Dr.Backup, LLC
Online Backup Service

Full Image Backup
Advanced Recovery Techniques

Bare Metal Restore from VHD/X

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http://drbackup.net

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Local Image Backup
Recovery & Support Options

Recovery Option	Description	Dr.Backup Support	Onsite Tech Support
Mount & Share **(File Access)**	Attach backup media to networked PC. Mount image (VHD) and establish shared folder access.	Included	Optional
Virtualize PC onto Temp Workstation **(Application Access)**	Attach backup media to networked workstation. Install virtualization software. Configure virtual PC using VHD. Boot and test configuration. Verify application access.	See P2V Configuration Service Package Plan	Contact Local Consultant
Bare Metal Restore (BMR) of Repaired or Replaced Device	Use Windows compatible boot and recovery disk to recreate disk partitions. Attach backup media, mount and transfer VHD image contents to disk*	**N/A**	**Required** Contact Local Consultant
Full Migration to New Environment	Deploy new hardware and operating system. Reinstall/upgrade application software, attach backup media and transfer data to new computing platform	**N/A**	**Required** Contact Local Consultant

* Bare metal restore to dissimilar
hardware configurations may not
be possible. Consider virtualization.

Local Image Backup protects you against data loss from equipment failure. It's the perfect complement to offsite backup of mission critical files, folders and databases

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Advanced Data Recovery
Bare Metal Restore (BMR) Scenarios

- You experience a catastrophic event where your computer is damaged or otherwise corrupted and non-functional

- Your device is repaired/replaced (like-for-like) and brought back to an out-of-the-box "new" or condition where there is no operating system, software applications or data

- Contents of disk storage are permanently destroyed beyond or repair – perhaps malware or virus infection

BUT – If you subscribe to Dr.Backup Full Image Backup Service, you have a virtual hard disk (VHD) image which is a complete copy of your damaged work environment and can be used to recover.

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Bare Metal Restore Recovery Process – Major steps

- Repair equipment or replace – device in good working order

- Obtain or create a Boot and Recovery Device (BARD)
  - Several available on Internet - Contact Dr.Backup support
  - Tool selected must support VHD (or VHDX) formatted backup media
  - Recovery environment should fit on CD or USB thumb drive

- Attach backup media to machine (USB port)
- Attach BARD media to machine (CD or thumb drive)
- Power on repaired machine and enter "BIOS" (F12 - see hardware guide)
- Set boot device as CD or thumb drive (USB)
- Boot with BARD into tool's main recovery screen
- Perform the transfer of VHD/X to the permanent/repaired device using disk/partition copy tool

Live Demo Notes & Disclaimer

- Bare metal restores must be done locally by qualified technician who has physical access to machine – Dr.Backup cannot perform this task alone.

- The VHD/X images created by Dr.Backup are in a non-proprietary format. You can use any qualified recovery tool you want that supports VHD/X.

- Demo presentation is designed to illustrate the basic concepts involved in the recovery. It is not detailed training on how to use a specific tool or to recover from all disaster scenarios. A PC emulator is being used to simulate the live screen interactions you will see on the device you recover

- We will demo with a BARD created using the Windows 10 "PE" environment (free) and other tools. Contact Dr.Backup Support for instructions on how to download this from the Internet at no charge.

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# Details of Device Being Recovered in Demo

- Recovery Target: Windows 10 workstation
- Single SSD Disk 0 – 256GB
- GPT formatted volume (>4 partitions)
- EFI Boot Partition – Fat32 (partition #2)
- OS Partition – C:\ (partition #4)
- Small Data Partition – D:\ (partition #6)

| Disk 0 Basic 119.12 GB Online | 1000 MB Healthy (Recc | 260 MB Healthy (E | 1000 MB Healthy (OEM | (C:) 92.57 GB NTFS Healthy (Boot, Page File | 350 MB Healthy (Re | LENOVO (D:) 4.00 GB NTFS Healthy (Primary | 8.00 GB Healthy (Primary P | 12.00 GB Healthy (Recovery P |

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Demo of Recovery Process

- Power on PC into BIOS screen
- Set PC to start from BARD media
- Boot to main Win PE desktop
- Overview basic tools & options
  - Special drivers for disk storage (Raid on Servers)
  - Network connection & SimpleHelp support session
  - Map drive to NAS if required or attach USB backup media
- Demo #1 – Mount VHD/X image of OS volume and copy partitions to newly replaced disk drive. (Image the entire boot drive)
- Demo #2 - Restore a single data partition onto disk from VHD/X
- Demo #3 - Boot the recovered PC into Windows and login

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Demo of Bare Metal Restore
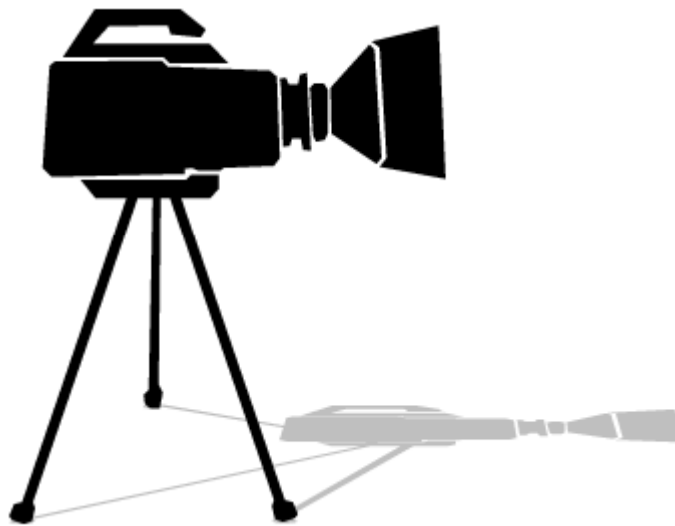
Next Steps

- Contact customer support for assistance in restoring (individual) critical data files from the Internet that were created/updated **since the full image backup was taken** (for best RPO)

- PRACTICE this recovery process. VHD/X restores take a long time. You don't want to make a careless mistake once a failure has occurred and you are on the hook to restore your customer to operation quickly.