

iAdministrator

The magazine for professional system and network administration

**Product tested:
StorageCraft
ShadowProtect Server 4
Continuous Backup**

**Special Reprint for
StorageCraft**



Product tested: StorageCraft ShadowProtect Server 4 Continuous Backup

By Thomas Bär

Backup software is an essential tool for every administrator. If a system fails or data cannot be found, users will automatically assume – and usually rightly so – that their administrators will be able to solve the problem. In the event of a disaster, repair and recovery can take several hours, or even days, unless modern backup software such as ShadowProtect 4 is used. IT Administrator wanted to find out just how good this software actually was.

StorageCraft launched its current ShadowProtect Version 4 in English back in spring of this year. The German version followed in summer 2010 and was designed to drastically speed up data recovery on Windows computers. The core technology used in StorageCraft's products is a certified VSS provider, which is also used by other backup solution providers.

Shadow copies and their limitations

Depending on the Windows settings, file and folder recovery can be performed via shadow copies over a period of several days or even weeks. Scheduling of the shadow copies will depend exclusively on the environment at hand. However, if an entire server crashes and all its data is lost as a result of a hardware fault or a software error, this smart, intuitive feature is of no use. Given the large amount of data in question – often in the terabytes in many environments – fast recovery of a tape backup is virtually impossible. However, many small and medium-sized enterprises cannot afford to implement a high-availability cluster or mirrored systems. StorageCraft's ShadowProtect 4 can be just the solution for such environments. ShadowProtect offers several extra functions in addition to the many reliable standard solutions offered by current backup software. One particularly exciting feature is the software's ability to bring failed

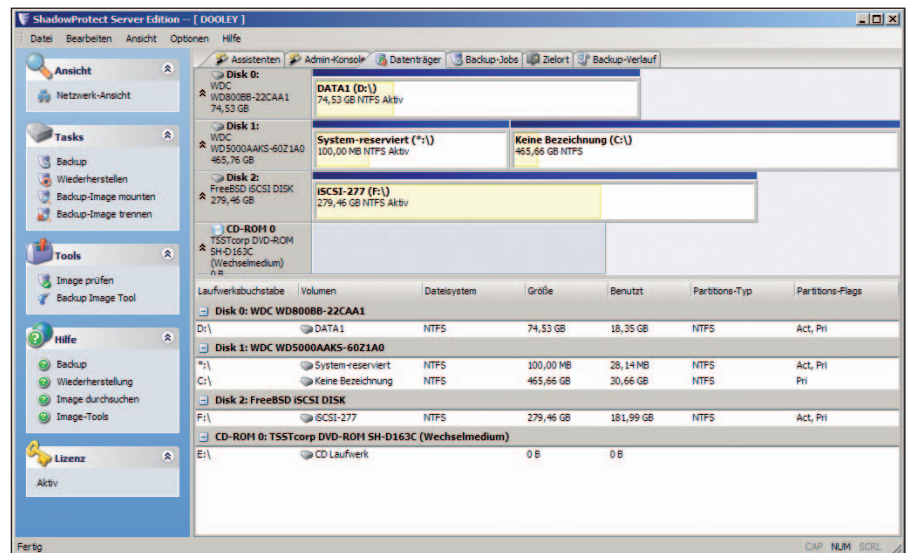


Figure 1: The ShadowProtect interface provides all the necessary information for scheduling and executing backup jobs. Overall, the software is highly intuitive.

systems back online in a virtual environment in very little time.

New features in ShadowProtect Server Edition 4

This edition features several completely new functions compared with the previous version. The new management console allows IT administrators to push install the required client-agent software on several computers at once. Servers can now be grouped as required for a better overview, which can be useful for large-scale installation projects. Furthermore, VirtualBoot allows to start backup images on a virtual computer using the free virtualization software Virtual Box by Sun/Oracle. ShadowProtect backup image files, including incremental backups, can thus be brought

online in very little time. The new “Resume on Interruption” function allows the software to resume recovery even after interruption due to a fault caused, for instance, by a power cut. All ShadowProtect versions come with the ImageManager programme. This software allows to verify and consolidate the back-up images created and to replicate them locally. With notification functions such as a message displayed when there is only ten per cent hard-disk space left, administrators are spared any unpleasant surprises without having to create such functions themselves using scripts.



Getting started

A 30-day trial version of the software providing an overview of the system is available for download on the manufacturer's website. Users are provided with background information on how the software works and pdf manuals in English and also in German. Installation takes just a few minutes and requires a restart. The interface must have taken little time to translate: Windows 7 is erroneously declared as a server system, and, as it is a server, only the console is installed.

The ShadowProtect interface is largely self-explanatory: Users are assisted by means of wizards that guide them step-by-step through the process of creating back-up jobs. The software offers all the usual functions such as backup compression and encryption, the definition of storage locations and the scheduling of backup jobs, as customarily found in other programmes. StorageCraft can be push-installed to other servers and PCs from one central machine. However, the machines to be managed are only accessible after a restart. The first task is to schedule backup jobs for the various machines. It takes around twenty minutes to set up all the basic functions and have the backup system up and running.

ShadowProtect Server Edition 4 is only available for Windows systems. Both the x86 and the x64 versions of the current Windows 7 and Server 2008 R2 operating systems are supported. Support is limited for Windows 2000 SP4 (Server and Professional) owing to a minimum set of requirements. Older Windows versions and Itanium-based Windows are not supported. ShadowProtect works with all the usual Windows file systems from FAT16, FAT16X, FAT32, FAT32X, NTFS, MBR disks and GPT disks through to basic and dynamic storage media. The backup images may be stored on virtually any type of drive, for example DAS, network drives, SAN, NAS, iSCSI, SCSI, USB or Firewire/IEEE1394, solid state disks (SSD) or optical media such as CDs, DVDs or Blu-Ray disks).

System requirements

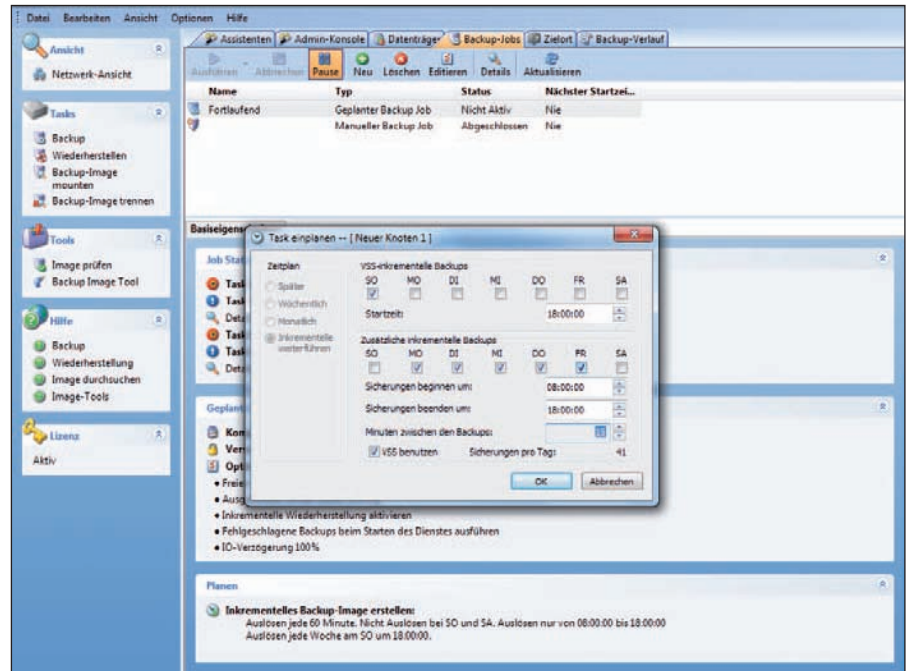


Figure 2: All backups in ShadowProtect are based on shadow copies. These are created very quickly and allow a large number of snapshots per day.

As usual, the backup speed depends primarily on the hardware used and the backup disk write speed. While a full backup of a test server on locally connected hard disks took just a few minutes, the same backup on an iSCSI device connected via a Fast Ethernet took longer. ShadowProtect creates the backups as images. Depending on the settings made by the administrator, these images can consist of various large files or several files of a given size, which can be transferred, for example, to optical storage media.

Simple data rescue

If individual files or folders need to be recovered from backups, the required image is opened as a backup image. The image then becomes available in Windows as a read-only storage medium and can be modified and copied from/to by the administrator. Complete data volumes are restored with the aid of a wizard.

As is well known, recovery of system partitions is only possible if the operating system was not started via these partitions. Windows computers that can no

longer boot can be recovered via a boot CD (the so-called ShadowProtect Recovery CD). The boot CD offers two different recovery environments (XP/2003 and Vista/2008-based). Both PE operating systems are provided on the Recovery CD. Network drives can be mapped as required, allowing backup images to be opened on other servers. On the whole, the recovery CD contains good instructions and is self-explanatory. The range of functions available is impressive: a built-in VNC service means that the administrator does not have to sit directly in front of the machine but can instead log onto it remotely via the network by entering a password, which provides protection against unauthorized access. Backup images can be verified before they are used for recovery.

Virtual recovery

The basic software functions for data backup, file recovery, possible snapshots and meaningful reports are reliable and very useful. However, a special feature of ShadowProtect is fast recovery of a crashed machine by booting it in a virtual environment.

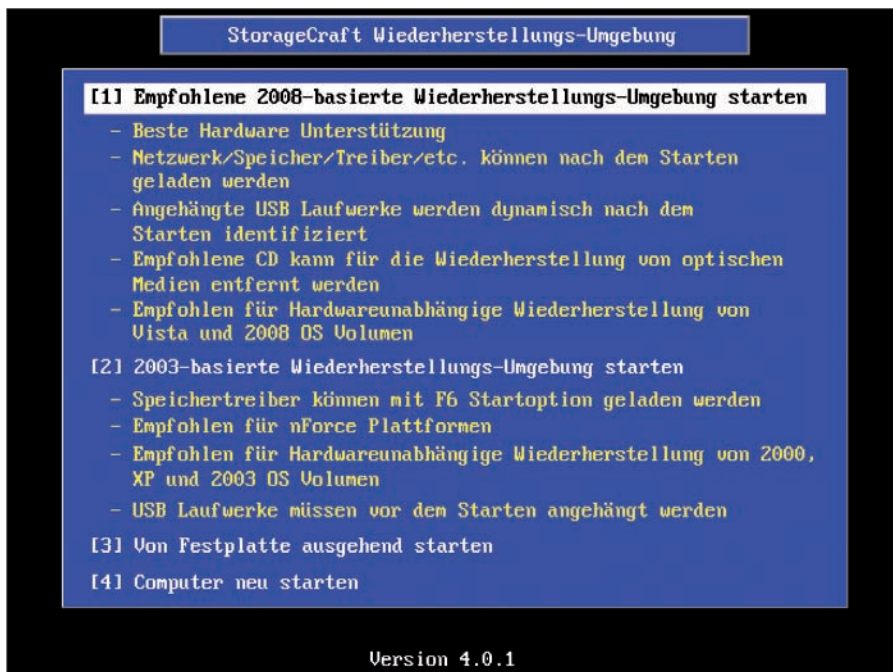


Figure 3: ShadowProtect's boot medium offers different recovery environments. Backup images may be accessed remotely via the network.

Administrators will initially search ShadowProtect's menus and main interface in vain for the option for boot as a virtual machine. The online help, which refers directly to the manufacturer's website, is of no use whatsoever. In our test, the links produced a 404 error owing to the manufacturer's web pages not being found at the given URLs. The very idea of providing help files exclusively online is questionable: What about servers that are not connected to the Internet? If a manufacturer offers help exclusively online, then it should at least make sure that the help is available.

The VirtualBoot programme is eventually found in the Start menu, and the administrator is greeted by a rather long dialogue box explaining how the programme works: Booting of a virtual machine from a backup. If the machine that was originally backed up is an x64 system, the administrator will need to make sure that the corresponding capability is available in the form of a suitable Intel/AMD-based CPU. A simple pop-up window follows prompting the administrator to select the backup files. Con-

veniently, these files display the server/PC names directly – when dealing with hundreds of backup files, the administrator will appreciate any information that can help save precious time in an emergency.

If the system has been set up correctly, the procedure is started by double-clicking the desired file. When the pro-

gramme is launched for the first time and no Sun/Oracle VirtualBox environment is found on the server, a compatible version must first be downloaded and installed. Luckily, with the download link and the corresponding version information (which are shown), this is an extremely easy task. As the network connections are temporarily disconnected during installation of Oracle VM VirtualBox 3.2.6 or higher in order to install the network interface, this installation procedure should be carried out during a regular maintenance window. On our test server (an Intel Xeon X3220 system with 2.4 GHz clock frequency, 4 gigabytes' working memory and Windows Server 2008 R2 as the operating system), the set-up procedure took less than a minute.

VirtualBox is then restarted, and the installation procedure is complete. In our test, we resisted the temptation to update the programme to the latest version (3.2.8) as ShadowProtect product support is currently provided only for Version 3.2.6. The pop-up window prompting the administrator to select the image files appears again: the information entered the first time round is evidently not cached. The administrator is assisted by a wizard in the creation of a virtual ma-

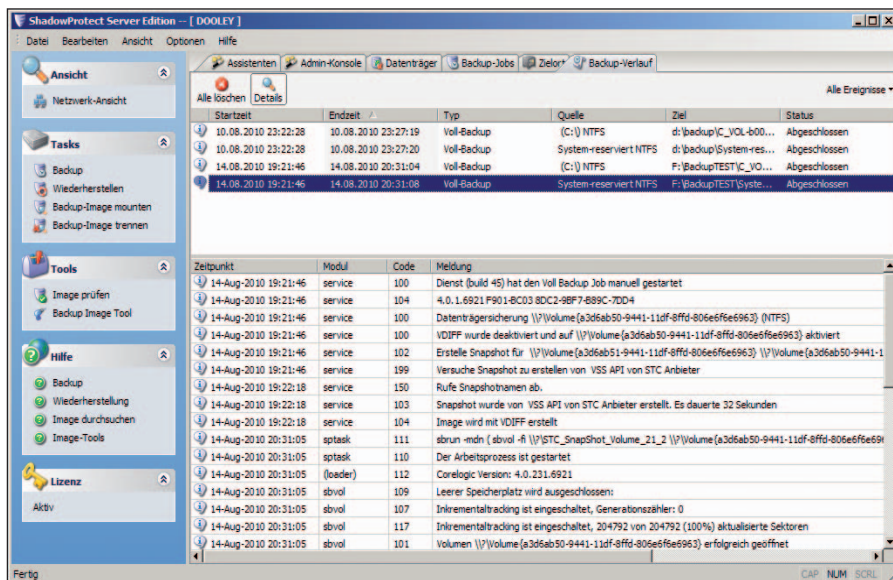


Figure 4: ShadowProtect logs every step of the backup creation process very accurately.



chine and only needs to either enter the network interface cards, working memory size and operating system to be expected or verify the wizard's preselection. Before recovery begins on the virtual machine (VM), another pop-up window appears prompting the administrator to install further driver components without which VirtualBox cannot

work in combination with ShadowProtect. The software installs these special device drivers automatically, and the procedure takes only another couple of seconds. However, the question remains in the back of one's mind: Why does the installer not configure all of the components in advance?

Recovery of a backed-up server with Oracle XE 10g, originally as a virtual machine running under VMware, initially took some time during our test. However, the culprit was identified very quickly: VirtualBox runs extremely slowly on the test server; in a different environment on a different machine, recovery of the server in VirtualBox was very fast and went without a glitch. As is to be expected when adding virtual hardware, some screen resolution settings or network settings are lost. All in all, emergency recovery via this facility is fast, taking just a few minutes.

Add-on modules available only at extra cost

The basic ShadowProtect software can be extended as required by the addition of optional fee-based add-on modules such as the latest version of HeadStart Restore, which allows backup and recovery to take place almost simultaneously. Upon each incremental backup, the restore job is updated in a Hyper-V or VMware environment. In the event of a disaster, the job is completed, the drivers needed for Hardware Independent Restore are installed and the complete system is restarted.

Conclusion

ShadowProtect works well in pure Windows environments requiring fast recovery from snapshots. It is up to the administrator to transfer the backup files to tape. We liked the programme's ability to restore a failed system on a VM in little time. With this programme, high reliability is now achievable at a reasonable price even in relatively small environments. (dr)



Product

Software for creating shadow copies.

Manufacturer

StorageCraft,
www.storagecraft.eu

Price

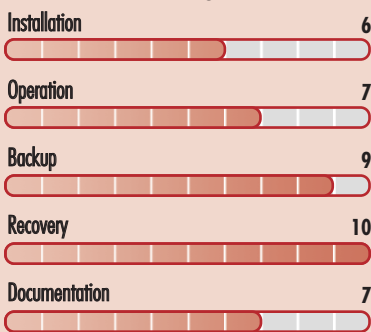
ShadowProtect 4, SBS Edition
(Small Business Server): 432Euro
ShadowProtect 4, Server Edition: 869Euro
ShadowProtect 4, ImageManager Enterprise:
261Euro.

All products include Hardware Independent Restore, which some competitors offer at an extra cost. Discounted prices are offered on request.

Technical data

www.it-administrator.de/downloads/datenblaetter

IT-Administrator rating (points out of 10)



This product is

ideal for disk-based backups in pure Windows environments requiring a high level of availability.

only partly suitable for environments in which high-availability solutions are already implemented.

unsuitable for environments with an operating system other than Windows.

StorageCraft ShadowProtect Server 4