Continuous Data Protection
A revolution in data storage and protection

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Executive Summary

Today's data managers are facing a dramatic increase in the amount of data that is considered operation-critical as well as increased regulatory controls and real concerns about disaster recovery. These issues have created a demand for around-the-clock protection with an emphasis on transactional integrity.

With Continuous Data Protection, data can be backed up at customized intervals ranging from a few seconds to a few minutes. In addition to tangible improvements in protection quality, CDP implementation provides a more simplified recovery process and a more relevant recovery point with much less downtime in the event of a failure or disaster.
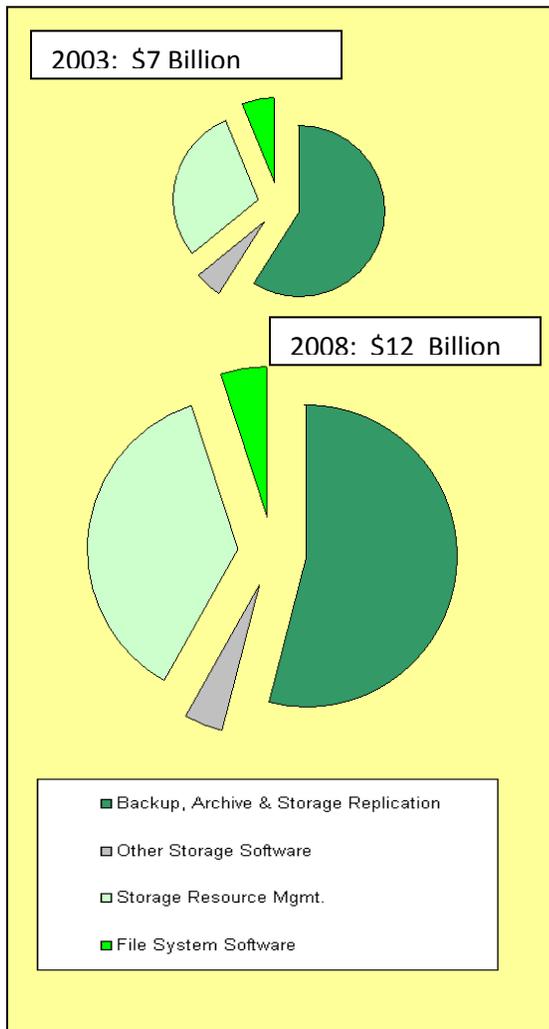
Businesses that rely on the accessibility and safety of their electronic data are using CDP to protect email, databases, operating systems, file systems and much more with a recognizable improvement in the way they backup and recover information.

CDP can be hardware- or software-based with complete customization making CDP accessible for all sizes and types of enterprises. It is important to know what features and functionality that a CDP technology or product can offer, but it is equally important to know just how this will affect your current data center operation. Storage managers must study the various offerings very carefully to understand the features and uses of each vendor's product.

GreenPages, Inc. is a national technology solutions provider focusing on helping companies solve real-world business problems with a comprehensive suite of IT solutions including consulting, system design, technology procurement, implementation and support services. GreenPages will work with you to customize the right CDP solution for your company.

Business Data Needs Spark a Revolution in Data Storage and Protection

Back-up and Replication Will Continue to Dominate the Storage Software Market

2003: $7 Billion

2008: $12 Billion

- Backup, Archive & Storage Replication
- Other Storage Software
- Storage Resource Mgmt.
- File System Software

The worldwide storage industry has seen record growth in the last few years; email messaging systems alone consume over 400,000 terabytes of new information each year, and, taking into account the storage demands created by the Internet, it's only a matter of time before we are measuring the typical data center's storage in petabytes rather than terabytes. The majority of this market is related to storage software and, more specifically, backup and disaster recovery software, meaning that increased spending in this market will be focused on data protection as a priority across all business types and sizes.

Individual companies have begun to feel the effect of the overall growth in the amount and importance of data that needs to be protected and stored combined with customer demands for 24/7 operations and emerging regulations regarding the protection and accessibility of electronic data. Recent world events have also heightened the concern of protecting data against all types of disasters.

As the value and volume of data increases the need to provide transactional integrity also grows. With new laws around compliance driving how data is stored and protected, companies are concerned not only with protecting transactions to avoid financial repercussions, but also with being able to provide information to comply with emerging regulations and customer expectations. The inability to locate and recover data in a timely fashion could mean millions of dollars in fines, the loss of business reputation and even the business itself.

As more and more of their business relies on technology, companies are responding to the

need to have their data available online, on demand, and with the highest possible level of security. Of course cost effectiveness remains a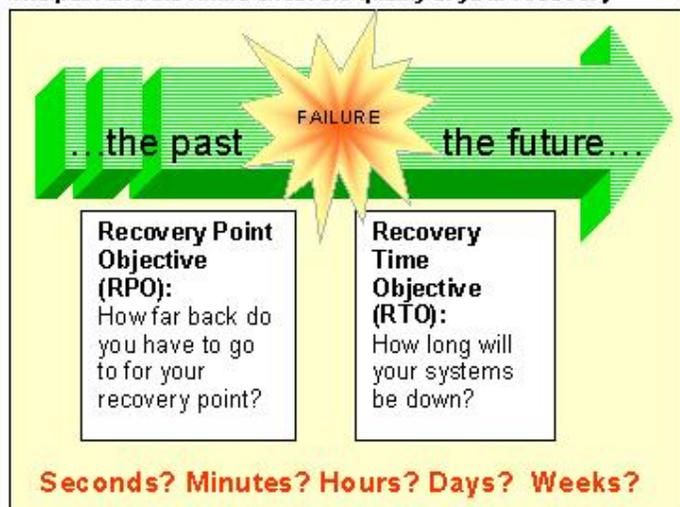 key concern for decision makers. This means that there is significant and growing demand for simpler, more reliable, high performance data storage and protection with enterprise capabilities at a reasonable price.

Continuous Data Protection, or CDP, has been developed to answer these needs, and is changing the way companies protect their critical information assets. This exciting new technology improves backup, recovery, and disaster recovery operations. CDP addresses current challenges with data protection and provides real technology solutions to address these important issues, offering new opportunities to improve backup and recovery service levels, meet compliance objectives and provide a solid disaster strategy.

There is significant and growing demand for simpler, more reliable, high performance data storage and protection with enterprise capabilities at a reasonable price.

CDP Delivers Simple and Flexible Data Protection for All Sizes of Enterprises

The past *and* the future effect the quality of your recovery

...the past   FAILURE   the future...

Recovery Point Objective (RPO):
How far back do you have to go to for your recovery point?

Recovery Time Objective (RTO):
How long will your systems be down?

Seconds? Minutes? Hours? Days? Weeks?

CDP could mean recovery in a matter of minutes or even seconds.

CDP offers new opportunities for all sizes of enterprises to improve backup and recovery service levels, meet compliance objectives and provide a solid disaster strategy.

When talking about backup and recovery or disaster recovery, two terms speak to the effectiveness of your recovery system: Recovery Point Objective (RPO) and Recovery Time Objective (RTO). RPO is the backed-up point in time to which your systems and data will be restored. RTO is the period of time it takes to restore the data and systems to the RPO.

With a physical tape backup solution, it can take up to 24 hours to achieve recovery, leaving you out of business for one full day. A disk-based backup solution is faster, but still requires personnel to perform technical operations as well as consistency checking and validation – which means more downtime.

With CDP, data is continuously backed up at customized intervals ranging from a few seconds to a few minutes.

The benefits of implementing CDP technology are that your RPO's are now continuous, essentially "any point in time" and your RTO is immediate. Depending on how your solution is configured, you could complete recovery in a matter of minutes or even seconds.

Depending on your specific needs, a storage solution can be hardware- or software- based with complete customization for all sizes and types of enterprises; furthermore the target could be primary storage, secondary or perhaps archive media and can be an excellent protection measure for storage, servers and applications.

Continuous Data Protection in Action

CDP offers the quality of data protection achieved by traditional backup and improves on the flexibility of a snapshot method by providing a rolling point in time view of your data.

CDP is a revolution in the evolution of storage technology, providing a superior hybrid of the two most common methods currently in use.

Traditional backup systems provide a "well known" state of your data that is fixed in time, but don't always provide the highest level of transactional integrity for all of your applications, are operationally difficult to execute and require a complex setup. Snapshot backup systems provide more frequent backups but still have a limited selection of static points from which to back up, which may not provide the most accurate recovery.

CDP offers the quality of data protection achieved by traditional backup and improves on the flexibility of a snapshot method by providing a rolling point-in-time view of your data. One might consider CDP a more sophisticated kind of snapshot with additional capabilities, such as the ability to restore from nearly any point in time. CDP can be implemented to capture changes (writes) continuously, creating marks in time, all logged with the changes along the way. With CDP, every change and transaction within the data is recorded without regard to the specific time of the change.

The advantage is that CDP can greatly decrease the window of opportunity to experience a failure or loss of data, much like traditional data replication, but with the management tools and functionality that these products have, they allow a quick "rollback" much like a traditional backup or snapshot process. This superiority in the quality of archived data and the flexibility to restore systems to nearly any point in time make the CDP concept attractive to storage managers.

Businesses Who Use Electronic Data Need CDP

You may be a candidate for CDP if:

- ✓ You have a continuous IT operation that relies on constant uptime of your applications

- ✓ You could benefit from having a series of recovery points to select from

- ✓ You require the ability to recover in a remote facility in "real" or "near time"

- ✓ You require replication-like functionality but find traditional approaches too costly and complex

- ✓ You are seeking to minimize your backup window by backing up more frequently

- ✓ You require a high availability solution protected either protected locally or across the network

- ✓ You have compliance issues forcing the need for continuous backup, potentially offsite

CDP provides a new concept in data protection, covering many applications and diverse operating system environments. CDP is an excellent way to protect applications, servers and storage.

Some examples of typical applications that customer are protecting via CDP are email, databases, operating systems, and file systems, to name a few. Depending on the implementation, any and all of these types of applications can be protected, providing a recognizable improvement in the way you backup and recover your information.

It is important to keep in mind that it's not only critical to protect what you fear you might lose but to be able to recover what you may need to for regulatory purposes.

CDP Buyers Guide

It is important to understand what factors you should consider when determining if CDP is right for your operation.

When you start to weed through the various CDP products available, it can be an overwhelming task. Not all vendors offer the same features, and some have philosophical differences about what CDP means and what method they use to deliver CDP functionality. As a result, storage managers must study the various offerings very carefully to understand the features and uses of each vendor's product.

The capabilities of the various CDP product offerings range from those that mimic traditional backup architectures to data replication (synchronous and asynchronous). These solutions range from software-only to hardware appliances and every combination in between. It is important to understand what factors you should consider when determining if CDP is right for your operation.

It is not only important to know what features and functionality a CDP technology or product can offer, but it's equally important to know just how this will affect your current data center operation as it pertains to your current data management process.

GreenPages is your CDP Resource

The right CDP solution can mean the difference between quick and painless backup and recovery and hours and days of downtime with no access to critical information. But knowing which solution is best for your company can be difficult.

You need unbiased, expert advice from a company you can trust. A company that has over a decade of experience implementing successful IT solutions in your industry. A company that develops IT solutions based on the knowledge of what works best—not based on a brand they want to sell. A company where superior client service is ingrained in its culture and reflected in the attitude of every employee.

GreenPages, Inc. is a national technology solutions provider focusing on helping companies solve real-world business problems with a comprehensive suite of IT solutions including consulting, system design, technology procurement, implementation and support services. Founded in 1992, GreenPages bases its business on three core concepts: service, solutions, and integrity.

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At GreenPages, we always want to hear from you and appreciate your calls. In fact, every time you call into GreenPages, you will actually be connected to a person, never forwarded to a voice mail system. Our policy is that every client deserves to speak with a person, not a machine. Of course, if you prefer to leave a voicemail, you do have the option to do so.

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