

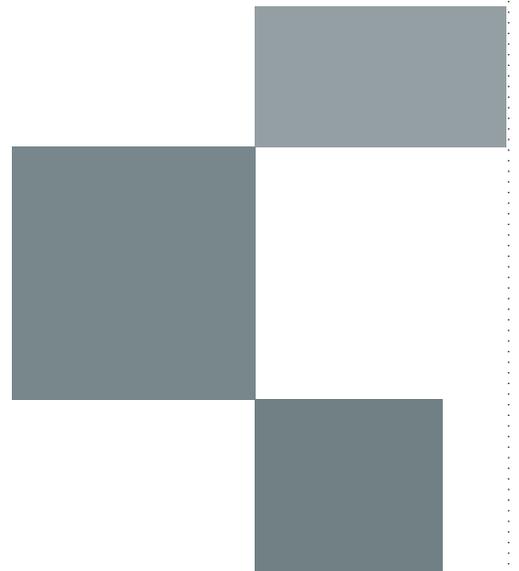


Enterprise
Protection
Storage

IT Users Discuss New Ways to Protect Enterprise Data

3 Companies Eliminate Tape, Reduce Backup Windows and Reinvent Their DR

September 2006



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Introduction

Data protection is fast becoming the most critical part of IT strategies today. And it's no wonder. Year-over-year exponential data growth, and recently imposed requirements for data retention and availability are now juxtaposed against a marked increase in the number and type of threats to the enterprise. Today's IT environments are demanding a more comprehensive strategy for data protection, security and high availability than ever before. As a result, how to best go about protecting enterprise data is currently one of the most hotly debated topics in the IT arena.

Curiously, the single least reliable technology in the IT industry (tape) is currently the most broadly deployed for enterprise backup and recovery. Gartner Group estimates that 10% of all recovery attempts from tape fail, but for years tape was the only economically viable media for storage of backup data sets. Tape cartridges were also portable, which seemed to make sense for disaster recovery applications, in spite of inherent handling risks. Disk, while reliable, was historically too expensive a proposition for backup data—which often can require 10 times or more the capacity of primary storage. Until now ...

"Data Domain is a pioneer in the disk-to-disk backup space," said Heidi Biggar, analyst for the Enterprise Strategy Group. "The company uses intelligent data deduplication software to reduce the capacity needed to store backup data by about 20:1 — a metric validated by ESG Labs. By extending the same technology to remote backups, Data Domain makes it possible for organizations to move data over the WAN efficiently and cost-effectively, effectively eliminating the need for error-prone, cumbersome, and non-secure tape vaulting processes."

Next generation data protection solutions are quickly gaining momentum as they deal with the growing amount of valuable data that needs to be backed up. A new technique, called data deduplication, has gained a tremendous amount of attention in the

disk backup and recovery market. Deduplication of data significantly changes the economics of storage, dramatically reducing both backup recovery times and making wide area backup an operational reality. Its core value proposition is massive reduction of data volume by storing only unique occurrences of data. As a result, IT managers gain faster, more reliable recoveries, reduced backup windows and centralized

administration of multi-site backup processes. Data protection levels are elevated and costs are reduced.

This paper chronicles the implementations and results of three enterprises that addressed their data protection issues using Data Domain enterprise protection storage systems. Representing a diverse set of industries (Financial, Legal and Technology), the IT managers responsible for protecting company data had the foresight to recognize the growing gap between their business continuity requirements and the ability of tape-based backup systems to meet those requirements.

Working together with Data Domain, each manager applied best practices with a strong eye for return on investment to achieve their data protection goals.

Troutman Sanders LLP, a multinational legal firm with over 600 attorneys, Thomas Weisel Partners, a prominent investment banking services firm and

Synopsys, Inc., a leading provider of electronic design automation software and services, share the ROI and total savings they enjoy as a result of implementing data protection strategies using Data Domain solutions. Their case studies follow.

"The nice thing about backing up to disk is that restores are nearly instantaneous. It actually takes us longer to drill down through the backup software to locate a file than the time to restore it."

John Thomas
Information Technology Manager
Troutman Sanders LLP

"The availability of our data is really important to us and we needed to get something faster and more reliable. We'd been working with tape, and we were ready to start over."

Kevin Fiore
Vice President, Director of Engineering Services
Thomas Weisel Partners

"We have had to previously spend a lot of time resolving issues at field sites. Our tape systems were supposed to be reliable for many years, but they really were not."

John Mincarelli
Director of IT
Synopsys, Inc.

Key Highlights

Business Profile

Troutman Sanders LLP is an Atlanta-based international law firm with over 600 attorneys.

Industry

Legal

Challenges

Increasing difficulty meeting backup windows, backup tape failures, difficulty with remote restores from tape, limited bandwidth prohibited remote site replication via WAN.

Solutions

3 Data Domain DD 460 Restorers, 4 DD 430s, 6 DD 410s and Data Domain DD Replicator Software. 10TB of backup data efficiently protected. Complete replacement of tape technology at remote sites (11 remote sites go completely tapeless).

Benefits

- **EFFECTIVE DISASTER RECOVERY:** Data is now replicated via WAN from multiple states and countries to a central facility ensuring fast recoverability.
- **COST SAVINGS:** Reduced tape media costs, existing network infrastructure leveraged for DR, no tape handling costs, no travel to troubleshoot hardware failures or manage restores. 12 sites now go to tape at a single location for weekly archiving.
- **RELIABILITY:** Backup/restores are fast, verifiable instantaneously, no failures to date.
- **SIMPLIFIED MANAGEMENT:** Simple centralized management for all locations.
- **PERFORMANCE:** Backup/restore windows significantly reduced. At one office, Exchange backup window was reduced from 11 hours to 55 minutes.

Backup Software

Veritas Backup Exec

Pre-Data Domain Architecture

Tape: LTO-1 & DLT-4

Troutman Sanders LLP

“After we finished implementing the Data Domain Restorers, I remember coming in on Monday morning and, for the first time in five years, all of our backups were completed.”

*John Thomas
Information Technology Manager
Troutman Sanders LLP*

Customer

Troutman Sanders LLP, founded in 1897, is an Atlanta-based international law firm with over 600 attorneys serving clients from offices in Atlanta, Hong Kong, London, New York, Norfolk, Raleigh, Richmond, Tysons Corner, Virginia Beach and Washington, D.C. The full-service firm offers a broad array of over 30 practice areas including corporate, finance, real estate, litigation and public law.

Customer Challenges

While data availability is critical for virtually all companies, the legal industry presents its IT managers with unique challenges. John Thomas, IT Manager for Troutman Sanders, notes that the legal environment “...is unlike any other I’ve worked in. Very demanding. One hundred percent uptime is expected for all systems. If a document for a case is overwritten, the attorneys need to have it back immediately.”

In the legal field, a client’s case could be compromised or large dollars could

be lost from the unavailability of even a single document of an active case.

Troutman Sanders’ tape backup equipment had cycled through to its end of life and it was time to look for a new solution. But the shortcomings of a tape-based backup system had been brewing for some time and the demands of the legal environment just exacerbated the need for change: “We had been dealing with tape...” says Thomas. “...exposing ourselves to the risk of having tapes lost by shipping companies, experiencing tape failures and facing all the security risks inherent to tape. The firm and its data were both growing and ‘more of the same’ just didn’t seem like a viable strategy for our backups going forward.”

With multiple sites conducting their own local backups, the scenario extended to their disaster recovery efforts. Backup windows were elongating as capacity grew and restores at remote sites were becoming difficult, often requiring travel to troubleshoot systems to complete recoveries.

Data Domain Solution

While Troutman Sanders evaluated a variety of non-tape solutions, Thomas found that, "Other solutions we looked at were software, then you had to combine that with hardware and related media - and pretty soon the price got out of control. So beyond all the benefits and efficiencies, the 'bang for the buck' with Data Domain was a big part of the sell for us."

Troutman Sanders initially piloted Data Domain restorers at its Hong Kong and D.C. offices, WAN vaulting backup data from the 2 sites back to its headquarters in Atlanta via existing T1 lines using Data Domain's DD Replicator Software. With the success of the intercontinental pilot, they moved forward with implementing a 12 site local backup and remote disaster recovery plan, using a many-to-one configuration to replicate remote office backup sets to Atlanta, which in turn replicated all backups to its Richmond office. Both Atlanta and Richmond used Data Domain DD460 restorers. A combination of DD430 and DD410 restorers were used for the balance of remote offices.

Today, all data at all offices is available both locally for restores and also remotely at the Atlanta and Richmond facilities. Most of Troutman's existing network infrastructure was able to be used for WAN vaulting data sets due to the capacity optimization (massive data reduction) technology applied by the Data Domain restorers. Management of all backups is now centralized and automated with disk-to-disk backups. Currently, once a week, tape is used at the Richmond or Atlanta locations for archiving. Tape technology has been completely eliminated at all other offices.

"After we finished implementing the Data Domain Restorers, I remember coming in on Monday morning and, for the first time in five years, all of our backups were completed," says Thomas.

Business Benefits

With Data Domain restorers and DD Replicator Software, Troutman Sanders has eliminated both the operational and financial inefficiencies of their previous tape-based backup processes.

Troutman's sites currently backup approximately 10 Terabytes of data. Management of the geographically dispersed backup processes is now fully automated and centrally controlled, significantly reducing administration costs and eliminating travel costs for remote site system troubleshooting. Tape media purchases and store/retrieve shipping and handling charges for the 12 offices have also been eliminated. Backup windows have been reduced significantly as well. At one mid-sized site, for example, Thomas notes that the backup time for a 100 Gb of Exchange data was reduced from over 11 hours to just 55 minutes. Average compression ratios for the installed sites is approximately 25x, with some site seeing in excess of 50x compression.

Perhaps most important of all, restores are now reliable and fast. Data Domain's Data Integrity Architecture verifies availability of data upon completion of the backup. "The nice thing about backing up to disk is that restores are nearly instantaneous," says Thomas. "It actually takes us longer to drill down through the backup software to locate a file than the time to restore it."

Key Highlights

Business Profile

Thomas Weisel Partners is an investment bank with 550 employees, multiple offices in the US and an office in Mumbai, India.

Industry

Investment Banking

Challenges

Weekly full backups were taking longer than desired, tape backups present reliability challenges, faster restores required.

Solutions

6 Data Domain DD 400 Enterprise Series Restorers, Data Domain DD Replicator Software. Local backup to disk at all sites, data replication for Disaster Recovery.

Benefits

- **EFFECTIVE DISASTER RECOVERY:** Remote site backup data is replicated quickly and securely via WAN. Data available at all times from 2 geographically distinct locations.
- **COST SAVINGS:** Reduced expenditures on contracts for 3rd party tape transportation and storage services by \$3,000 monthly, 2-4 hours per week of administration saved, reduced tape media costs.
- **RELIABILITY:** Backup/restores verifiable instantaneously, fast restores from both local and replicated sites, on-site retention exceeds 30 days at all sites.
- **SIMPLIFIED MANAGEMENT:** Centralized administration, automated backup processes. Eliminated tape at 3 of 4 sites. Backup to tape is now once a month, versus twelve times a month.
- **PERFORMANCE:** Weekly backup window reduced to less than 24 hours, near real time restores, centralized back up data synched in one hour.

Backup Software

CommVault

Pre-Data Domain Architecture

120-130 Spectralogic AIT 3 tape drives, tape libraries, Iron Mountain transportation and retrieval services

Thomas Weisel Partners

"Of everything that came out of this project, it's the knowledge that our data exists in two locations at all times and the confidence that it's readily accessible that I find most comforting."

Kevin Fiore

*Vice President, Director of Engineering Services
Thomas Weisel Partners*

Customer

Thomas Weisel Partners is an investment bank specializing in the growth sectors of the economy including the technology, healthcare and consumer sectors. Its value-added Investment Banking, Institutional Brokerage, and Equity Research groups focus on servicing U.S. and international emerging growth companies and institutional investors.

With its headquarters in San Francisco and offices in New York, Boston, Silicon Valley and Mumbai, India, Thomas Weisel Partners has approximately 550 employees.

Customer Challenges

Thomas Weisel Partners was encountering backup issues that were not uncommon for multi-site enterprises. They were using tape to backup approximately 8 TB of data located at four locations (New York, San Francisco, Boston and a small, but rapidly growing site in Mumbai, India).

Weekly full backups initiated Friday were increasingly taking longer to complete. Their restore speeds were not mapping to the company's business continuity objectives. "Our tape systems were 3 years old and we knew we wanted to improve upon our data protection architecture," says Kevin Fiore, Vice President, Director of Engineering Services at Thomas Weisel Partners. "We decided quite early on to make the move to disk-based backup. The availability of our data is really important to us and we needed to get something faster and more reliable. We'd been working with tape, and we were ready to start over."

Beyond performance and reliability considerations, Fiore recognized that, in moving to disk, there was an opportunity to eliminate the costs associated with contracts that each site maintained for the transportation and vaulting of tapes for disaster recovery purposes.

Fiore notes that their search for a new backup architecture was quite comprehensive and covered many technologies, including VTLs (Virtual Tape Libraries) which “quickly became pricey when we calculated required software license and ongoing disk costs.”

During the evaluation period, solution provider Integrated Archive Solutions (IAS) introduced them to Data Domain.

Data Domain Solution

The Data Domain implementation at Thomas Weisel Partners consists of a total of six Data Domain DD 400 Enterprise Series Restorers. There are 3- DD430 Enterprise Restorers for local backup/recovery installed at its New York, Boston and Mumbai offices. The San Francisco data center at corporate headquarters uses a higher capacity DD460 for its onsite backup and recovery.

For disaster recovery, Fiore deployed a combination of “many-to-one” and “bi-directional” replication topologies, using a second DD460 in San Francisco and an additional DD460 in New York. Data Domain’s DD Replicator software was used at all offices to enable network-efficient replication between locations. The DD460 in New York is used to create a replica set of San Francisco’s local backup data. New York, Boston and Mumbai backup locally and then replicate to the second DD460 in San Francisco. Each site retains data locally for a minimum of 30 days. Once a month, data is consolidated to tape.

The massive data reduction resulting from Data Domain’s Global Compression™ deduplication technology enables cost effective local backups for

Thomas Weisel Partners’ five offices.

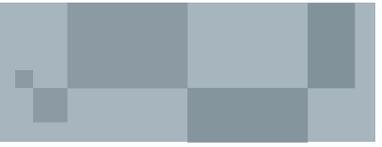
However, it also works in concert with the DD Replicator Software to allow up to a 99% increase in network efficiency during remote replication. Over and above the local reduction in data sets, the DD Replicator Software polls the target site prior to the transfer of replication data. If the data exists already, transmission of redundant data is prevented.

As a result of this topology, at Thomas Weisel Partners’ data is always readily accessible for restores from at least two locations, offering the firm exceptional disaster recovery protection. “Within an hour of backup, our data is in synch. We know that, in some worst case scenario, our data is going to be available in pretty close to real time. That’s fantastic for us.”

Business Benefits

Thomas Weisel Partners now enjoys a highly reliable and nearly instantaneous disaster recovery capability that was impossible to attain using traditional tape-based backup. The backup timing issues that first drove it to seek an alternative to tape have been resolved, and its weekly backup window has been reduced to less than 24 hours. Fiore reports that the lowest compression rate he experiences from any of his six Data Domain restorers is 18%, this being on his largest capacity replication restorer in San Francisco. All other sites maintain much higher compression rates.

With Data Domain, Fiore was given the lightning fast restore speeds he needed to meet the firm’s business continuity objectives both locally and remotely, tremendously cutting down the firm’s exposure to potential system and non-system based events.



In addition, with Data Domain, Fiore gained the flexibility to evolve his on-site retention and backup methodologies to maximize the performance of his new architecture. Centralized management and system automation have reduced the amount time he spends managing backups at the four sites as well.

Finally, tape has been eliminated at three of his four sites and transportation and storage of backup tapes is now a single monthly event (down from twelve times monthly).

“Of everything that came out of this project, it’s the knowledge that our data exists in two locations at all times and the confidence that it’s readily accessible that I find most comforting,” says Fiore.

Key Highlights

Business Profile

Synopsys, Inc. is a leading provider of electronic design automation (EDA) software and services.

Industry

Electronic design automation

Challenges

Synopsys had experienced hardware, mechanical failures, and bottlenecks at remote field sites which lacked dedicated IT resources for troubleshooting. Each remote field site stores about 2 terabytes of data and Synopsys has more than a petabyte of disk online worldwide.

Solutions

5 Data Domain Restorers at headquarters; 6 Restorers at remote international sites; 10 terabytes of data protected.

Benefits

- **RETURN ON INVESTMENT:** With Data Domain, Synopsys' backup costs have been CUT IN HALF at each field site. Cost savings achieved by eliminating tape and backup server infrastructure, centralized administration and reduced number of vendors and maintenance agreements.
- **BETTER PERFORMANCE:** Synopsys experiences data compression rates that are 7 to 20 times higher than the previous tape based systems.
- **IT EFFICIENCY & RELIABILITY:** WAN-based centralized administration. Backup times went from 18 hours to 2-6 hours. Backups now run reliably. Restorers in the field have performed failure-free.
- **REPLICATION CAPABILITIES:** Data Domain will allow Synopsys to back up data to a remote location, providing a full disaster-recovery solution if needed.

Backup Software

VERITAS NetBackup

Pre-Data Domain Architecture

2-drive autoloaders with DLT drives; Solaris backup servers

Synopsys, Inc.

"With Data Domain, we cut our back up spending in half at each field site."

John Mincarelli, Director of IT, Synopsys, Inc.

Customer

Synopsys, Inc. (Nasdaq:SNPS) is a leading provider of electronic design automation (EDA) software and services used to design complex integrated circuits (ICs), field-programmable gate arrays (FPGAs) and systems-on-chips (SoCs) for the global semiconductor and electronics industries.

The company's products enable semiconductor, computer, communications, consumer electronics and other companies that develop electronic products to improve performance, increase productivity and achieve predictable success from systems to silicon. In fact, Synopsys technology can be found in virtually every chip in the world. From high-level synthesis to silicon, Synopsys provides solutions to the most difficult challenges that confront engineers who are pushing electronic design to the limit.

Customer Challenges

Based in Mountain View, Calif., Synopsys has dozens of office locations worldwide. Six of its offices also serve as Data Center field sites, two North American locations, Israel, Finland, China, and Bangalore, India. Depending

on the location, the data centers manage a range of mission-critical data, from customer information to R&D to project-related data. Each remote field site stores about 2 terabytes of data and Synopsys has more than a petabyte of disk online worldwide.

Previously, most of the remote sites were equipped with tape libraries and a Sun server running VERITAS NetBackup. The tape-based infrastructure created on-going issues at these remote sites:

- Though most equipment wasn't even two years old, backups often failed. Tapes would frequently jam, compromising data.
- Some field sites did not have dedicated IT resources, which meant that field administrators had to troubleshoot multiple sites to resolve mechanical issues, creating delays.
- Using multiple and separate vendors for backup software, servers and tape storage added to administrative headaches.

"We have had to previously spend a lot of time resolving issues at field sites," said John Mincarelli, Director of IT. "Our tape systems were supposed to be reliable for many years, but they really were not."

Data Domain Solution

Based on past experience, Synopsys built its wish list for a new backup solution. Compatibility with its VERITAS NetBackup backup software was key, as well as support for its Bangalore, India facility. Additionally, remote management features would prove essential for deploying at its small field sites. On top of that, the company looked for improved compression and attractive pricing. Eventually, Synopsys plans to replicate at various locations, so those capabilities came into play as well.

Working with CMT, a Data Domain channel partner, Synopsys evaluated several backup options. It ultimately chose Data Domain's capacity optimized storage. Along with meeting all of the company's key criteria, as a disk-based solution, Data Domain offered a cost-effective alternative to tape backup. The high capacity and throughput enables users to back up massive amounts of data to disk under tight time constraints, allowing them to retain more data onsite.

Plus, Synopsys can manage all administration across the network from its headquarters, eliminating the need for local administration.

Business Benefits

Disk-based backup with Data Domain has substantially reduced the company's data center costs and eased administration at field sites. By consolidating with one vendor, having the ability to manage remotely, and with the benefits of Data Domain capacity optimization, Synopsys cut its overall three-year spend on backup in half.

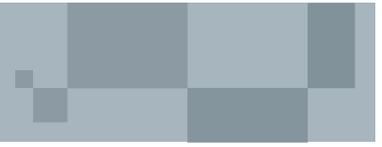
"Before, we had expenses for three different vendors – backup software, servers and tape storage," John Mincarelli said, "With Data Domain, we cut our spending in half at each site."

Synopsys now sees an average of 15x compression in these systems, which has helped keep storage costs low. Backups are compressed and stored for 30 days onsite, simplifying the restore process and further reducing reliance on offsite tape storage. Because of the increased speed, backups now always complete on time. In fact, backup times went from 18 hours to 2-6 hours.

Additionally, the solution has proven to be exceptionally reliable, performing failure-free to date. As a result, field administrators can focus on other responsibilities. Previously, one of the field administrators would call Pethuraj Perumal (manager of the Synopsys Data Protection Service team for John Mincarelli) with backup issues and escalations about every two weeks and it could take weeks to months to resolve. Now, it's been more than eight months since he's heard any problems from the sites.

"The field administrators who take care of multiple sites have been very happy since we deployed Data Domain," says Perumal. "Along with that, it has made my job easier, we have saved a lot of money and time. We're very pleased to have found this solution."

Looking ahead, Data Domain replication capabilities will allow Synopsys to back up data to a remote location, providing a full disaster-recovery solution if needed.



Data Domain: Enterprise Storage Protection

Data Domain has developed a unique non-disruptive approach to deduplication. Recognizing the growing magnitude of both the local and wide area backup and recovery problem, Data Domain has become the fastest growing provider of next generation data protection solutions. Data Domain has implemented deduplication via in-line arrays and appliances, significantly reducing the storage needed for disk-based backup. This reduction makes disk-based storage economically feasible for backup and recovery.

The requirement to have data stored at geographically dispersed locations is becoming more critical as site damages and the frequency of natural disasters increase daily. Deduplication is the critical technology that finally enables businesses to economically replicate backup data over WANs for much faster and reliable remote site disaster recovery. Typical percentages of a full volume or source copy of data needed for various replication techniques are:

These typical data reduction rates demonstrate the magnitude of Data Domain's deduplication architecture.

Seamless integration into the existing backup infrastructure is especially critical for new data protection solutions since organizations are resistant to experimenting with their data protection strategy. All Data Domain Enterprise Protection Storage systems meet this requirement and work without change to existing backup software and operational procedures. By working with existing backup software, Data Domain also enables businesses to consolidate multiple backup products into one backup/recovery architecture.

For a summary of Data Domain product features and associated benefits, see table, *Data Domain Highlights*, on the following page.

Typical Data Reduction Rates

Full Backup	100%, all data backed up each time
Incremental/differential	5% for files, 100% for databases
Mirroring	5%, changes absorbed into each mirror
Snapshot, CDP	5%, only changes stored
Deduplication	< 1%, eliminates redundant data and compresses original occurrence

Data Domain Highlights

Product Features	Customer Benefits
Reduces storage and bandwidth costs with Data Domain 20x Global Compression™ technique	Makes WAN network vaulting affordable. Global Compression reduces data sent to remote location while protecting data over any bandwidth and distance.
Full support for all backup software packages	Data Domain requires no changes to existing backup software providing ease of installation and ongoing operations. Using a transparent approach consolidates existing backup software processes.
Ease of operations	Administrators can spend time on other important tasks.
Continuous data verification	Ensures data can always be recovered. If an error occurs during transfer, Replication software recovers automatically and restarts data transfer.
Reduces the amount of disk needed for backup data, provides concurrency	Storage expenses are reduced. Both the originator and replicated data remain fully accessible while transfers are in progress without impact to availability.
Eliminates redundant data needed for backup and recovery	Improves recovery times for local and remote operations.

Conclusion

The ROI and overall savings achieved by Troutman Sanders, Thomas Weisel Partners and Synopsis, Inc., are consistent with those across all Data Domain customers, hundreds worldwide. Traditional data protection methods are increasingly being replaced by a new breed of disk-based backup and recovery storage that, enabled by deduplication, is changing storage economics and disaster recovery strategies.

The elapsed time during which a business can survive without its IT function is narrowing across all industry sectors and, as such, protecting data assets has never been more important. But data recovery options must align with applications, existing infrastructure

and business requirements to yield high availability and sound data protection strategies.

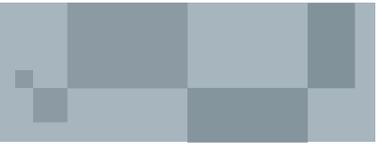
Data Domain’s deduplication technology, data invulnerability architecture and replication technologies are enabling ultra-reliable, high performance enterprise protection storage systems that compliment existing network infrastructures and work seamlessly with all leading enterprise backup software solutions.

For those interested in examining the benefits of data reduction as applied within their own data protection strategy, a *Deduplication Checklist* follows that can serve as helpful evaluation tool.

Preparing for deduplication makes the implementation process easier. The checklist below highlights some helpful considerations to make this task easier.

Deduplication Checklist

Compatibility with your existing backup applications	What changes, if any, are required to your existing backup processes? Assess difficulty of the implementation. Are you prepared? Certify the backup vendor works with the deduplication solution.
Appliance or software based solution	Software-only solutions allow enterprises to re-use existing or older disk systems, appliances normally include disk storage and simplify installation.
Sizing performance requirements	Significant reductions in storage may require several iterations. Determine time needed to achieve the maximum deduplication effect. What is the net expected storage savings compared to full, incremental or differential backups?
Scalability for performance and capacity	Assess instrumentation is provided to measure performance and capacity thresholds. Insure additional capacity and processing power be added to keep up with data growth or to improve backup and restore speeds. Verify upgrades non-disruptive.
Pointer security management	Insure the pointers to the unique data segments are protected from hardware, software and intrusion threats. Losing these pointers means that the backups can no longer be retrieved.
Supports remote replication for disaster recovery	Data reduction not only reduces the amount of storage required locally but also reduces the amount of network traffic during replication, which can result in significant bandwidth savings for remote backup and recovery.
Pricing fit to budget	Do you pay for storage capacity, by number of installed solutions, or another scheme? What are the warranty period and maintenance pricing considerations? Remember not to confuse the initial acquisition costs (Capex) and the ongoing operational expenses (Opex) when evaluating a deduplication solution.
Vendor readiness and positioning	Check out vendor reference installations. Verify the vendor's roadmap will address your future data protection requirements.
Environmental savings	Determine power, footprint and facilities savings for use in cost-justification process



About Data Domain

Data Domain is the leading provider of Enterprise Protection Storage systems for disk backup and network-based disaster recovery. Hundreds of companies worldwide use Data Domain's award-winning solutions to reduce backup costs and simplify their data recovery. Data Domain's Global Compression™, data invulnerability and replication technologies offer breakthrough data reduction rates that enable new efficiencies in enterprise data protection. Only Data Domain can deliver the performance, reliability and scalability to address the data protection needs of enterprises of all sizes. Data Domain's products and solutions integrate seamlessly into customers' existing infrastructure and are compatible with all leading enterprise backup software products. To find out more about Data Domain, visit www.datadomain.com. Data Domain is headquartered at 2300 Central Expressway, Santa Clara, CA 95050 and can be contacted by phone at 1-866-933-3873 or e-mail at sales@datadomain.com.

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IT Users Discuss New Ways to Protect Enterprise Data

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