Saving System Images in a VHD Format

Handy Backup utilizes a VHD format for backups containing snapshots of hard drives and partitions. This format combines native perfection and high flexibility, allowing restoring or cloning a system backed up, as well as starting these images as virtual machines, or opening files as virtual drives.

Purposes of Hard Drive Copying

You can copy an image of a hard drive or a partition for some obvious reasons, at least for making a copy for emergency restoration. Besides this purpose, other possible applications for a system copy are extracting some data from it for processing, and running the system as a virtual machine.

Restoration

It requires a consistent, unchanged drive image to restore or clone it byte-to-byte identical to an original drive content. It can be done on a physical level (up to every single sector location) or on a logical level (with all data transferred to a new place continuously).

Handy Backup provides a dedicated restoring utility called Handy Backup Disaster Recovery (HBDR). This utility can snapshot an image of a system drive (including both UEFI and Legacy unit types), as well as restore the drive from an image from scratch.

Manipulation

You can feel a need to extract only one or two files (folders, databases…) from your drive image; therefore, a complete restoration of the system may be unwanted. Thus, you can map your VHD file as a read-only virtual disk, to browse and copy data from it.

- Manipulating with a restorable disk image requiring keeping data consistency. Therefore, when you open a VHD image to browse it for data, please force it to be a read-only virtual drive.

Virtualization

If you need, run your copy of a system as a virtual machine (VirtualBox is a perfect virtual machine manager for VHD files). Continue to use the environment you like or tune up even when a hardware for this environment becomes obsolete or unreachable!

Some other virtual machines, including Hyper-V and VMware, are also support a VHD file format as a standard Microsoft virtual drive format.

Purposes of Hard Drive Copying

Handy Backup uses a Volume Shadow Copying service (VSS) to take a snapshot from a system drive without stopping a system itself (so-called "hot backup"). Thus, you can save a copy of your system any time, without any special preparations.

Note: The HBDR utility can load itself from a USB memory stick when turning on computer, to take a backup without even starting your Windows. It can also save images of system drives containing any other OS than Windows. Actually, it is a most completely standalone utility, adding to your toolkit.

You can save an image of a non-system (or non-active system) drive or partition using Handy Backup. All you need is to connect a system drive somehow to your PC and then apply the "System Recovery" dedicated tool. Therefore, you can form a perfect VHD image of any drive connected to your machine.

A Few Words about Backing up Virtual Machines

Handy Backup can save snapshots from virtual machines (VMs) using VHD files as system drive images. This can be done "from inside", when a copy of Handy Backup running on the virtual machine, or "from outside", when Handy Backup saves data from a VM server or a virtual machine array.

- **Inside:** The system image generated by a "System Recovery" feature will be a perfect VHD file containing an image of a virtual machine OS drive.
- **Outside:** You may or may not save a VHD file as a part of a particular VM dataset. This activity does not require nor force saving a VM data as a VHD format; it just copies all VM content.

Please take into account that the "Hyper-V" feature of Handy Backup automatically compress all Hyper-V data into ZIP packages. If you need to extract a VHD file, which is being a part of a Hyper-V array, just open your archive and find the required file manually.

A Few Words about Mapping VHD Files as Virtual Drives in Windows

In all modern versions of Microsoft Windows, starting from Vista, you can attach a VHD file as a virtual (mapped) drive to your PC. To do it, please go to the disk management section of your "Computer" main menu option, and select attaching or removing a virtual drive from an actions menu.

Note: Do not forget to mark your drive as read-only, to preserve a consistency of your VHD data. Without this precaution, you (or a virus, or some unknown program) can accidentally change the content of a VHD file, instead of merely browsing it, and ruin the disk image integrity!

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