

## Intelligent management and space reclamation for thin provisioned environments

### Intelligent, Automated Windows Thin Provisioned Space Reclamation

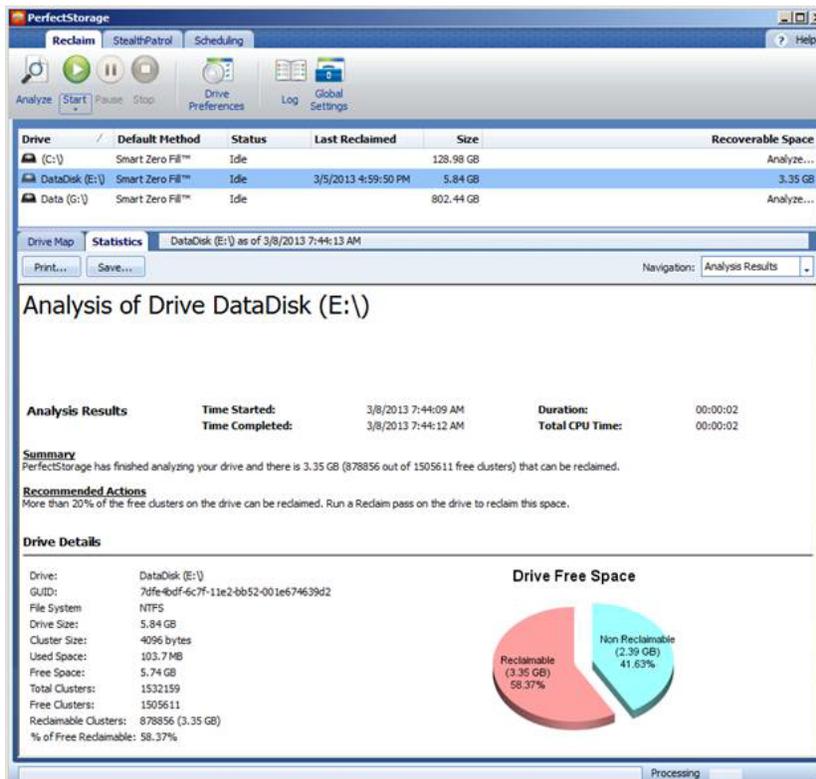
PerfectStorage™ brings intelligent and automated management to the cumbersome and resource-intensive process of reclaiming valuable storage space in Windows thin provisioned environments. With PerfectStorage, your organization is able to better manage and take better advantage of the benefits of over allocation of storage.

### Reclaiming space in a thin provisioned environment

Over allocation of storage is a key benefit of thin provisioning. It allows a server to view more capacity than has actually been physically reserved for that server. The storage gets used only when data is actually written, not when the drive is initially created.

When the data is deleted by the Windows file system, the storage space allocated for that data is still not available to be used again. If not managed properly, the storage is wasted until it is properly made available for use. Monitoring and managing storage can take a significant amount of your valuable time, particularly with the typical manual tools available.

Depending on your hardware, space can be reclaimed and made available for use again by either zero filling it or by the SCSI UNMAP command. Both of these methods are not simple. They are typically cumbersome, time consuming, resource intensive and prone to human error, all of which make performing the task in a production environment particularly problematic, if not unfeasible.



PerfectStorage's storage analysis let's you see how much recoverable space your thin provisioned drives have.

### Highlights

- Automation of thin provisioned space reclamation
- Supports Zero Fill™ and SCSI UNMAP
- Exclusive Smart Zero Fill™
- Quickly identify how much space is reclaimable
- Intelligent replacement for SDelete and other command line tools
- Flexible scheduling
- Unattended operation
- Designed for production environments
- Centralized management

## Automating the process -- with intelligence

PerfectStorage automates the entire space reclamation process for thin provisioned drives, using minimal resource usage and using its exclusive Smart Zero Fill™ technology or SCSI UNMAP. With PerfectStorage, you can easily identify how much space can be reclaimed, so you can plan better and eliminate surprises.

- Maximize the benefits of over allocation on thin provisioned drives
- Automatically reclaim free space using Smart Zero Fill or SCSI UNMAP, with minimal resource usage
- Easily identify how much space is reclaimable
- Replace SDelete and other command line tools to easily and automatically reclaim space in production environments.

This automated and intelligent process completely replaces what has to now been anything but. For example, the SDelete command line utility is not only a manual process that involves writing and maintaining a script, it requires applications and services to be shut down so that all available free space is available. PerfectStorage has no such requirement, making it the perfect solution for production environments as well as your test environments.

### Unattended operation

With PerfectStorage, you have maximum flexibility and control over how space is reclaimed. An easy-to-use Schedule Wizard guides you through the process of configuring reclaim operations at a specified date/time. PerfectStorage's exclusive Stealth Patrol is also available to reclaim space when a system is idle. You can also manually initiate a reclaim operation. All reclaim operations are designed to minimize system resource usage.

### Centralized Management

The PerfectStorage Enterprise Console can be used to centrally manage reclaim operations across a large number of systems. The PerfectStorage Enterprise Console supports deploying the PerfectStorage software to remote systems and configuring PerfectStorage for un-attended operations. Information about remote systems - including how much recoverable space and when space on a drive was last reclaimed can be seen in the PerfectStorage Enterprise Console.

### System Requirements

PerfectStorage runs on the following versions of Windows and hardware platforms:

- Windows 7 all editions (x86 and x64)
- Windows 8 all editions (x86 and x64)
- Windows Vista all editions (x86 and x64)
- Windows XP Professional SP3 (x86 and x64)
- Windows Server 2012
- Windows Server 2008
- Windows Server 2003 SP1 or higher (x86 and x64)

Memory - 64MB (128MB recommended).

Disk Space - When installed, PerfectStorage requires 40MB of disk space.

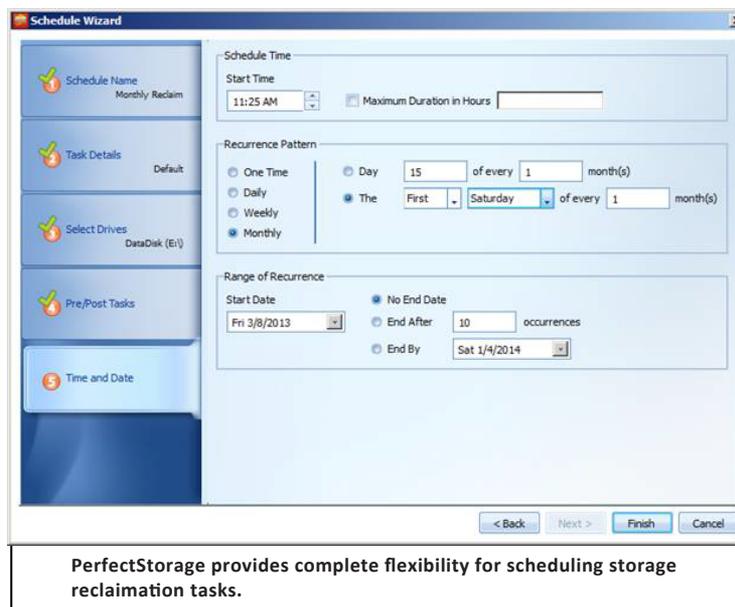
File System - PerfectStorage works with the drives that are formatted as NTFS.

Processor - x86, x64.

Disk Type - Mounted and un-mounted volumes, RAID, SAN, iSCSI connected hard drives

PerfectStorage supports Windows guests running in the following virtual environments:

- VMware
- ESX 5.1 must be installed at the host and Virtual Hardware Version 9 must be applied to a virtual guest in order for SCSI UNMAP to reclaim space
- Hyper-V 2008R2/2012



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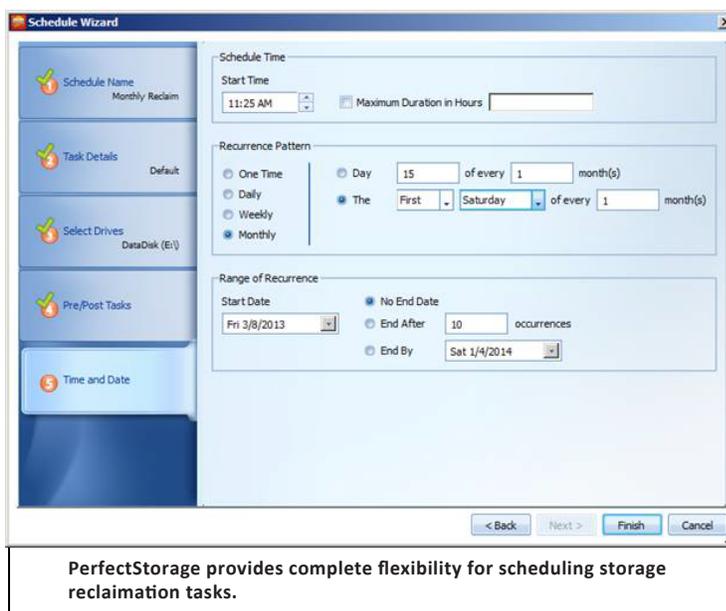
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