

D-Link® IP SAN Solutions Deliver Built-In Continuous Data Protection and Disaster Recovery

Synchronize critical data on all computers and devices with one low-cost storage solution

White Paper
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Abstract

Most modern organizations are crippled by data loss or temporary data unavailability. Information is the lifeblood of most companies, and functionality grinds to a halt when it's lost or off-line. That's why D-Link has designed integrated IP SAN (Internet Protocol – Storage Area Network) solutions that automatically sync critical data for immediate failover, disaster recovery and business continuity.

This white paper describes the challenges facing organizations that are increasingly exposed to data loss risk and offers an overview of D-Link's integrated hardware/software solutions. Our partnership with Software Pursuits allows us to offer SureSync® replication technology on a wide variety of D-Link storage array products. As a result, our customers enjoy real-time data replication for immediate disaster recovery (DR) and continuous data protection (CDP) at a cost much lower than traditional fail-over solutions.

New Disaster Recovery and Replication Demands

Tsunamis, hurricanes.. disgruntled employees.. terrorist attacks.. malware infected laptops.. power outages.. fires.. floods. What do these have in common? They can all cause you to accidentally or intentionally lose your valuable data.

Everyone knows that their data is important to the success of their business – perhaps even more so during these difficult economic times. Customer records are priceless. Sales contact databases are critical to growth. Intellectual property and engineering designs need to be secured, backed up and protected at all costs. Operational data that runs key applications – including financial data, performance indicators, fulfillment data and order data – is the heart and soul of almost every modern company.

Traditional back-up and disaster recovery methods are either too cumbersome or too expensive, however. Burning CD's or DVD's is a headache. Many files are too big to copy and manage manually. It's a waiting game that burns otherwise productive time. If you're backing up to tape, staff often forget to take the tape home or to an offsite location. And, not everyone can afford an enterprise-level solution like NetApp or EMC. Those solutions are not designed for more than 80% of the companies in the U.S., and they would quickly consume a large portion of the IT budget of any small to medium sized business.

The growth of the mobile workforce is also a concern. Protecting corporate data stored on remote laptops has proved challenging for all kinds of companies. Workers are computing from cafes, homes, hotels, libraries, airports and semi-secured to non-secured hotspots all across the world. Laptops get stolen, dropped, and compromised by hackers, malware and system crashes all the time.

IT departments need to ensure that files on remote/mobile devices are backed up at an alternate location and ready for immediate recovery. Unlike desktops on a local network, the remote machines are not typically on a static network. In many cases, they're picking up DHCP addresses randomly throughout the day. As a result, it's not easy to keep everything synced up.

Every company needs an easy-to-implement strategy for back-up, disaster recovery (DR) and continuous data protection (CDP). The methodology should be carried out on a regular, scheduled basis without a whole lot of effort. Ideally, you want a replication site with synced data that can be recovered immediately as a failover measure when a local or remote server, desktop, laptop, or device goes down or loses data. The key is to make it automatic, fool-proof and habitual.

Common Applications

Almost every conceivable industry, from education and government to manufacturing and services needs back-up and replication capability. While back-up and replication applications are numerous, the most critical applications usually focus on DR and CDP. DR offers real-time replication between two storage arrays at two separate locations to ensure immediate failover in the event of a catastrophe. CDP protects enterprises from accidental file deletion and file corruption. Synchronization software in CDP solutions restores the most complete, up-to-date version of a file in either case. This way, users always have good versions of their files backed up no matter what happens to the equipment they are currently using.

Other applications for synchronized disk arrays include:

- On-line archiving and back-up
- Primary storage – a low cost alternative to Fibre Channel
- Secondary storage - Tiered storage
(Information Life-cycle Management - ILM)
- Storage Consolidation
- SQL server database back-up

Storage Needs in Transition

Organizations in the market for an IP SAN/synchronization solution are typically shopping for SAN, NAS or direct attached storage (DAS) options for storage consolidation. Those tend to be very expensive, however. Some companies have tape back-up in place, but that process can be cumbersome. Smaller companies often have a mix of machines with direct attached storage and no reliable, efficient method for back-up.

In addition, larger enterprises consider this type of solution as a Tier 2 or Tier 3 supplement to their existing enterprise SAN or NAS solution (something like NetApp or EMC). In this case, departmental or regional offices may opt for a low-cost IP SAN to cover remote office needs and non-critical storage.

Solution Overview

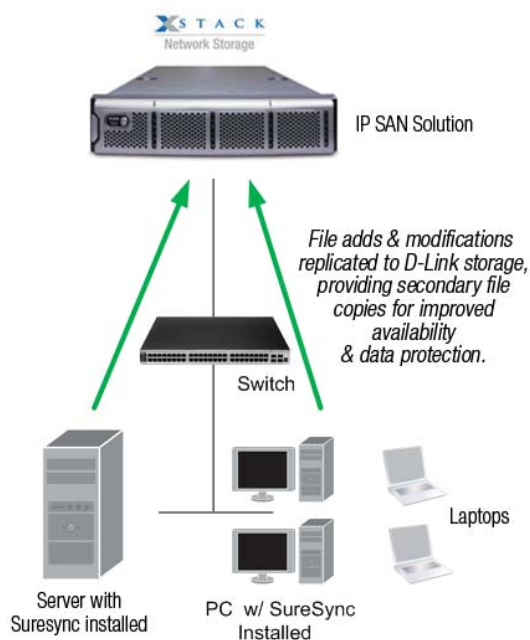
D-Link storage solutions like the D-Link DSN-210-SW xStack® Storage solution, have CDP and DR built in. The SureSync software is a powerful file replication and synchronization utility, which ensures data residing on your PC's or servers is copied and protected on our D-Link storage unit. It works for disaster recovery, file sharing, continuous data protection, software distribution and much more.

D-Link offers SureSync as an add-on to existing D-Link IP SAN solutions including the following:

- DSN-1100-10
- DSN-2100-10
- DSN-3200-10
- DSN-3200-20
- DSN-3400-10
- DSN-3400-20

These systems are perfect for organizations that need a comprehensive yet low-cost storage and back-up solution.

As users create and update, SureSync recognizes these modifications and replicates them to your D-Link storage unit, ensuring your data is protected on a secondary drive and available to access and utilize should your primary machines experience outages. As a result, you gain peace of mind, improve productivity and never lose valuable information. Flood, fire, theft, damage and user error become inconveniences when it comes to your data. The events themselves may be traumatic, but they will never again bring your business to a halt.



SureSync software, working together with the D-Link IP SAN systems, provide a cost-effective total solution for data protection, availability, distribution and file sharing.

Extended Features

CDP

With D-Link SureSync IP SAN solutions, companies can avoid unreliable, time-staggered data back-up typical of snapshot archiving solutions. CDP provides better data protection throughout the day. Instead of “point-in-time” snapshots, CDP backs up the file at every saved or changed version. No matter how many times the file has changed, the system replicates it. With a snapshot, the file may change multiple times between time intervals. If the snapshot is restored after these changes, the wrong version of the file is replicated.

Remote Laptop Backup

With D-Link and SureSync, you can back up company files that are constantly changing and moving with mobile users. Centralized CDP storage allows you to back-up at a centralized location and restore

in seconds in the event of a system crash, theft or other mishap. No matter where your workers are using their devices and computers, everything is protected. Laptop, Desktops, Netbooks, and Windows Server data is backed up continuously. Any device or system with an IP connection can back up its data to the storage array, as long as it is a Windows® machine with the SPIAgent installed.

The SureSync software and its SPIAgent add-on for remote devices provide all kinds of replication and DR flexibility. With the SPIAgent, you can synchronize any Internet-connected Windows machine (by IP address or DNS name). SPIAgent brings real-time replication to SureSync, increasing data availability by continuously monitoring for data updates. Data encryption options secure data as it travels over the Internet.

Online Back-Up/Archiving

SureSync also provides real-time data replication from Windows system to Windows system. For example, you can easily replicate data from one Windows Server or PC in Los Angeles to another in New York. Low cost SATA drives make this a very reasonable alternative to existing tape back-up systems. There's no more tape to change, no more couriers for moving tapes around and no more administration hassle.

ILM – Tiered Storage

D-Link storage solutions with SureSync are ideal for Tier 2 and Tier 3 storage scenarios, where information lifecycle management (ILM) plays a part in enterprise settings. The products also work well in primary storage arrays in virtual environments (like VMware, Microsoft Hyper-V and Virtual Iron).

At larger enterprises the solutions fit in as departmental or remote office back-up. While EMC or NetApp solutions are used for Tier 1 storage, the D-Link equipment can be used to archive data that is in the 2nd half of its information life cycle. ILM practices allow you to set priorities for certain kinds of data or data that is of a certain age. For example, emails from the last 30 days might be mission critical. However, six-year-old emails can be archived on Tier 2 or 3 storage.

ILM helps you reduce costs significantly. While Tier 1 may cost \$20 per GB, Tier 2 might cost \$10/GB and Tier 3 \$2/GB. Companies recognize this and are now breaking data up and distributing it among different storage systems in order to reduce costs. It's a more intelligent way of managing capital resources.

One Integrated Solution

D-Link IP SAN solutions with the SureSync option offer businesses an easy, economical storage replication, DR and CDP option. With D-Link, your data is safe, secure and available 24X7X365. Business continuity has never been more simple and affordable.

To learn more about D-Link IP SAN solutions that feature Software Pursuits' SureSync technology, please call D-Link at 1-800-326-1688 or visit www.d-link.com.

D-Link Solutions

DSN-210-SW *SureSync Continuous Data Protection & Replication Software for xStack Storage*

Product Features:

- SureSync option
- Quickly Restore Files to a Specified Point in Time
- Real-Time Data Replication and Synchronization
- Adaptive Delta Technology Copies Only Changes Made at the File Level
- Automatically Creates Mirror Files for Data Security
- Easy to Read Navigation Directories
- An Efficient Disk-to-Disk Backup Solution



DSN-3200 *8x1GbE iSCSI SAN Array, 15 Bays, 3U*

Product Features:

- SureSync option
- Integrated iSCSI System-on-a-Chip (SoC) Solution that can Handle over 80,000 I/Os per Second
- Eight 1GbE Ports
- 15TB Capacity with 1TB Hard Drives (Supports Higher Capacity Drives as They Are Introduced)
- Embedded Disk Controller Supporting RAID Levels 0, 1, 1+0, and 5



DSN-3400 *1x10GbE iSCSI SAN Array, 15 Bays, 3U*

Product Features:

- SureSync option
- Integrated iSCSI System-on-a-Chip (SoC) Solution that can Handle over 80,000 I/Os per Second
- Single 10GbE Port
- 15TB Capacity with 1TB Hard Drives (Supports Higher Capacity Drives as They Are Introduced)
- Embedded Disk Controller Supporting RAID Levels 0, 1, 1+0, and 5



DSN-1100 *4x1GbE iSCSI SAN Array, 5 Bays, Cube*

Product Features:

- SureSync option
- Integrated iSCSI System-on-a-Chip (SoC) Solution that can Handle over 80,000 I/Os per Second
- Four 1GbE Ports supporting 425MB/s bandwidth
- 5TB Capacity with 1TB Hard Drives (Supports Higher Capacity Drives as They Are Introduced)
- Embedded Disk Controller Supporting RAID Levels 0, 1, 1+0, and 5



For more information about D-Link IP SAN solutions and the SureSync software, please visit www.dlink.com or call us direct at 1-800-326-1688.

To contact D-Link Canada, call 1.800.354.6522 or visit www.dlink.ca. For more white papers, visit www.dlink.ca/business/whitepapers-solutionbriefs/

DSN-2100 *4x1GbE iSCSI SAN Array, 8 Bays, 2U*

Product Features:

- SureSync option
- Integrated iSCSI System-on-a-Chip (SoC) Solution that can Handle over 80,000 I/Os per Second
- Four 1GbE Ports
- 8TB Capacity with 1TB Hard Drives (Supports Higher Capacity Drives as They Are Introduced)
- Embedded Disk Controller Supporting RAID Levels 0, 1, 1+0, and 5

