



## Achieving Business Flexibility and Agility through Application-Driven Data Management

### *Executive Overview*

Information is your organization's most important asset. That's why intelligent day-to-day data management is critical.

The information that requires the highest priority for backing up—and the greatest precedence for recovery—should be the data that is most needed by your mission-critical applications. Unfortunately, identifying this data and ensuring its successful backup and recovery can be difficult.

This white paper will address the challenges you face as you work to effectively backup and recover data. We'll cover your primary pain points and explain how you can efficiently solve them with the right Application-Driven Data Management practices.

*White Paper*

## Challenges of Ensuring Recoverability

As data volumes increase and budgets tighten, improving efficiencies and creating cost savings through application and infrastructure automation and centralization is vital.

As you work to ensure that your business users always have the information they need, your ability to guarantee the agility of your datacenter is mission critical. But, agility is not just about responding to change quickly and efficiently—it is also about *sensing change*.

According to Gartner, no organization will be agile if its data center and infrastructure are not. What's more, the research and consulting firm recommends that agility be measured in a way that makes sense to your business. Considerations include time and cost to:

- >> Deploy a new service
- >> Roll out a new capability
- >> Eliminate an old service
- >> React to changing business requirements

In addition, improving agility requires asking questions such as: could this event have been predicted, and what can I change next time to sense this kind of incident before it occurs?

Today's IT teams need more agile and flexible technology solutions—especially as compliance regulations grow increasingly more demanding, disaster recovery becomes progressively more difficult, management costs escalate and storage utilization declines.

Even if you work to ensure intelligent backup and recovery with the latest and greatest technology solutions, those solutions still come with their own exposures. For example, availability solutions—such as tape options, mirroring, virtualization and information lifecycle management—ensure that data is available when and where you need it. However, these strategies assume continuous connectivity and zero data loss or defects.

Likewise, replication solutions do a fantastic job of preserving data in real time. Unfortunately, they don't account for potential data corruptions. Replicating a corrupt data set simply makes two copies of bad data—and that's certainly not a recipe for recoverability.

It's also important to consider the fact that many availability-focused storage strategies—when not properly used—can actually harm the recoverability of an organization's critical data. Plus, not saving enough data—or saving it incorrectly—are all too common mistakes that create vulnerabilities.

Luckily, with the right approach and mindset you can address these challenges as you work to intelligently backup and recover data. In the next several sections of this white paper, we'll explore some of the leading edge solutions and methodologies designed to help you succeed in this effort.

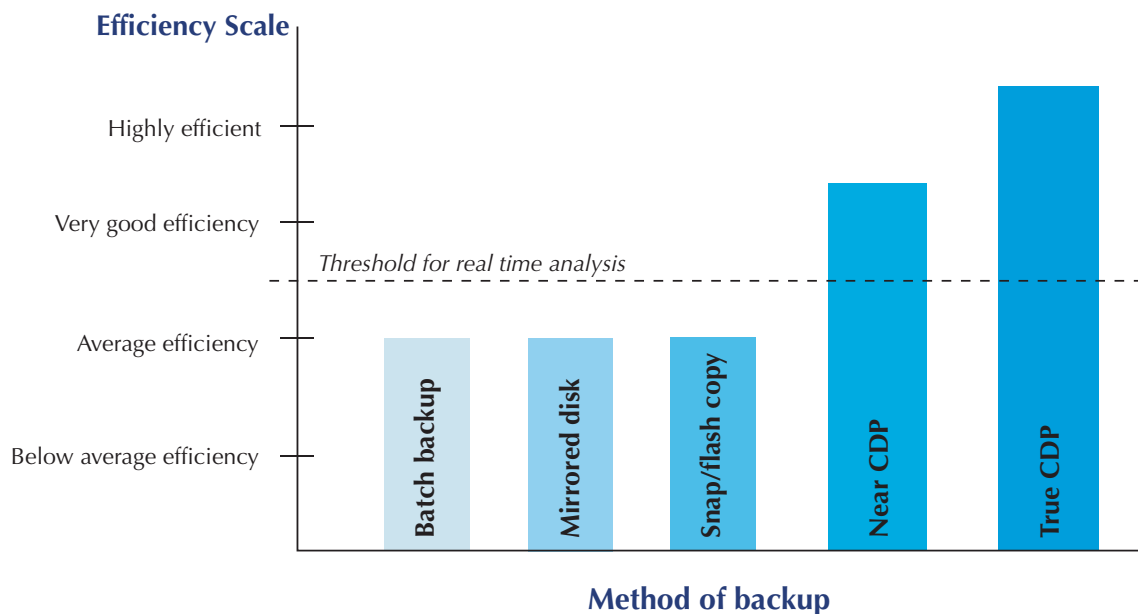
### Real-Time Infrastructure

Today's most successful—and secure—organizations have the ability, in real time, to analyze and monitor applications and data that are critical to their enterprise applications. According to Gartner, in order to achieve a real-time infrastructure and ensure business agility, your organization requires the right combination of people, processes and technology.

- >> *Technology*: The right technology offers a real-time infrastructure a rapid return on investment
- >> *Processes*: Processes that are agile and evolving—in other words, designed for change—help to create a real-time infrastructure
- >> *People*: IT personnel who bring value to the enterprise by maximizing technology's worth—and who proactively influence the use of technology to drive business forward in a positive direction—help to build a real-time infrastructure

In other words, a business is truly agile when its services are managed holistically, when its infrastructure is services-based and when resources are balanced between services on a dynamic basis. If business priorities change quickly, a policy-based real-time infrastructure can respond by automatically moving resources from less-critical business services. In a 2006 analysis, Gartner notes that integrated systems and storage management, virtualization, and IT Information Library (ITIL) deliver long-term benefits in achieving a real-time infrastructure. Reducing data access response time and vastly improving the quality of service to end users are also critical driving factors to solidifying a real-time infrastructure.

Becoming more dynamic and transitioning to a real-time infrastructure also requires a higher level of change management skills to drive agility throughout an organization. The desired speed and efficiency can only come from systems and infrastructure that are put in place to allow the organization to quickly adapt and react to market dynamics. Data management is particularly visible in most companies; it's here that applications, data, systems and storage come together to serve customers, partners and employees. It's a source of specific challenges for some organizations, and a potential turning point for many on the road to improving business agility.



## Continuous Data Protection

To achieve a real-time infrastructure, the most competitive—and least vulnerable—organizations strive for continuous data protection (CDP). This exciting revolution in redundancy and recoverability provides for multiple copies or snapshots of data, instead of only a single backup every day.

Gartner notes that while many technologies provide snapshot copies, CDP offers additional flexibility and reliability by creating snapshots at logical or critical times, such as every time a new write function is done (“True-CDP”) or during file closing or other specific policy-driven timelines (“Near-CDP”). Gartner also explains that CDP is most likely to be implemented in situations where current backup or recovery methods are exposing an organization to data loss for critical applications.

How do you know which data sets or applications are truly critical to your enterprise and would, therefore, require the fastest recovery? Real-time analysis and scheduling is required to truly determine the files, data and applications that are used most often—and to manage the immediate backup of changes to that data to ensure recoverability.

The concept of Application-Driven Data Management—managing data backup and recovery based on the requirements of critical applications—can be extremely helpful for IT managers and storage administrators when walking the line between redundancy and recoverability.

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*“Replication solutions transmit data when it is created and as it is changed, which is good for keeping the copy up to date; however this provides recovery only to the most recent state of the data, which in the case of an application error or virus would be corrupt.”*

—Gartner, June 2006, *Continuous Data Protection: What It Is and Why It Is Needed*, Dave Russell

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## What You Need to Achieve Efficient Data Management and Recovery

As we've seen, in order to obtain a data management and recovery solution that meets the requirements of continuous data protection and real time infrastructure there are several critical considerations.

First, you need to be sure that your data management efforts are application-driven; that your applications themselves determine what information is most critical. Once you determine what information is most significant in the short-term, you know what mission-critical data should get the highest priority for backing up—and the greatest precedence for recovery.

It's important to note that—in the event that your processing environment is interrupted—most companies simply don't need access to all their data right away. Determining what data your applications need first is most important to a successful recovery. Application-Driven Data Management (ADDM) solutions that retain and recover data and files are especially helpful in this effort.

ADDM is a revolutionary approach to backup and recovery. Instead of retaining data simply based on last-used date or some random retention policy, ADDM strategies determine what files are most needed by enterprise applications, thus determining which files need to be recovered first.

ADDM can also contribute to achieving the vision of the real-time infrastructure. Business agility is predicated on capturing and analyzing the right data throughout the application and data processing environment. ADDM ensures that data that is most critical to applications is being backed up—leading to certainty and confidence in the recovery process.

ADDM has vast implications on regulatory compliance practices as well. Data retention policies and regulations are often too complex and difficult to create an effective storage

strategy, forcing many organizations to save far more data than they actually require. This leads to overbuying storage hardware and software, as well as the associated management expenses with those assets.

You can also maximize the benefits of mirroring strategies using ADDM. Wholesale replication of entire data sets can actually open up many enterprises to the exposures of corrupt or incomplete data. ADDM strategies determine precisely which data needs to be mirrored, thus reducing the volume of data being replicated and increasing the recoverability factor of the organization.

### How 21st Century Software Can Help

The 21st Century Software family of intelligent data protection solutions provide vision and validation to enterprise backup strategies by determining the most critical files required by your applications and providing the fastest path to recovering them. Our DR/VFI solutions are hardware-neutral and run on most major operating systems and server technologies—including mainframes, Linux, and many flavors of UNIX.

Proven to protect the application environment, DR/VFI is an enterprise-wide continuity solution designed to deliver a global view of your critical data, as well as that data's backups at the application level. This global view can help facilitate a Near-CDP level of protection in mainframe environments, and help distributed environments approach True-CDP.

While many backup and recovery solutions manage data movement to back up tape and disk, we've designed our DR/VFI solutions to help determine which files are truly necessary for immediate recovery. DR/VFI solutions reside on your individual servers to constantly monitor application use of data and files, but has virtually no impact on system processing overhead.

Plus, DRVFI complements existing backup and archiving tools by monitoring application data activity in real-time, determining what files are most essential and would, therefore, need to be recovered first.

Because DRVFI determines which files are vital to recover in the event of a wide-spread disaster or finite disruptive event, it is a truly effective way to ensure successful backup and recovery of your mission-critical data, and contribute to your company's vision for your real-time infrastructure.

We invite you to learn more about DRVFI and our complete portfolio of ADDM solutions. Please contact us at [sales@21stcenturysoftware.com](mailto:sales@21stcenturysoftware.com) or visit [www.21stcenturysoftware.com](http://www.21stcenturysoftware.com).



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