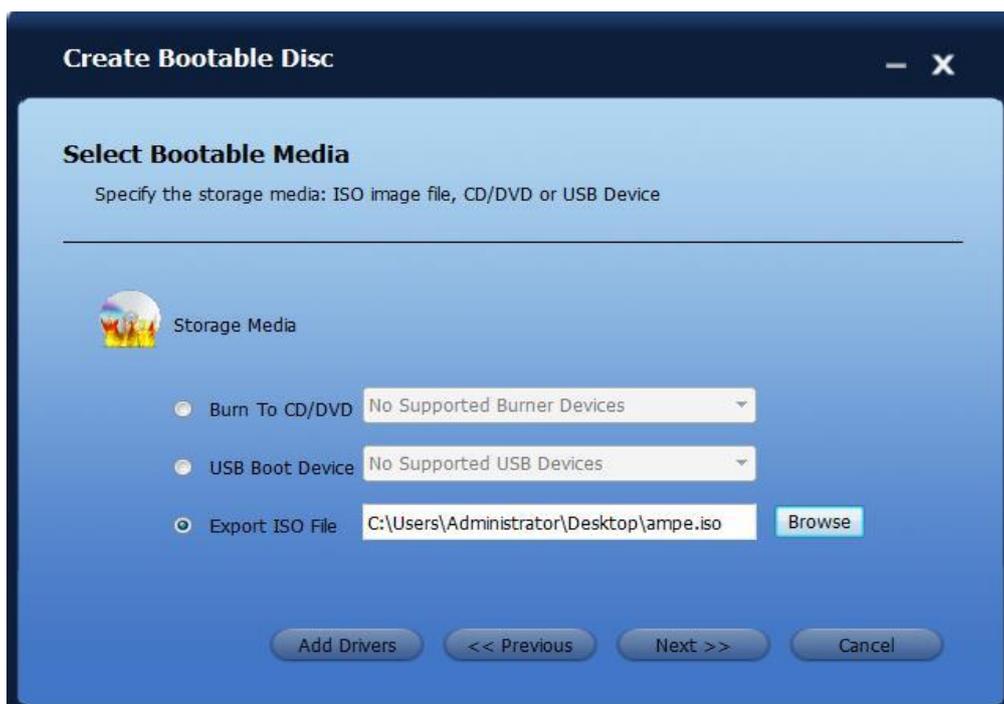
4. Wait for the process to complete and click "Finish".
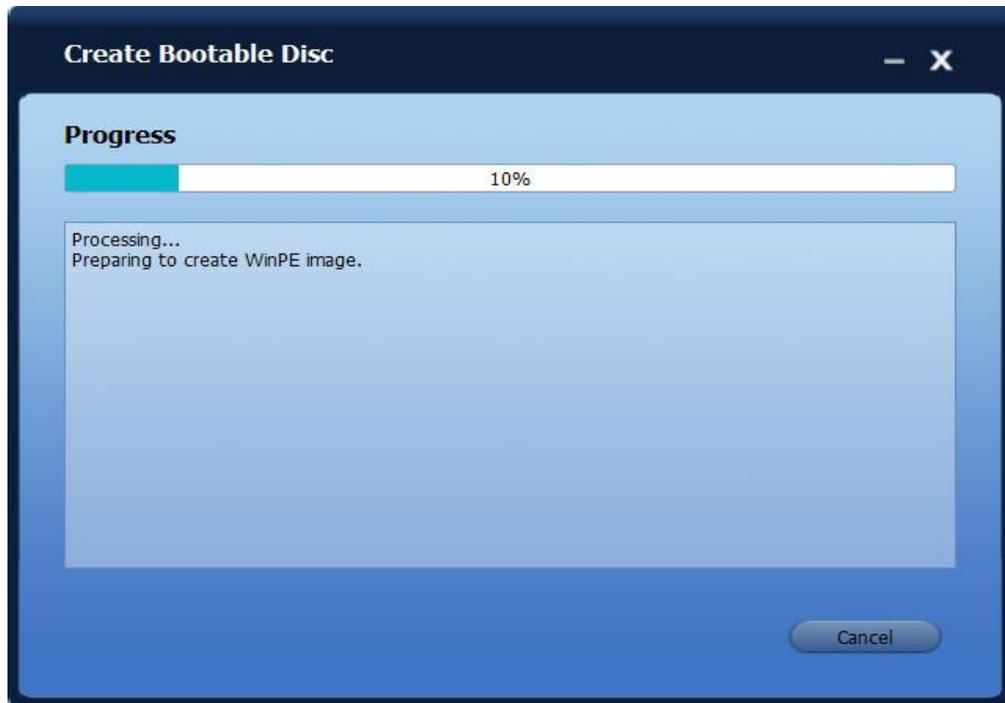
Create Linux Bootable Disc

Creating a Linux bootable disc is similar to the steps of creating Windows PE bootable disc. The only difference is that you can create this kind of bootable disc without meeting any requirement, so there will be no need to download and install Windows AIK. However, as mentioned, a Linux bootable CD might be less compatible.
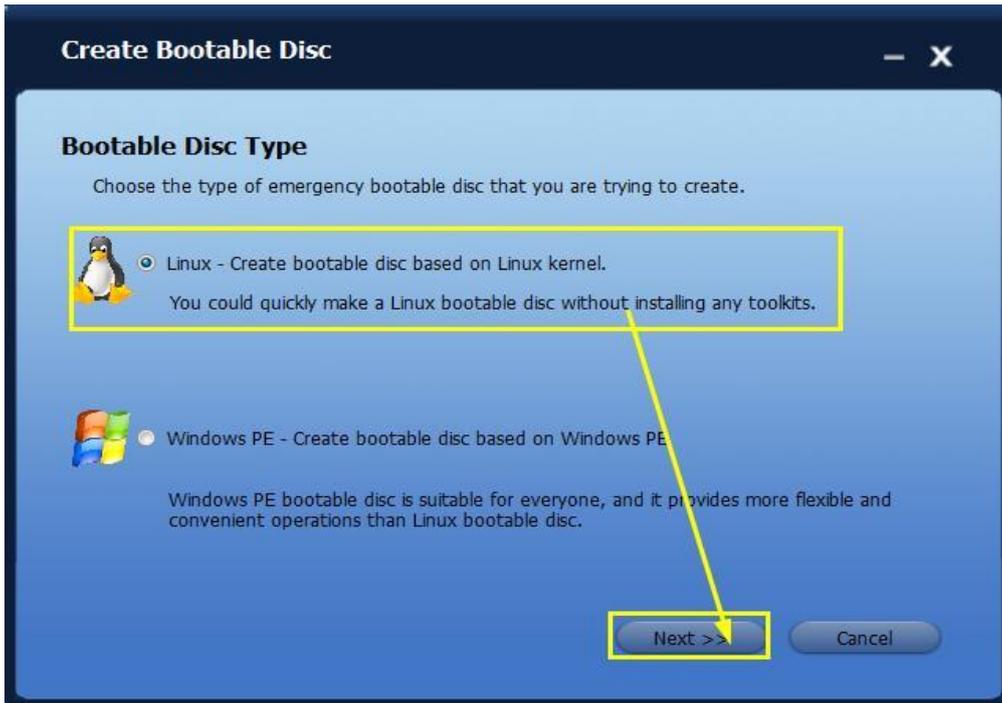
 **Tips:**

- AOMEI Backupper allows you to manually add additional drivers when creating a Windows PE bootable disc.

- If you choose to create an ISO image file, make a note of the path where you saved the image file so you can easily find it subsequently.

- After you complete creating the ISO file, you can manually burn it to a CD/DVD/USB device. Windows 7 and later has an integrated burning utility; you can invoke this by right click on the .iso file, and select -> Open With -> Windows Disc Image Burner. Alternatively you can use 3rd-party burning software. For more guidance please follow the tutorial on how to burn ISO file to CD/USB.

View Logs

This function shows you the log information of what operations this program has done. It displays the operation type, the result of operation, error code etc., to help determine what the error is, if any. If necessary you may then send it to us for help.

To view the logs:

1. In the left Tab, select **Utilities**, and then select **View Logs**.
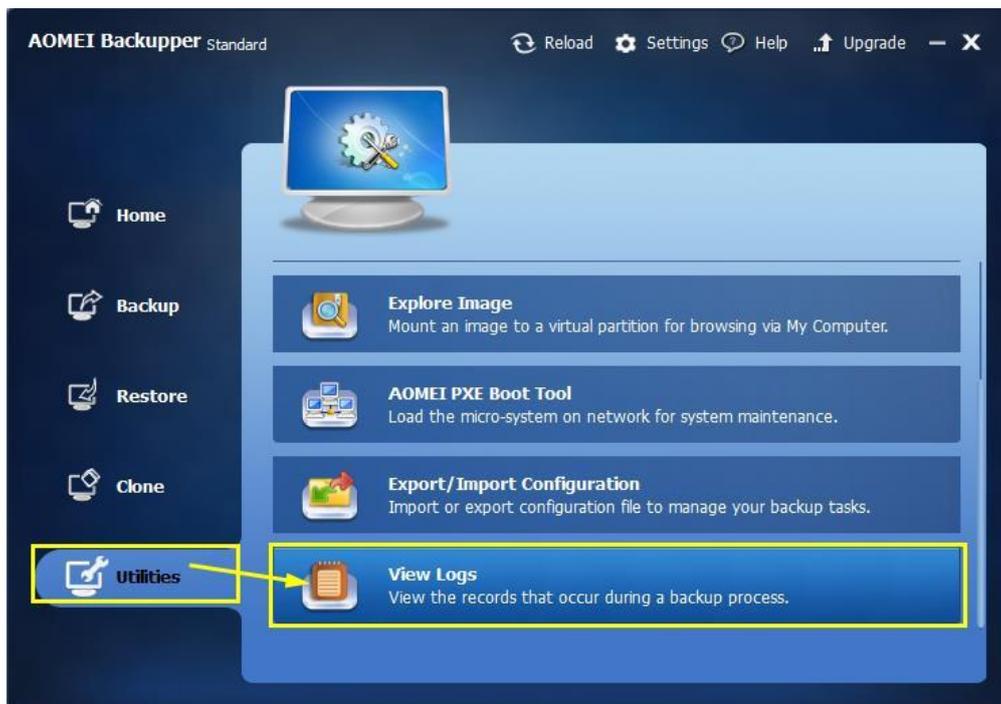
2. In the log page there are further options:
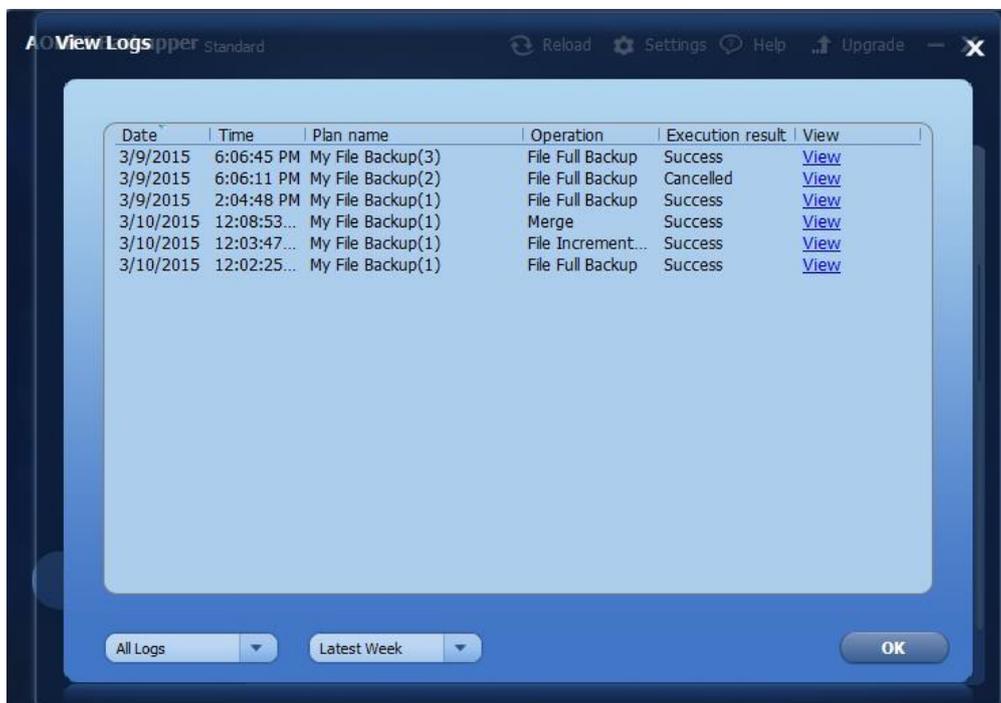
>**Log List**: Displays detailed information of your backup operation.

>**Display by date:** In the lower left corner, you will see a drop-down menu. Select one of the items to list your operations created during this period.

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Tips:

- To clear the logs, please go to "C:\Users\All Users\AomeiBR" or "C:\Documents and Settings\All Users\Application Data\AomeiBR"

- You may then delete the file "brlog.xml". Leave all other .xml files alone. If you cannot locate "brlog.xml", search the "C:" drive to find it.

Export / Import Configuration

The configuration file records all your valid backup tasks. Usually, these tasks are listed in the program's Home page. You can export the configuration to a safe place. If you subsequently lose your backup history, you may then import the configuration data, to recover all your backup tasks to AOMEI Backupper.

To export/import configuration file:

1. In the left Tab, select **Utilities** and then select **Export/Import Configuration**.
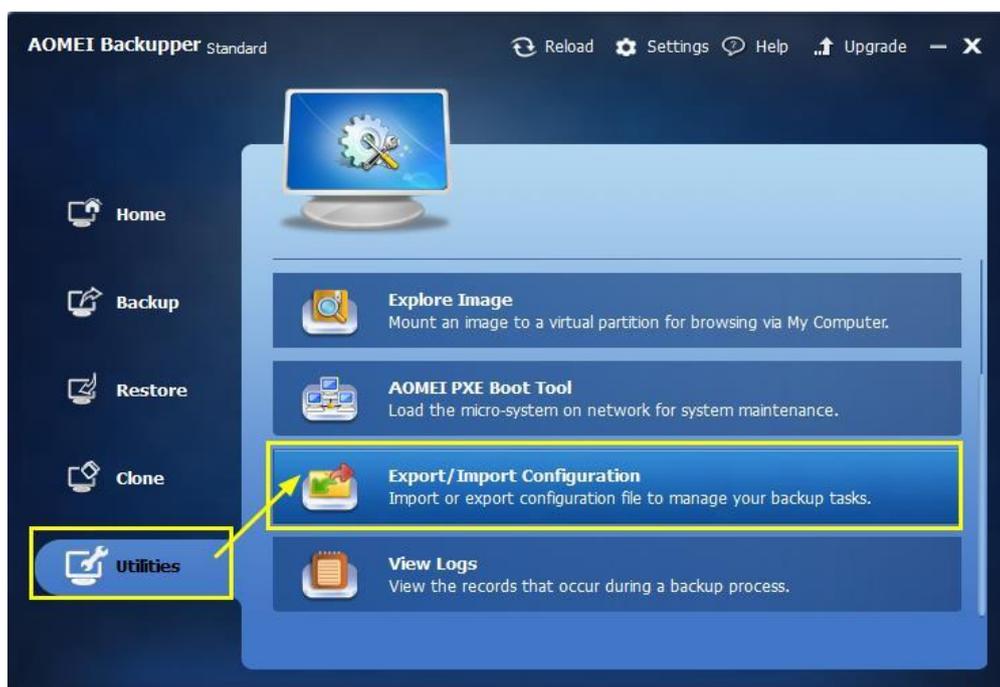
2. There are two options:
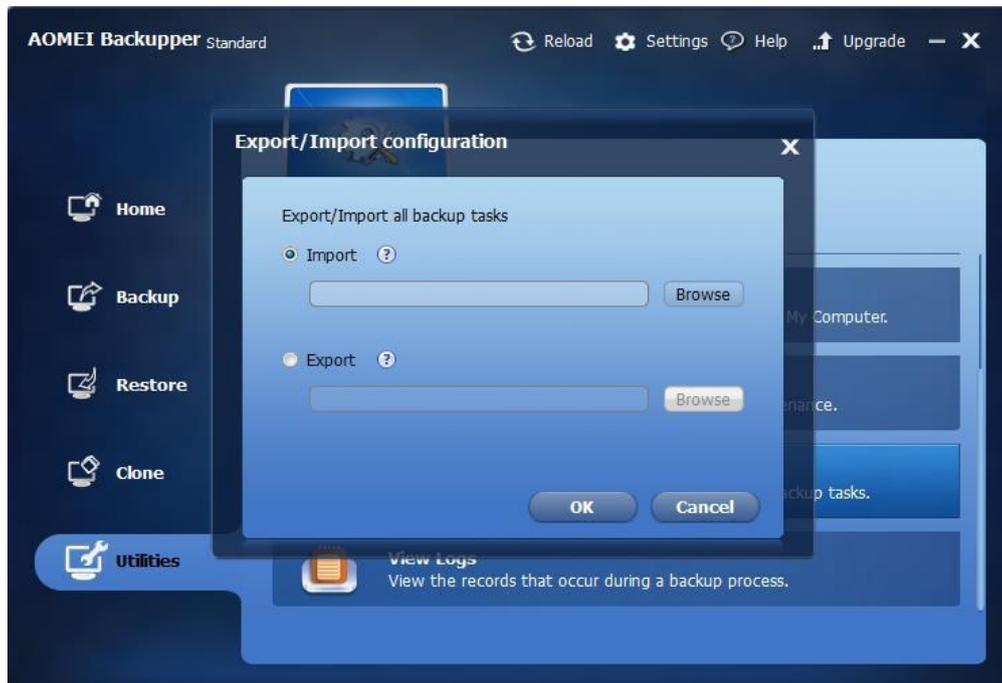
>**Import task**: Import your backup records to AOMEI Backupper from the configuration file you saved before.

>**Export task**: Export the configuration file to another place.

AOMEI Backupper Command Line

For more advanced use AOMEI Backupper can be controlled from the Command Line, instead of using the Windows interface.

Command line:

1. Run the command line prompt as administrator. To open the Command prompt, either:

   a)Click Start, right click Command Prompt and select "Run as Administrator"

   OR

   b)Press WIN+R to open "Run" window and type "cmd" to open it.

2. Navigate to the of AOMEI Backupper installation directory by typing in:

cd C:\Program Files\AOMEI Backupper. If you installed the program in a different location, enter that location instead

This means open the path--"C:\Program Files\AOMEI Backupper" which is the installation directory of AOMEI Backupper of your version. Note: the path must match the installation directory of the program you installed.

3. The options below specify all the Command line parameters that can be used to constitute a fully functional command, e.g:

    AMBackup.exe /b new /t disk /s 0 /d "d:\disk" /n "Backup Disk0"

    This commands **AMBackup.exe** to start a new disk backup and backup disk 0, next save the backup file to "D:\disk backup" and name the backup file as "Backup Disk0"

Command Line Syntax

{ }   are Required parameters

[]   are Optional parameters

| select one from many

null   no need to input any value

Show Help

Input	
AMBackup /?	Type "AMbackup /?" in Comand prompt to look for help
Output	
AMBackup { /b | /c | /r | /l | /? }	-"AMBackup" has five functions, which are backup(/b), clone(/c), restore(/r), list(/l), and help(/?)
AMBackup /l /?	-display the concrete usage of query command
AMBackup /b /?	-display the concrete usage of backup command
AMBackup /c /?	-display the concrete usage of clone command
AMBackup /r /?	-display the concrete usage of restore command

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Command for Backup

For a new backup, the required parameters are:

Parameters	Description
{/b}	Specify the type of backup, it could be one of the following: new inc dif full | new	create a new backup task	
{/t}	Specify the type of source, it could be one of the following: system disk part 	system	means to backup your system
disk	means to backup disks
part	means to backup partitions	
{/s}	Source for the backup: For Disk backup specify the number of the disk, e.g. /s 0. For partition backup, specify the drive letter, e.g. /s C. For partitions without letter, specify the partition number, e.g. /s 0:1
{/d}	Destination path for saving the backup image, e.g. /d D:\Path\File

For incremental and differential backup, the required parameters are:

Parameters	Description
{/b}	Specify the type of backup, it could be one of the following: inc dif full | inc	create an incremental backup based on the last backup
dif	create a differential backup based on the last full backup
full	create a subsequence full backup	
{/s}	Specify the main body for creating incremental or differential backup, e.g. "/s d:\backup\ab.adi" This means creating a incremental or differential backup based on image--"d:\backup\ab.adi"

The following are some optional parameters:

Parameters	Description
[/n]	Assign a name for the backup to distinguish it from others
[/c]	Compression level for the image could be one of the following: 0 1 2 0 — no compression 1 — fast standard compression 2 — higher compression level, but take long time
[/e]	Encrypt image file, e.g. /e "123" means "123" becomes the password for the image file.
[/u]	Username; if you backup to network and the username is required to access the network. You may set up the username by using this parameter, e.g. /u "admin"
[/p]	Password; if you backup to network and a password is required to access the network; e.g. /p "123456".
[/m]	Size in MB for splitting a large image file into smaller chunks. This specifies the maximum size of each part; e.g. /m 1490.
[/r]	Backup the disk and partition in a sector-by-sector way or not, it could be decided by one of these two parameters: 0 1 0 — means standard backup, is default backup option. 1 — Raw backup; This will do a raw (pseudo forensic) sector-by-sector backup, e.g. /r 1

List the disk and partitions:

Parameters	Description
[/l]	List disks and partitions on this computer. Use /l to show ALL disks on this computer, /l0 or /l1 shows partitions only of disk 0 or disk 1. (Note: there is no space between the "/l" and "0")

Examples:

System Backup

1. System backup and assign a backup name

AMBackup.exe /b new /t system /d "d:\sys" /n "Backup System"

2. System backup with no backup name

AMBackup.exe /b new /t system /d "d:\sys"

Disk Backup

1. Backup disk 0:

AMBackup.exe /b new /t disk /s 0 /d "d:\disk" /n "Backup Disk0"

2. Backup disk 0 and 1:

AMBackup.exe /b new /t disk /s 0 /s 1 /d "d:\disk" /n "Backup Two Disks"

Partition Backup

1. Backup partition E:

AMBackup.exe /b new /t part /s E /d "d:\part" /n "Backup Part E"

2. Backup partition E, F and G:

AMBackup.exe /b new /t part /s E /s F /s G /d "d:\part" /n "Backup Parts"

Incremental & Differential Backup

1. Incremental backup:

AMBackup.exe /b inc /s "d:\sys\system.adi"

2. Differential backup:

AMBackup.exe /b dif /s "d:\sys\system.adi"

3. Incremental backup with password:

AMBackup.exe /b inc /s "d:\sys\c-drive.adi" /p "abc321"

Backup to Network

1. Backup to the shared network:

AMBackup.exe /b new /t part /s E /d "\\192.168.0.100\Share\Imgfile.adi" /n "BackupToShare" /u "admin" /p "123456"

2. Backup to NAS

AMBackup.exe /b new /t part /s E /d "\\192.168.0.200\NAS\Imgfile.adi" /n "BackupToNAS" /u "admin" /p "123456"

Compression level and split image

AMBackup.exe /b new /t disk /s 10 /d "z:\folder" /n "Backup Disk10" /c 2 /m 500

Sector-by-Sector backup

AMBackup.exe /b new /t part /s f /d "d:\part" /n "Backup F Drive" /r 1

Encrypted Backup

AMBackup.exe /b new /t system /d "d:\sys" /e "mypassword"

List disks and partitions

1. List the disks in the system:

AMBackup.exe /l

2. List the partitions on disk 0:

AMBackup.exe /l0

Command for Restore

For a backup restoration, the required parameters are:

Parameters	Description
{/r}	restore the backup of system, disk, partition or dynamic volume.
{/t} {system | disk | part}	specify restore type. "system" means to restore system backup; "disk" means to restore disk backup; "part" means to restore partition backup or dynamic volume backup.
{/s}{D:\my backup\my backup.adi | \\192.168.1.1.\my backup\my backup.adi}	specify the path of the image file.
[/v]	specify to use the latest

	backup version to restore(because of incremental or diferential backup).The backup version corresponding to the current image file will be restored without this "/v" command.
[/I] {0 | 0:0}|[null]	specify the source , which means the disk, partition or dynamic volume to be restored in the image file . /i 0 means disk 0 or dynamic volume 0;/ i 0:0 means partition 0 on disk 0; "null" means no need to specify the partition to be restored while performing system restore.
[/e]{"123"}	specify the password for the image file
[/d]{0|0:0|D}|[null]	specify the destination location to restore to. "/d 0" means destination location is disk 0; /d 0:0 means the destination location is partition 0 on disk 0; /d D means the destination location is partition D; "null" means not to use "/d", and restore to the original location.
[/f] {fill | original}	adjust the size of the destination partition. "fill" means to fill the entire

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	destination partition after restoration; "original" means to keep the same size as the source partition after restoration. This command is not available for dynamic disks.
[/a]	specify to use partition alignment to optimize for SSD.
[/u] ["admin"]	specify the user's name to access the NAS share.
[/p] ["123"]	specify the password to access the NAS share.
[/x]	specify universal restore to restore system to dissimilar hardware. It has to be used with "/t system" and "/t disk".
[/k]	specify sector by sector restore. Only when the image file was backed up sector by sector, can it be restored using sector by sector restore
[/o] {yes | no}	switch of the interactive prompt."yes" means to execute automatically the next operation when interactive operation is needed; "no" means to cancel the operation when interactive operation is needed. By default, the

	program will wait for user's confirmation.

Examples:

System Restore
1. Restore the system image named "backup.adi" on NAS share to the original location using partition alignment to optimize for SSD
AMBackup /r /t system /s "\\192.168.0.222\system backup\system backup.adi" /u "admin" /p "admin" /a
2. Restore system in the image named "system backup10.adi" to the partition 0 on disk 0 and perform an universal restore.
AMBackup /r /t system /s "D:\system backup\system backup10.adi" /d 0:0 /x
3.Restore the system image named "system backup.adi" to the original location, and neglect interactive prompt.
AMBackup /r /t system /s "D:\system backup\system backup.adi" /o yes
4.Restore the system image named "system backup.adi" to the original location, and terminate the operation when interactive prompt occurs.
AMBackup /r /t system /s "D:\system backup\system backup.adi" /o no
Disk Restore
Restore the disk image named "disk backup.adi" to disk 2
AMBackup /r /t disk /s "D:\disk backup\disk backup.adi" /i 1 /d 2
Partition Restore
Restore the partition image named "my backup.adi" to partition E, and the password for the image is"123".
AMBackup /r /t part /s "F:\my backup.adi" /i 1:1 /d E /e "123"

Command for Clone

For a clone, the required parameters are:

Parameters	Description
{/c}	clone system, disk, partition or dynamic volume.
{/t} {system | disk | part}	specify clone type. "system" means system clone; "disk" means disk

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	clone; "part" means cloning patition or dynamic volume.
[/s] {0 | 0:0 | D}	specify the source to be cloned. No need to specify the source while performing system clone; /s 0 means cloning disk 0; /s 0:0 means cloning partition 0 on disk 0; /s D means to clone partion D or dynamic D.
{/d} {0 | 0:0 | D}	specify destination location./d 0 means the specified destination location is disk 0;/d 0:0 means the specified destination location is partition 0 on disk 0; /d D means the specified destination location is partition D or dynamic volume D.
[/k]	specify to use Sector by sector clone.
[/a]	specify to use partition alignment to optimize for SSD.
[/l] {A~Z}	specify the drive letter of the new partition after cloning.
[/f]{fill | original}	adjust the size of the destination partition. "fill" means to fill the entire destination partition after cloning; "original" means to keep the same size as the source partition after cloning. This command is not available for dynamic disks.
[/o] {yes | no}	switch of the interactive prompt."yes" means to execute automatically the next operation when interactive operation is needed; "no" means to cancel the operation when interactive operation is needed. By default, the program will wait for user's confirmation.

Examples:

System Clone 1.Clone system to partition D and using partition alignment to optimize for SSD AMBackup /c /t System /d D /a 2.Clone system to patition 1 on disk 2 AMBackup /c /t System /d 2:1 3.Clone system to partition D in use, and neglect interactive prompt to complete the opertion. AMBackup /c /t system /d D /o yes 4.Clone system to E partition in use, and terminate the operation when interactive prompt occurs. AMBackup /c /t system /d E /o no

Disk Clone

Clone disk 1 to disk 2 and using partition alignment to optimize for SSD

AMBackup /c /t Disk /s 1 /d 2 /a

Partition Clone

1.Clone partition E to partition D and using partition alignment to optimize for SSD as well as Sector by sector clone

AMBackup /c /t Part /s E /d D /k /a

2.Clone partition 1 on disk 0 to patition 1 on disk 2, and the new partition will be assinaged a drive letter as X

AMBackup /c /t part /s 0:1 /d 2:1 /l X

Command for List Device

Parameters	Description
[/l][0]|[/s D:\backup.adi]|[1 /s D:\disk-backup.adi]|[/e]|[/u] |[/p]|[null]	list disk, partition, and dynamic volume."/s" means the path of the specified image; "/u" and "/p" means the users' name and password to visit the specified NAS shared path;"/e" means the password of the encypted image.

Examples:

1. list all disk and dynamic volumes of the current system

AMBackup /l

2. list all the partitions on disk 0 of the current system

AMBackup /l 0

3.list the content of the backup image named backup.adi. If the image is a system, partition or dynamic volume backup,the partition(s) becked up will be displayed; if the image is a diisk backup, the disk(s) backed up will be displayed.

AMBackup /l /s D:\backup\backup.adi

4.list all the partitions on disk 0 of the disk backup named disk backup.adi

AMBackup /l 0 /s D:\disk backup\disk backup.adi

Support

Technical Support

Before seeking technical support, first, we suggest you refer to our tutorials at: http://www.backup-utility.com/features/

If you cannot find what you are looking for and need further help, please do not hesitate to send an email to support@aomeitech.com , or visit http://www.backup-utility.com

If you encounter a problem, there is a "log" folder in the installation directory of the program. If necessary, you could compress it to a ".zip" file and send to us so we can help you more efficiently.

AOMEI Backupper FAQ

Q: What else should I take note of when backing up using the Command Line with AOMEI Backupper?

A: There are four things to note:

- You cannot back up data to disc (CD/DVD) by using command line. If you want to back up data to disc, please use the AOMEI Backupper GUI.

- When you back up dynamic volume(s), but the dynamic volume has no drive letter, you should assign a drive letter for it first. You may then back it up it by using command line later.

- AOMEI Backupper command line program must be run by a user with Administrator privileges. If you are a non Administrator user, a window will pop up, in which you need to enter the correct account information to finish the backup process.

- When you backup data to shared network or NAS, you must provide a valid IP address, such as "\\192.168.0.10\foldername", in order to identify the network path.

Q: What else should I take note of when backing up files/folders with AOMEI Backupper?

A: There are five things to note:

- In order to avoid backing up temporary files, garbage files and other useless data, we suggest you perform a data clean up first and back up later.

- Files and folders in the Recycle Bin cannot be backed up.

- AOMEI Backupper can effectively back up files like NTFS compressed files or EFS encrypted files, but the files will no longer have NTFS properties after restoration.

- AOMEI Backupper can back up NTFS files along with their security permissions automatically, and also supports restoring each file's security permissions together with the file.

- We suggest you first put the files you plan to back up into the same folder, and then back up this folder. To save all those files you would then only need to add one backup source to the Backup List, rather than several (Note: every item in the Backup list is called a backup source). This would make backup management more convenient. We suggest you do not add too many backup sources to the Backup list (e.g. the backup source count has reached 2000 or more).

Q: I have received the message: "If the program is unable to restart the computer or failed to enter into Restart Mode, you could…" How do I resolve this?

A: If some files or partitions are occupied by other programs, the restore operation will be performed under Restart Mode. However, AOMEI Backupper may fail to enter into Restart Mode automatically because of some unknown error such as a power failure while the task was being performed.

The solution: Always make sure you have created a Windows PE bootable disc based on legacy boot mode (not UEFI boot mode) or make a Linux bootable disc manually. This will enable you to boot your computer from the bootable disc to restore data.

Q: I received the message: "When failed to create a bootable USB drive or disc directly, you could…" How do I resolve this?

A: When creating a bootable disc using the "Burn To CD/DVD" or "USB Boot Device" option, some unknown errors may have occurred during the creation process , causing failure to make a bootable USB drive or bootable disc. You can solve this by an alternative solution: In the "Select Bootable Media" dialog box, choose "Export ISO File" instead of "Burn To CD/DVD" or "USB Boot Device", and then use third-party burning tools to burn the ISO file to USB, CD or DVD.

Q: I received the message: "After completing the bootable disc, if it is unable to boot the computer, you could…" How do I resolve this?

A: After creating a bootable disc, it may rarely fail to boot because of some unknown error in the process of creating the bootable disc. You can solve this by another solution: Instead, make a Windows PE bootable disc based on legacy boot mode (not UEFI boot mode) or make a Linux bootable disc. In the "Select Bootable Media" dialog box, choose "Export ISO File" instead of "Burn To CD/DVD" or "USB Boot Device", and then use third-party burning tools to burn the ISO file to USB, CD or DVD.

Q: Does AOMEI Backupper support backing up and restoring a UEFI based system drive?

A: Yes, it completely supports UEFI boot backup and restore, while ensuring your system bootable after restoration. Click here to learn more.

Q: Does AOMEI Backupper support backing up and restoring dynamic volumes?

A: Yes, you may back up and restore dynamic volumes in the same way as backing up and restoring partitions on basic disks. If you are going to restore the system partition on a dynamic disk, the system is ensured to be bootable when it is restored to its original state.

Q: I have received the message: "Because the image file exists in a dynamic volume, you need to make a bootable CD based on Windows PE..." How do I resolve this?

A: If there are programs still running on the destination partition during the restore process, the program will automatically restart the computer and run AOMEI Backupper from the Linux Bootable CD or WinPE Bootable CD to complete the restore process. This problem arises because an image file in a dynamic partition cannot be recognized by Linux Bootable CD. To solve the problem, either:

- Copy this image file to a basic partition and then restore again, or
- Click Utilities -> Create Bootable Media, to create a WinPE Bootable CD. A WinPE Bootable CD is able to recognize image files in a dynamic volume. Then run AOMEI Backupper on the desktop or use this CD to complete the restore process.

Click here to learn more about creating bootable media.

Q: I received the message: "Because the image file exists in a share/NAS network, you need to make a bootable CD…" How to resolve?

A: If the image file is kept in a share folder or a NAS device, you will receive the above message if there are programs still running in the target partition which cannot close.

To solve the problem, you only need to click Utilities -> Create Bootable Media to create a bootable CD. Then, use this CD to boot your computer to complete the restore process.

Click here to learn how to do a system restore by using Bootable CD.

Q: I received the message: "Because the system partition exists in a dynamic disk, you need to make a bootable CD…" How do I resolve this?

A: There are two methods available to deal with this problem:

- Click Utilities -> Create Bootable Media to create a bootable CD based on Windows PE. (Not a Linux Bootable CD). Then open AOMEI Backupper on Windows desktop to try again.

- Create a Linux Bootable CD or a Windows PE Bootable CD first. Then set this created CD to be the first bootable device in BIOS. In this way, AOMEI Backupper will run automatically when the computer is turned on. You can then click the Restore button in the main interface, then click "Path: Browse a path to select an image file and restore data from the file" to complete the restore process.

Click here to learn how to restore by using Bootable CD.

Q: Why does program will report 4098 error code while backing up system?

A: Please check whether your system is installed on GPT disk, meanwhile, which is dynamic disk. Program can't support to backup a GPT system on dynamic disk yet.

Q: Why can't be partition resized while restoring system?

A: If System partition and Boot partition are separated to install on different partitions, you can't resize system partition on the destination disk manually, but you still can restore system to partition that is smaller than its space, because AOMEI Backupper will automatically resize the system's space to adjust target partition while restoring.

Q: What should be paid attention to when you use AOMEI File Sync?

A: There are 4 aspects you should pay attention to:

1. If files that you want to synchronize are stored in deep-level directory, it will make source folder's path too long. When it is synchronized to target folder, it may cause the same issue that storing path is too long. This situation will cause sync failure.

2. After synchronizing file, any changes on target files and folder such as delete, add or rename one of them, will cause that target files or folder are inconsistent with source ones. This situation will not benefit for file management.

3. AOMEI File Sync supports VSS (Volume Shadow Copy Service), therefore, AOMEI Backupper can normally synchronize the files that are being used or occupied by other programs, but, you need to make sure that the "Volume Shadow Copy" service in your computer is enabled status.

4. The main function of AOMEI File Sync is to help you to synchronize working files and user data files, however, if there are some special system files or files with special security attributes in source folders (e.g C:\boot\bcd, C:\Windows\CSC), they are not synchronized.

Q: How to back up or clone partitions and dynamic volumes that have no drive letter under command-line?

A:

1. If your partition has no drive letter, you can use the index of partition on the disk to specify this partition. For example, partition D is on the second location of the first disk, then you can use "1:2" to replace drive letter D. You can find the index of disks and partitions by program's inquiry command "/L".

2. If your dynamic volumes have no drive letter, we can only suggest you assign your dynamic volumes drive letters first, then do backups.

Q: What makes backup scheme become invalid?

A:

1. Maybe it's because you deleted the image files manually after you do the full backup, incremental backup, differential backup or backup scheme, and this can result in the version chain of backup task being damaged so that the backup schemes become invalid.

2. Or maybe it's because the program has something wrong which leaded to the invalidation of the backup scheme. Under this circumstance, you need to contact our support team to get help.

Q: Why importing an image file can't generate a task?

A:

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It may because the image file you imported have corresponding task in the task list so there were no new task being generated after importing. The function of importing image file only supports image file that have no corresponding task for now, and in this way, there can be corresponding task being generated in the task list.

Q: Why task schedules weren't actually executed as type you set after setting full backup, incremental backup, differential backup in "Advanced" of task schedule?

A:

1. Maybe it's because you only created scheduled task but didn't do backup immediately. No matter what type of operation you have set, the program will make a full backup at first, and operate as the backup type of your setting in the future.

2. It may because when you set scheduled task, you set backup scheme at the same time. If so, the program will ignore the backup type you set in task, but take backup operation according to the setting of backup scheme.

AOMEI PXE FAQ

Q: How do I configure PXE service in server-side? How to use PXE function to boot in client-side?

A:

1. Run the program to configure PXE service. You can choose "Boot from AOMEI Windows PE system", "Boot from AOMEI Linux system", or "Boot from custom image file". Then click "Start Service" button. If the current system doesn't have the required environment to create a bootable image file, the program will prompt you to install Windows AIK or ADK.

2. After you have finished configuring server-side, ensure the client-side and server-side both exist in the same LAN and network segment.

3. AOMEI PXE Tool contains a DHCP server, so if there is not a DHCP server in your LAN, you can still use it.

4. If the client computer's motherboard is set to UEFI boot mode, change to legacy BIOS boot mode and enable the PXE boot option in BIOS. If you want to use the UEFI mode, AOMEI PXE Tool only supports to boot a WIM file (not ISO file) under the UEFI mode.

5. Restart the client computer to start up the system through the network booting.

Notes:

- *Optional*: Temporarily close all firewalls, including Windows firewall and third-party program firewall before running the feature.

- *Optional*: You may be prompted that some ports are in use by other programs, when starting the PXE service. To check enter the CMD command prompt, and separately type:

  netstat -aon|findstr "67", netstat -aon|findstr "69", netstat -aon|findstr "4011" to check if the 67, 69, 4011 ports of server-side are in use by another program.

  If so, please type tasklist|findstr "PID" to find out which processes are using these ports, and then manually end the processes using theses ports.

Q: In a few cases when using PXE, why does it fail to create a Windows PE bootable image file?

A: Causes may be:

1. The environment required to create a Windows PE bootable image file is not present in the current system. In such case, the program will prompt you to install Windows AIK or ADK, and then restart program to try again.

2. The program is installed in the directory which includes non-English characters. In such case, the program will prompt you that it failed to create Windows PE bootable image file. Please use the "Create Bootable Media" function in AOMEI Backupper to create Windows PE bootable ISO image file, and then store it to the program installation directory. Alternatively reinstall the program into English directory, or install the language pack in current system related to the non-English characters included in the installation directory.

3. A bug has occurred. Please "Create Bootable Media" function in AOMEI Backupper to create a Windows PE bootable ISO image file, and then store it to the program installation directory. Alternatively use other software to create bootable ISO image file, such as AOMEI PE Builder, or select a bootable ISO image file you have already created.

4. If the "Create Bootable Media" function in server-side program is running, creating Windows PE bootable image file in the PXE function will fail. Please wait until the progress of "Create Bootable Media" in server-side program is completed, and then continue with the operation in the PXE function.

Q: In a few cases, why does the client-side fail to boot from the network even after I have finished configuring PXE service in the server-side?

A:

1. If the server-side and client-side do not exist in the same network segment, the server-side neither receives the request from client-side nor sends data to the client-side. The inability to communicate results in the client-side failing to use the PXE function to boot from server-side. In such a case, configure the server-side and client-side with the same network segment.

2. The client-side using PXE function to boot from the network may be affected if the firewall of server-side is enabled. In such case, close the firewall of server-side.

3. Boot failure will occur if the client-side uses UEFI boot mode to start up from the network. Currently the PXE function in the program does not support UEFI boot mode. To correct this, enter into motherboard settings to change the UEFI boot mode into legacy BIOS boot mode.

4. It may be that the logged-in user in server-side is not an Administrator account. In such a case, the configured PXE service fails to start automatically after logging in. Please run AOMEI PXE Tool with administrator privileges, and then click "Start Service" button. Restart from the client-side to try again.

5. The client-side using PXE function to boot from the network must connect to the server-side through a wired network. The PXE function does not support communication through the wireless network card.

Q: In a few cases, why does system startup fail when using PXE function to boot from the network?

A:

1. The selected bootable image file might have a problem. Please re-create a bootable image file, or use "Create Bootable Media" function in AOMEI Backupper, or use AOMEI PE Builder.

2. If the selected bootable image file is too large, or the computer's memory too small, boot failure may occur because of insufficient memory. Please select a smaller bootable image file.

AOMEI Universal Restore FAQ

Q: After system is restored to other dissimilar hardware computers, why cannot it boot normally?

A:

1. Please make sure that "Universal Restore" is checked, because when there is difference between computer where source system is installed and hardware environment of target computer, "Universal Restore" must be chosen, and restored operating system can be sure to boot normally.

2. Maybe computer disk mode (AHCI IDE RAID) is changed. Disk mode is not allowed to be changed after using universal restore. In other words, if disk mode is AHCI while restoring

system, please stay disk mode the same as AHCI after restoring, If not, system will not boot normally; so does IDE RAID, and they need to stay the same with source disk on disk mode. (About disk mode, you can refer to BIOS manual).

3. Please make sure that Universal Restore operation is run under Windows or Windows PE bootable media, because AOMEI Linux bootable media can't support universal restore currently.

4. If the BIOS version of target computer that you restore system to is advanced than InsydeH20 Rev.3.7 version, you need to enter BIOS setting manually and set "OS Optimized Defaults" in the "Exit" item:

   ➢ If the OS restored is Windows 7, you need set parameter as "Win7 OS".

   ➢ If the OS restored is Windows 8, you need set parameter as "Win8 64bit".

   ➢ If the OS restored is other Windows system, you need set parameter as "Other OS".

   Only in this way, different machine that is restored system will be sure to boot normally.

Q: About problem that activation overdue is prompted by computer that applied with universal restore while it booting.

After restoring legitimate Windows from one computer to others, it is normal that system prompted that system need to be activated again after it booting. Due to the fact that there is limitation to use activation code, therefore, you may need to activate system again.

Q: About the problem that software need to be activated again after using universal restore.

After restoring Windows from one computer to others, it is normal that billing application or software prompted that system need to be activated again after it booting. Due to the fact that there is limitation to use activation code, therefore, you may need to reactivate those billing application or software again.

Q: About the problem that computer need to install graphics card, network card, and sound card drivers etc.

Universal Restore just makes sure system can boot normally after restoring system from one computer to others. For some drivers that are not relevant to system booting, such as graphic card, network card, and sound card drivers, etc, they need you to install manually.

Glossary

Backup

Backup refers to copying data into an image file, which can be used to restore its contents to the original state if there is any data loss. AOMEI Backupper supports creating image files for disks, partitions and volumes etc.

Full Backup

A Full Backup is an image file that contains a selection of files and folders, partitions or discs that can be completely restored to their original state, independently from any other image file.

Incremental backup

An Incremental Backup is an image file containing only changed or newly added data based on the previous backup. They are created in a time sequence. The first incremental backup in the sequence must always be preceded by a full backup. Compared to a Full Backup, the image file of an Incremental Backup is much smaller, and the backup operation will take less time. In addition, because multiple backups can exist in the sequence each relating to a different time point, users are able to pick a time in the past to which to restore data, should they wish.

Incremental Backups can only be used in conjunction with their related Full Backup along with all the other Incremental Backups that were done in between.

Differential Backup

A Differential Backup is an image file containing all changed or newly added data based on the previous Full Backup. A Differential Backup must always be directly related to a Full Backup. As time progresses, each Differential Backup will contain more changes made in comparison with the original Full Backup, and will therefore become progressively larger.

Differential Backups can only be used in conjunction with their related Full Backup.

Image File

An Image file is a file containing a "snapshot" of the state of saved computer files, folders or partitions, so that the data within can be faithfully restored to that state at a later date, if necessary.

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Recovery / Restore

Recovery is the process of restoring files, system, partition or disk to a previous state from an image file or files, if there is a disk problem, such as a system crash, hardware and software failure, data loss, virus and hacker attack, etc.

Disk/Partition clone

Clone refers to creating a duplicate of the source partitions/disk by coping them to a destination disk/partition sector-by-sector. Consequently the destination disk/partition possesses identical content as the original one. It is important to know that the cloning process will overwrite all the previous data on the destination partition/disk.

Sector

On a hard disk, each track is divided into a number of sections, called a sector. A sector is the smallest logical storage unit on a hard drive, and each one holds a fixed amount of data. A sector is equal to 512, 1024, 2048 or 4096 bytes.

Bootable media

Bootable media can be a CD, DVD, USB external drive or flash drive that can be used directly to boot a computer into Windows, and which also contains a standalone version of AOMEI Backupper. This bootable media can be used to restore system and partitions when your system is otherwise unable to boot. Once the operating system has been booted from the media, users can carry out a Restore operation using AOMEI Backupper to recover any or all lost data.