



## **Maximizing Business Continuity and Protecting Critical Data in Windows Server Environments**

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## Executive Summary

Maximizing business continuity while protecting critical data can be especially challenging for small and medium sized businesses (SMBs). Most data protection systems are designed for large enterprise environments, which do not work for SMBs. For smaller businesses, resources are especially limited, and administrators cannot afford to pay hundreds of thousands of dollars for expensive continuous data protection (CDP) solutions. But having a server out of commission isn't an option either.

In addition, many data protection solutions overlook the critical component of the recovery time objective (RTO). Your RTO is the maximum amount of time your systems can be out of commission – from when a disruption occurs to the moment your system is available again. Minimizing your RTO helps you avoid the consequences of a long-term break in business continuity.

Unfortunately, most backup and recovery strategies are bound by technological limitations. When your server has many terabytes (TB) of data that must be recovered – not to mention the operating system and applications – it takes many hours to restore everything from the original volume, even at relatively rapid disk speeds.

Cloud computing and off-site replication can help address concerns about data security and help ensure that information is available following a catastrophe. But again, these types of security solutions are often unavailable to SMBs due to their complexity and their costs.

Plus, IT administrators working for SMBs rarely have the time or the resources to manage complex backup systems that require extensive certifications or hours of training to understand. But having a clear picture of your backup resources, knowing whether backups are successful and minimizing the resources required for ongoing data protection are imperative.

This white paper outlines each of these issues, why they are important for SMBs to address and how to resolve them while maximizing business continuity, protecting critical data and minimizing IT resources necessary to accomplish the demands of maintaining Windows servers.

## Why is recovery management so difficult?

When addressing backup problems, many solutions directly address business management difficulties with backup windows. The data explosion causes huge issues for businesses using tape backup systems to protect their data because backup windows – the time it takes to make a copy of the data in your computing environment – can take many hours to complete. Introducing disk-based imaging backup and CDP solutions helped erase the problem by eliminating backup windows. Administrators are able to secure their systems and data without taking their servers offline to back them up and often the backup takes little resource allocation, if any at all.

But the other major requirement for data backup – disaster recovery – is rarely addressed. While backup windows shrank, recovery windows did not. Even with the increased recovery speeds that disk-based backup offers, restoring a server is still a time-consuming process, a process no one wants to think about, let alone talk about.

The problem is that while disk-based backup is faster than tape backup, it still takes many hours to recover TB data volumes. Some alternatives, such as mirroring, provide administrators with a secondary environment to ensure continuous data availability. However disk mirroring can be extremely resource-intensive and very expensive, making it completely impractical for most IT environments other than large enterprises. Even a simple off-site replication of your data is rarely simple or straightforward.

Managing your recovery also means managing your backup archives, which can also be time-consuming and tedious. Disk-based image systems require less physical media and resources than tape systems, but image stores (backup archives) can quickly fill up unless you have a system in place to manage all of your backups. Even with storage prices getting less expensive every year, you still need processes in place to simplify your backup archives.

Knowing exactly what's going on with your backup archives is always a problem, no matter which media you're using. Some backups have verification tools that check your backups for you as soon as they are complete, but what about a month, a year or five years from now? There are all kinds of scenarios where you may need to access today's backups several years from now, but routinely checking and re-checking is practically infeasible.

As a result of these limitations, many SMBs play a game of Russian roulette with their recovery management. If a disaster strikes, they hope they'll be able to find the right backup, that their backups will work and that they'll be able to recover critical data quickly enough to get business back up and running before business has to shut down for good.

# Why is it important to simplify recovery management?

Disaster recovery is one of the most painful processes any IT administrator has to undertake. That's because it can take hours – even days – to get systems back up and running following a catastrophic failure, whether it's due to an act of God, an act of man, or simply malfunctioning hardware.

Managing recovery and RTOs needs to be a straightforward process, reducing server downtime to a bare minimum and eliminating the need for constant administration of the backup and recovery process. IT administrators do not have the time to spend hours or days learning new systems, so recovery technology must be simple to learn and easy to manage.

There are many real-world requirements of simplifying recovery management.

## ***Rapid Recovery***

Even with disk-based backups that can recover the entire server environment all at once, it can take hours to restore a server that contains multi-TB volumes of your most critical data. While you're waiting for the server to restore, business may be grinding to a halt.

## ***Off-site Replication***

Awareness of the need for additional disaster protection as well as today's regulatory requirements has forced many IT administrators to find ways to include data replication into their disaster recovery planning. Not only is it difficult to make an additional copy of your server backups, it's also difficult to get those backups to an off-site location with any degree of ease. Many SMBs use the tried-and-true method of hand-carrying backups to another location or pay a third-party company to perform this service. Security issues can complicate this process not to mention the impracticality of performing this task by hand.

## ***Consolidation of Backup Images***

If you're making regular backups, your image stores can fill up quickly unless you're regularly managing them. Storage disks drop in price every year, but that doesn't make it any easier to keep your backup image stores under control. Plus, are you sure you know where to find the right image file when you need it?

## ***Verification of Backup Images***

Even if you have backup technology, how sure are you that your backups will work when you need them to? Many times your backup will work when it's created and then disk corruption or drive failure will make your backup unusable down the line.

## ***Notification of Backup Problems***

With many systems to manage and users to assist, many IT administrators don't have a way to check on their backups. Once they've set it, they'd like to forget it. But without some sort of notification, it may be like turning your back on the ocean. Just because you can't see that something has gone wrong doesn't mean that there isn't a problem about to hit you from behind.

***Bottom Line***

Finding a way to minimize recovery windows is vital in order to get servers – and your business – back up and running following a disaster. Unless you can get your most critical servers, with your most critical data, online quickly, you may no longer be in business.

Simplifying the management of your recovery systems is imperative. But any solution for recovery management cannot require too many of your resources – either time or money.

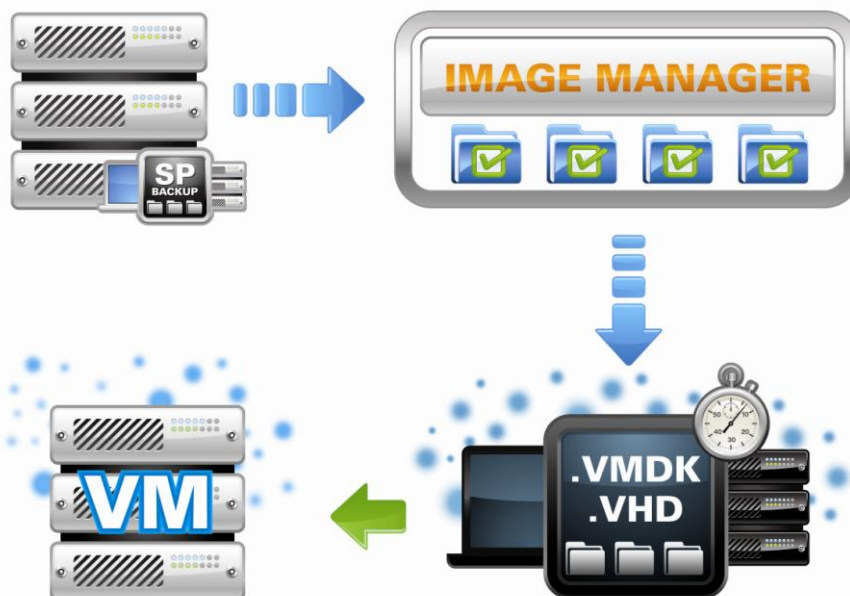
## Innovative Disaster Recovery for Windows Servers

# STORAGECRAFT™ SHADOWPROTECT 4™ IMAGEMANAGER ENTERPRISE

ShadowProtect ImageManager Enterprise™ is a revolutionary approach to disaster recovery. Working in conjunction with ShadowProtect Server™ or ShadowProtect Small Business Server™, it provides new tools that deliver rapid server recovery following a catastrophe, limiting the amount of time your server is off-line.

ShadowProtect ImageManager Enterprise includes HeadStart Restore™ (HSR) technology that simultaneously restores your data while it is being backed up. It automates the recovery process and minimizes downtime.

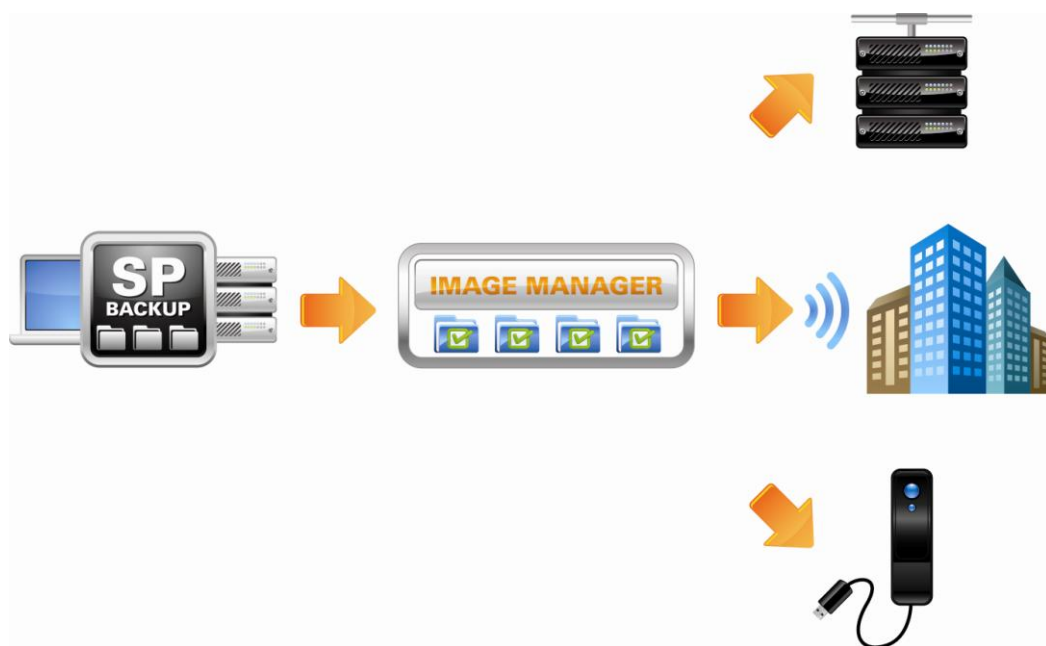
With HSR, you start by creating a restore job for a specific server. This begins the recovery process right away, before a disaster hits. Once you've set up the restore job, ShadowProtect ImageManager Enterprise updates that restore job with incremental changes from your backups, throughout the day.



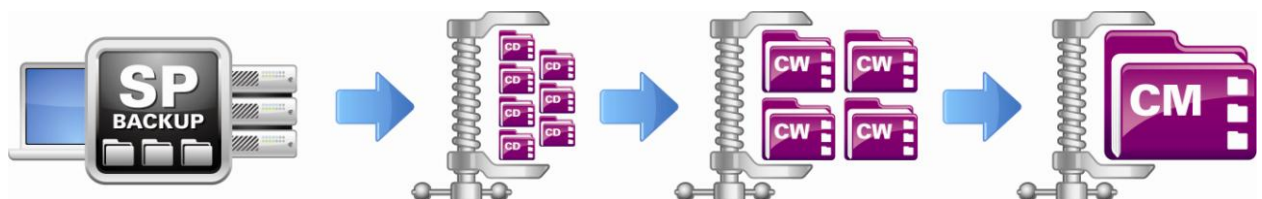
Then when a catastrophe strikes, you finalize your restore job, prepare your virtual environment, and run ShadowProtect's Hardware Independent Restore™ technology to restore to a virtual machine. After you reboot your server, your recovery is complete. This

process takes just a few minutes, not hours, even if you have a multi-TB volume of data on your server. With HSR, you practically eliminate your recovery window because recovery starts and is ongoing as your server backups continue.

ShadowProtect ImageManager Enterprise also provides you with an additional level of protection for your server by allowing you to replicate your backup images to another location – on-site or off-site. This feature allows you to streamline the way you preserve your backup images and in the event of a disaster that destroys your primary location, you’re still able to recovery your systems and data. It also allows you to save backups to an off-site location for regulatory and archival requirements.



ShadowProtect ImageManager Enterprise includes a consolidation feature, as well. This allows you to merge your backup image files to minimize storage consumption for your backup images. With a minimal amount of set up, ShadowProtect ImageManager Enterprise will automatically collapse your image files into daily, weekly and monthly backups.





So you always know the state of your backup images, ShadowProtect ImageManager Enterprise also has a verification feature which will automatically check and re-check all of your backup image files. If there is ever a problem, such as a disk drive failure or someone deletes a backup image file accidentally, ShadowProtect ImageManager Enterprise will alert you to the problem.

The notification tools in ShadowProtect ImageManager Enterprise also help you stay on top of the status of your backup jobs and backup images. You can set e-mail configurations to notify you automatically in the event of backup job success and failure. You can also set it up to provide you with a daily summary that tracks the status of all of your ShadowProtect Server and ShadowProtect Small Business Server backup jobs.



## **Backup Fast, Recover Faster**

ShadowProtect ImageManager Enterprise is disaster recovery that keeps business disruption to a minimum and helps you manage your backup environment simply and painlessly. It eliminates recovery windows through the use of revolutionary HeadStart Restore technology that simultaneously restores your data while it is being backed up. Limiting the time required to restore your most critical server systems means that you get your business back up and running in about the time it takes to reboot your server. Every minute you lose in recovery time is income and productivity lost. Minimize recovery time and you maximize your profits.

ShadowProtect ImageManager Enterprise also allows you to replicate your backup images to another location, on-site or off-site, for an additional level of protection. It helps you manage your backup image stores and confirm backup integrity on an ongoing basis.

For additional information about ShadowProtect ImageManager Enterprise, please visit: <http://www.storagecraft.co.uk/imagemanagerenterprise.html>.