



HP OpenView Storage Data Protector for Business Continuity & Availability

Solution guide





Is this solution guide for you?

HP OpenView Storage Data Protector is an integral part of the HP Business Continuity & Availability solution portfolio. It helps you mitigate risk, maximise availability and minimise costly downtime by simplifying the way in which you back up and restore your business data.

This solution guide – designed for IT decision makers with a good level of technical understanding – demonstrates the advantages that Data Protector brings to a range of backup and restore scenarios. It will help you to determine whether the software is right for your environment today, and – if you are looking to upgrade – which backup and restore strategy you should move to next.

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The starting point: data protection

As a modern business, you're facing increased threats to the security and availability of your data. As a result, you need to safeguard it against loss, and ensure it can be recovered if the worst should happen.

Tape-based backup

The traditional approach to data protection has always been tape-based backup – where the production data on your servers is copied to a tape drive or library during a scheduled backup window.

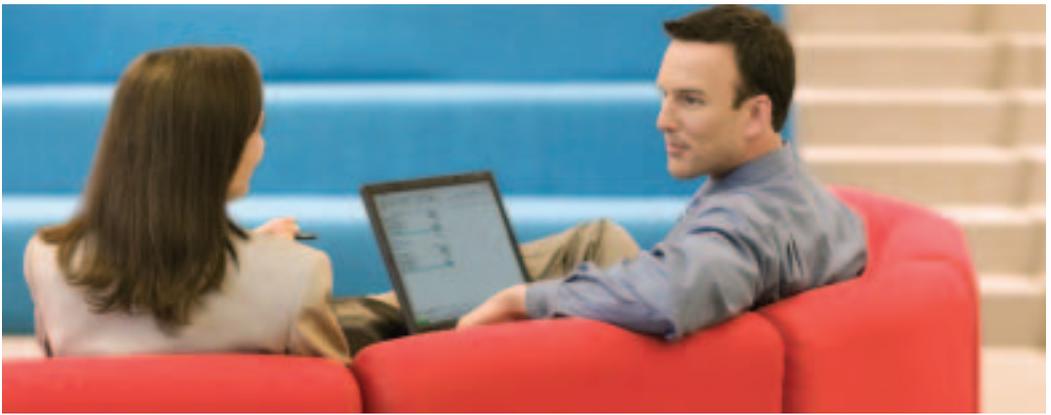
The key to this approach is ensuring that backups are performed regularly enough to meet your tolerance for loss of information – i.e., if you can cope with five days of data loss, then one weekly backup would be sufficient; but if you need to protect data created just a few hours ago, then multiple daily backups would be needed.

A major limitation of traditional tape-based backup is that it has to be performed offline. This is a particular problem if you're running 24x7 operations – or have remote offices in different time zones – and need your servers online both day and night.

Disk-based backup

In the last few years, disk-based backup has become a viable addition to traditional tape strategies. It allows you to back up multiple copies of your data while it is still online – helping you establish a strong business-continuity strategy with instant recovery of data should a disaster occur.

However, as with tape-based backup, it comes with its risks and problems: online data is susceptible to corruption and viruses; local backup copies can easily be lost if the array on which it is stored goes down; and storing backup data online is expensive compared to tape.



The next phase: business protection

HP understands that the IT issues you face today are driven by the needs of your business. For example:

- Growing volumes of data must be constantly available to satisfy customer demand.
- Backups must be completed within shorter backup windows to allow customers and suppliers to access your systems for longer.
- Data must be recovered as quickly as possible if a loss occurs, to minimise the impact on customers and service users and stop them moving to a competitor.
- Backup data copies must be as recent as possible to minimise lost transactions, which can lead to lost revenue and lost customers.

As a result, we believe you need a solution that not only protects your data, but that also protects your business – and does so without any of the technological limitations or risks we looked at on page 3.

By combining tape-based and disk-based backup in a multi-layer approach, you can counteract their respective limitations and start moving towards a backup and restore solution that is aligned with the needs of your business.

Business Continuity & Availability

HP has a comprehensive approach to support your move from data protection to business protection. It is called Business Continuity & Availability.

We define this not as a specific product, technology or service, but as a process. It is a way of ensuring your operations – as well as those of your suppliers and service providers – are always available to satisfy customer demands.

To help you achieve Business Continuity & Availability, we offer practical advice on choosing the right products, technologies, processes and support services to protect your business at the appropriate level – whether that is **core**, **critical** or **continuous**, as shown in the diagram below.

The HP approach to Business Continuity & Availability

Business Continuity & Availability Solutions				
	HP Solution	Core	Critical	Continuous
Customer Need	IT and business recovery	- Less than 24 hours	- Less than 8 hours	- Less than 1 hour
	Data/transaction loss	- Less than 24 hours	- Less than 4 hours	- Less than 30 minutes
	Downtime (availability)	- Less than 5.5 hours per month	- Less than 3.5 hours per month	- Less than 45 minutes per month
	Services	<ul style="list-style-type: none"> - Basic proactive deliverables - Ship-to-site and mobile recovery facilities - Snapshot of current IT against best practice - 4-hour on-site response 	<ul style="list-style-type: none"> - Proactive advice and recommendations - Warm site recovery - Pre-configured hardware in standby - Advanced monitoring - Ongoing support plan - 6-hour call to repair 	<ul style="list-style-type: none"> - Extensive proactive deliverables - Hot site recovery - Storage replication, active/active, active/warm - Service improvement plan - Flexible call to respond - Business impact analysis
	Technology	<ul style="list-style-type: none"> - Networked attached storage, DAS, SAN - Tape backup/recovery - Local data replication and clustering - Pre-configured, manual restart, re-route 	<ul style="list-style-type: none"> - Storage Area Network EVA/XP or tiered storage - Backup to disk or tape - Remote data replication - Manual restart, re-route 	<ul style="list-style-type: none"> - Storage Area Network EVA/XP, tiered storage - Campus, metro and continental clusters with integrated data protection - Remote synchronous data replication - Auto restart, assisted
		BC&A Consulting		

The solution: HP OpenView Storage Data Protector

HP OpenView Storage Data Protector is a leading software management tool that automates backup and recovery from both disk and tape.

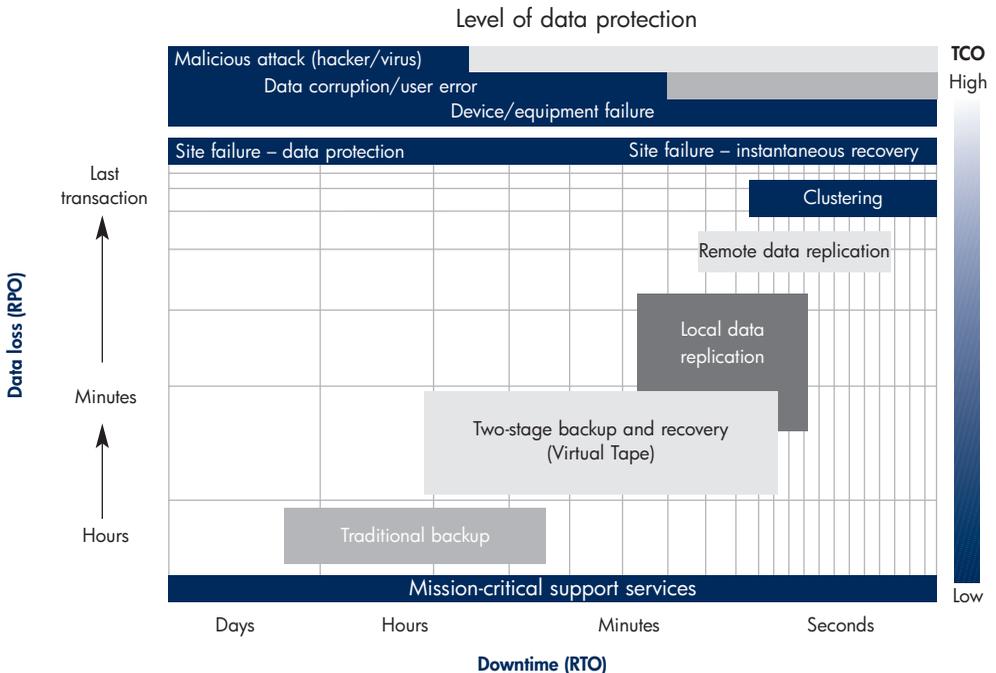
It is a key solution component of our Business Continuity & Availability portfolio, and supports a wide range of business protection strategies, covering **core**, **critical** and **continuous** levels.

It simplifies and centralises your backup and recovery operations and reduces your backup windows through a variety of techniques. These range from online backup, open file backup and zero-downtime backups including instant recovery.

Perfect for every environment

Data Protector is the ideal solution to reduce IT costs and complexity – whatever IT environment you have. It supports a broad range of operating systems, applications, drives, libraries and disk arrays, and offers the scalability to grow from single server deployments to the largest distributed enterprise infrastructures.

The scenarios that follow over the next few pages demonstrate the ways in which Data Protector can assist with backup and recovery across a range of business environments, from core operations such as traditional backup to tape, to continuous operations based on clusters and remote replication.



Typical Data Protector scenarios



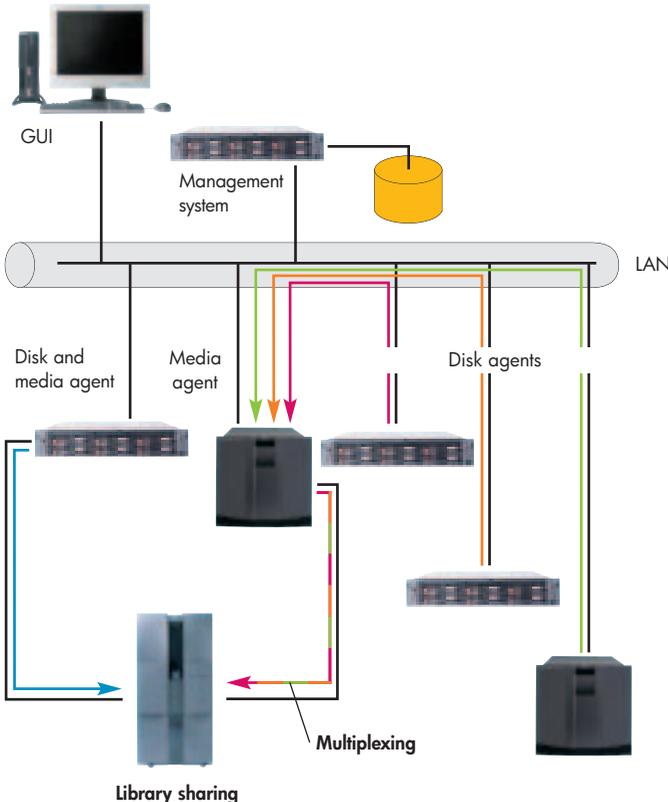
Traditional backup and restore from tape

How does it usually work?

Backup: Data from your application servers is backed up directly to a tape device. This involves taking your servers offline while the backup is performed.

Recovery: Lost data has to be searched for on the tape device and then copied back to your servers. It is a time-consuming process to both locate the required information and copy it back to the server.

Library sharing and multiplexing





How does Data Protector help?

Advanced backup

With its online backup capability, Data Protector allows you to eliminate backup windows and ensure high availability of your data and systems.

Advanced recovery

Data Protector offers a full range of quick and easy bare metal recovery options that allow you to choose exactly how much data you want to recover, from a single file to a complete site. These include unique Disk Delivery, which allows you to reconstruct an image of a failed server disk from a separate recovery server, and reboot the failed server quickly.

Central management

Routine administrator tasks can all be automated with Data Protector, and they're easy to set up thanks to simple wizards and clear navigation. In addition, role-based user rights can be defined so that responsibilities can be distributed to different users safely.

Device management

Built-in device management makes it easy to share tape libraries between multiple systems and platforms. A load balancing feature enables backups to be distributed across

configured drives. Multiplexing keeps high-speed tape drives streaming to prevent server bottlenecks. What's more, device virtualisation allows you to assign backup drives across multiple systems and platforms.

Media management

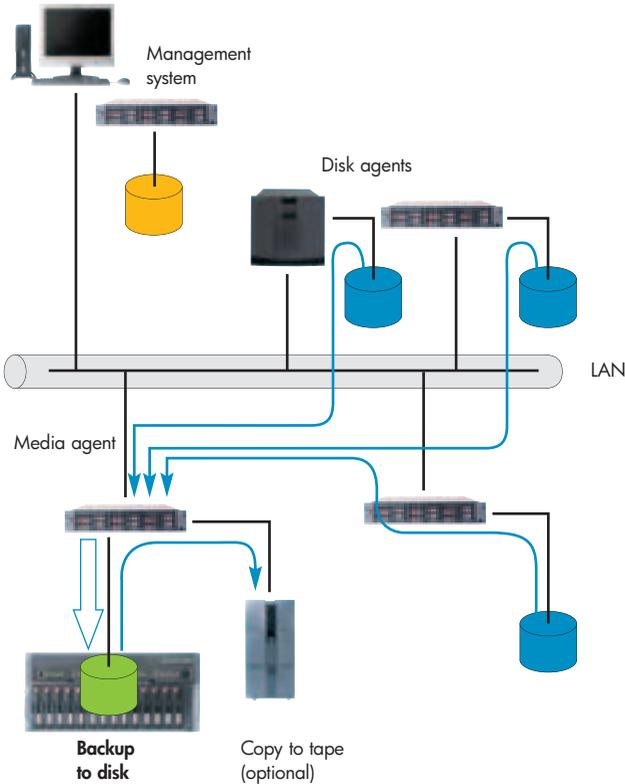
Along with automated media copying, built-in data retention management and media allocation policies, Data Protector also offers tape compaction – which is sometimes referred to as tape collocation/de-multiplexing. This eliminates unprotected backups and allows for faster recovery. It enables multiplexing for the simultaneous backup of multiple systems to one or multiple devices, or concurrent restoration from one or multiple backup devices to multiple systems. Moreover, Data Protector includes media operations, which tracks and manages media located outside the library. This reduces the risk of human error by automating tasks and guarantees backup success by monitoring media quality and preloading the library with the required number of tapes.

Two-stage backup and restore

How does it usually work?

Backup: Online data is first backed up to disk array (an instant process that requires no backup window) and then moved to a tape device at a later time/date.

Recovery: If the required data still resides on the disk array (i.e., it has not yet been moved to tape), it can be copied back instantly to the server. If it has been moved to tape, it usually has to be copied to the backup disk first and then moved onto the server.



How does Data Protector help?

Backup to disk

Data Protector includes an optional backup to disk licence that enables you to perform and manage the first of this two-stage process. It provides continuous backup of transaction log files, backup of slow clients without multiplexing, easy resource access and sharing, plus backup in tape-less branch offices, while offering fast and easy configuration and licensing.

Virtual tape

With support for virtual tape libraries, Data Protector lets you present the backup disk to the SAN as a physical tape library. This gives you all the advantages of backup to disk and allows you to share this backup device among other Data Protector clients, without any disruption to your normal backup and recovery process.

Direct restore from tape

A useful feature of Data Protector is the ability to restore data directly from tape. This means that you don't have to copy data from your tape drive to your backup disk and then to your servers, as is the normal process for two-stage backup. You can simply restore it directly from tape to server.

Local data replication

How does it usually work?

Backup: Your online production data is replicated to a second disk within the same array, which is then presented to the SAN and backed up to a tape device.

Recovery: Lost data can be recovered within minutes from the replica data copy – with minimal impact to ongoing operations.

How does Data Protector help?

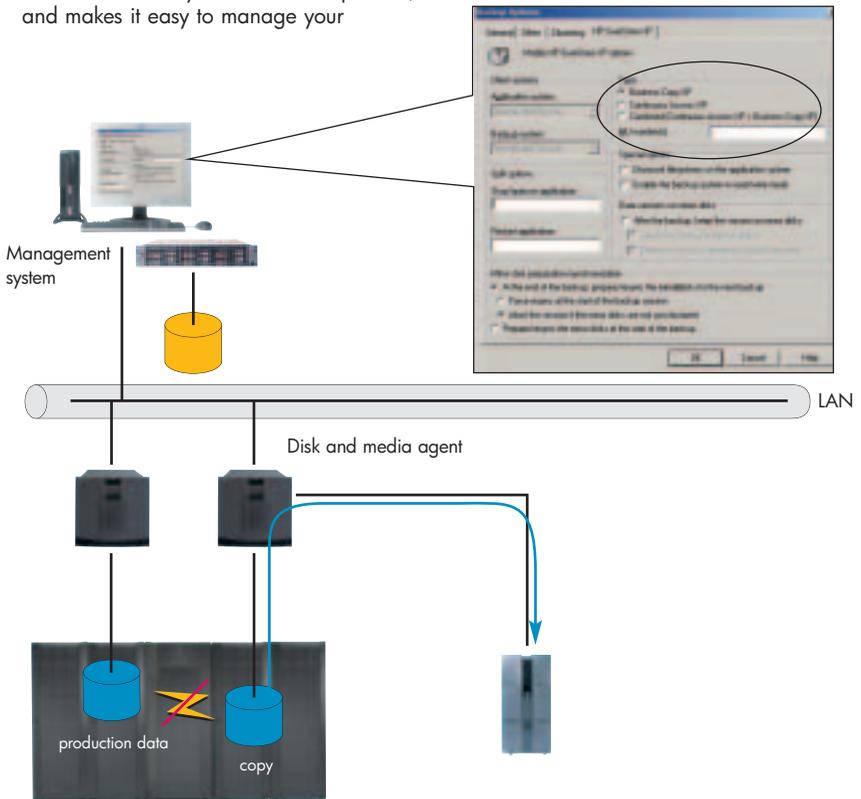
Zero downtime backup integrated with Business Copy EVA/XP

Also referred to as “no impact” backup, this is the process of backing up replicated production data so you experience no interruptions to your business operations and have no backup window to manage. Data Protector fully automates this process, and makes it easy to manage your

replicated data set via its simple GUI. Furthermore, it allows administrators to schedule exactly when the data is backed up to tape.

Instant recovery integrated with Business Copy EVA/XP

Data Protector allows instant recovery by retrieving data directly from the replicated images on disk. It also allows you to keep multiple data replicas (called mirrors or snapshots) available at the same time. You benefit from the ability to recover critical data within minutes, not hours.



Zero Downtime Backup

Remote data replication

How does it usually work?

Backup: Your online production data at site A is replicated to a separate disk located in a second array at site B. This is then presented to the SAN, which stretches across both sites, and is backed up to a tape device.

Recovery: Lost data can be recovered within minutes from the replica data copy – with minimal impact to ongoing operations. You can even recover from a complete disaster at site A using the replica copy at site B.

How does Data Protector help?

In addition to its zero downtime backup and instant recovery capabilities for local data replication, Data Protector offers the following benefits for remote replication:

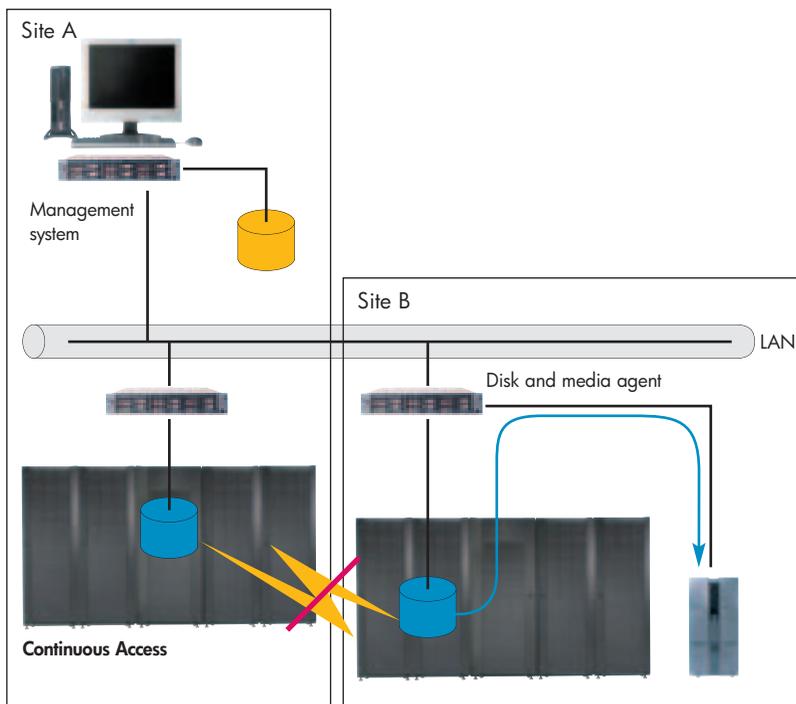
Zero Downtime Backup and Instant Recovery integrated with Continuous Access EVA/XP

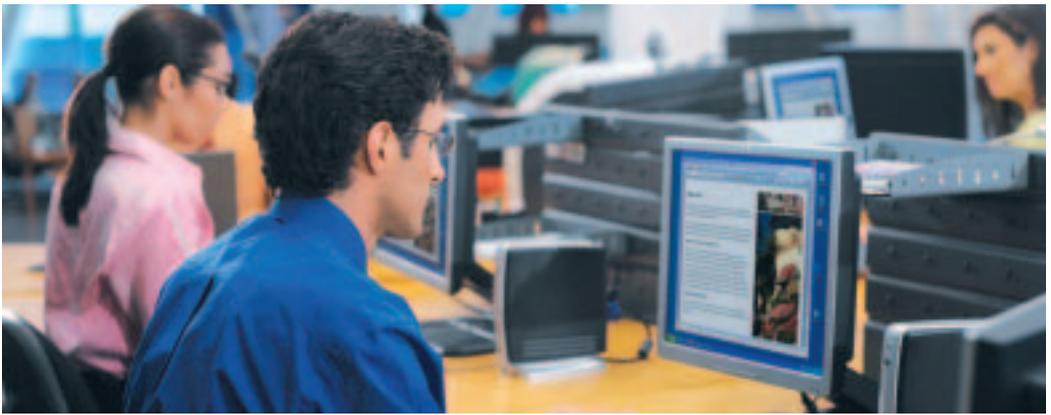
Continuous Access allows users to mirror local disk array volumes to a remote disk array. The link between the two sites is split for the duration of the backup.

A separate backup system is connected to the disk array with the backup volumes, while the source volumes are connected to the application system. Streaming of data to tape is performed from the replicated volume after the pair has been split. This way the application system remains online and available for use.

Data Protector provides no impact backup by backing up the copy of the production data at the remote site, with the option to copy it to disk and/or tape.

For recovery, the application can be either brought up in the remote site at the valid point in time or recovered to the primary side via tape.





Remote Backup Mirroring

Data Protector mirrors backups over unlimited distances and is able to send the same backup data stream to up to 20 mirrors in parallel – including multiplexing.

Backups can be mirrored over unlimited distances, and over LANs, SANs and WANs. The backup has a higher priority than mirroring in case of failures or mount-request timeouts. Mirror backups can be appended to already protected media. There are different and changeable protections possible for the different locations.

The mirror backup feature comes free of charge and out of the box and integrates seamlessly with the GUI and CLI.

Backup of remote branch offices

Data Protector can also provide central control of the backups performed at your remote office locations. And if you would like to copy or move your remote office backup data to your central site, HP OpenView Storage Mirroring or HP StorageWorks WAN Accelerator can work with Data Protector to reduce the amount of redundant backup data that needs to be transmitted.

For more information on these products, please visit: www.hp.com

Clustering

How does it usually work?

Backup: Typically, your mission-critical application runs in a cluster. The backup application must be aware of the fact that the application could run on different physical servers to ensure it is started on the correct one and can work throughout failovers of the application itself.

Quite often, backup software is a mission-critical application because the timely backup and thus deletion of archive logs is important to keep the main application running. Therefore, it is necessary for the backup application to run itself in a cluster.

If remote replication is used (either by the array, using Continuous Access software, or via host software such as LVM), the backup application must ensure that the remote copy is consistent before it takes a copy from it.

Recovery: The main focus of recovery in a cluster is to “simply” failover to the standby server, or even standby site, and continue production. The backup application must seamlessly adjust to the new situation. In case the failover process is not functioning, the protected versions should be recovered locally or at the remote site.

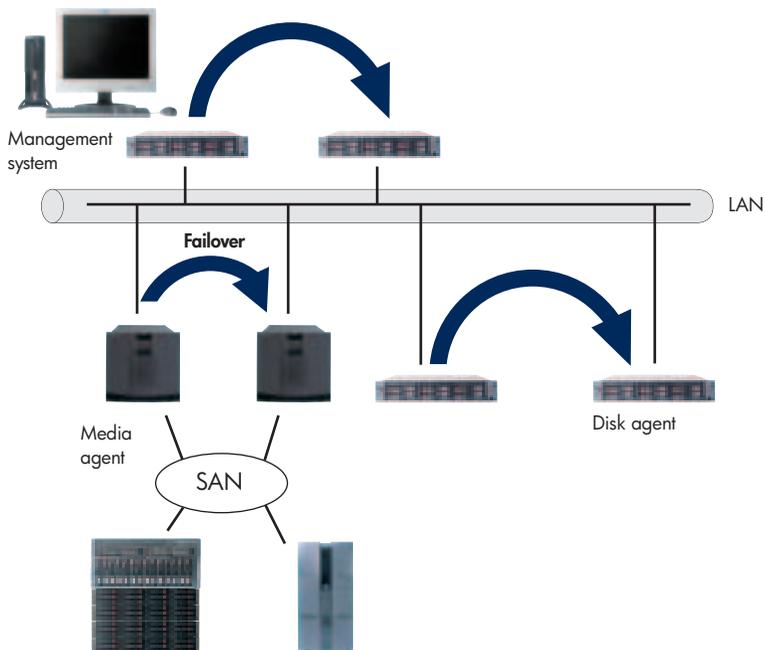
How does Data Protector help?

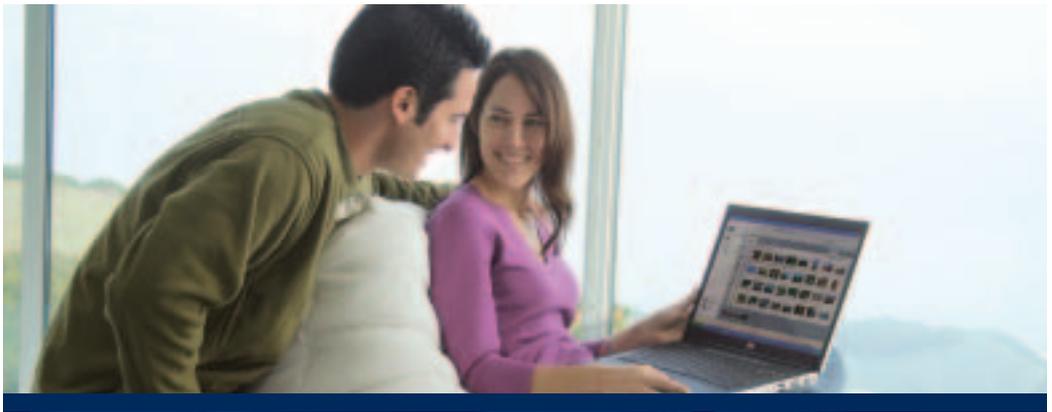
Cluster integration

Data Protector fully integrates with normal server clusters to ensure fail-safe operation and 24x7 availability. Its management system can run on each of the cluster nodes, so should the software fail, it can automatically failover to a different, healthy node.

Metro/campus cluster support

Data Protector fully supports remote data replication scenarios that employ metro or campus clusters. It simplifies the backup of replicated data at a remote site or an adjacent building thanks to a simple GUI that permits remote control, easy-to-choose configuration options and the ability to schedule tape backups when required.





Data Protector services

Technical support

When choosing Data Protector as part of your business protection strategy, HP offers a number of technical support services to complement your solution and help keep your business operations up and running. These include:

Telephone support

For troubleshooting tips and solution advice, HP offers expert telephone support. Choose a level of support to match your business needs, from business hours only to round-the-clock, 24x7 coverage.

Electronic support

Product information – including updates to new software versions – is available 24 hours a day at HP Software Support Online:

<http://support.openview.hp.com/support>

Mission Critical Support

The professionals at HP Services can help you gain real business agility via a cost-effective, comprehensive portfolio of Mission Critical Support services that includes: technical assistance, system health checks, onsite support planning, remote monitoring and assigned account advocates.

Backup and Recovery Solution Service

For fast, effective integration of your backup solution into an existing or new storage infrastructure, the Backup and Recovery Solution Service (BRSS) provides end-to-end management of your backup integration process.

The BRSS team will work with you to analyse your business and IT environment; develop a comprehensive integration plan and timetable; design an architecture that suits your critical requirements; install your backup software; implement your solution; and validate and monitor your configuration.



Why HP OpenView Storage Data Protector?

Data Protector fully integrates with HP SAN solutions for a high level of business continuity and availability:

- It is the only solution on the market that offers Zero Downtime Backup and Instant Recovery integration with EVA and XP Business Copy and Continuous Access software

Data Protector delivers a superior price/feature ratio than its competitor products:

- It is one of the most affordable products on the enterprise backup software market, with a total cost of a mid to large backup configuration being 50–70% below other products on the market
- The first year of support is included as standard on all licences, making it even more affordable
- You can install Data Protector yourself, or purchase installation services from HP
- Unlike other products, HP does not charge separately for client and server licences

Data Protector offers a simple licensing model:

- It is much simpler to licence and use than other products on the market
- It reduces complexity by offering two to three times fewer part numbers for the same configuration as many of the other available products
- It does not have multiple licence “tiers” for clients and servers based on hardware

Skandia is one of the world's leading independent providers of long-term savings and financial security solutions. When it needed a storage solution to satisfy its business continuity and availability requirements, it chose HP OpenView Storage Data Protector.

This enabled the company to integrate Zero Downtime Backup and Instant Recovery capabilities to its existing HP StorageWorks EVA5000 for enhanced protection of critical information. Plus, it was significantly more affordable and simpler to licence than their existing software.

Chivas Brothers, the world's third biggest wine and spirits company, relies more and more on IT to do business – and it is continually making improvements to its infrastructure.

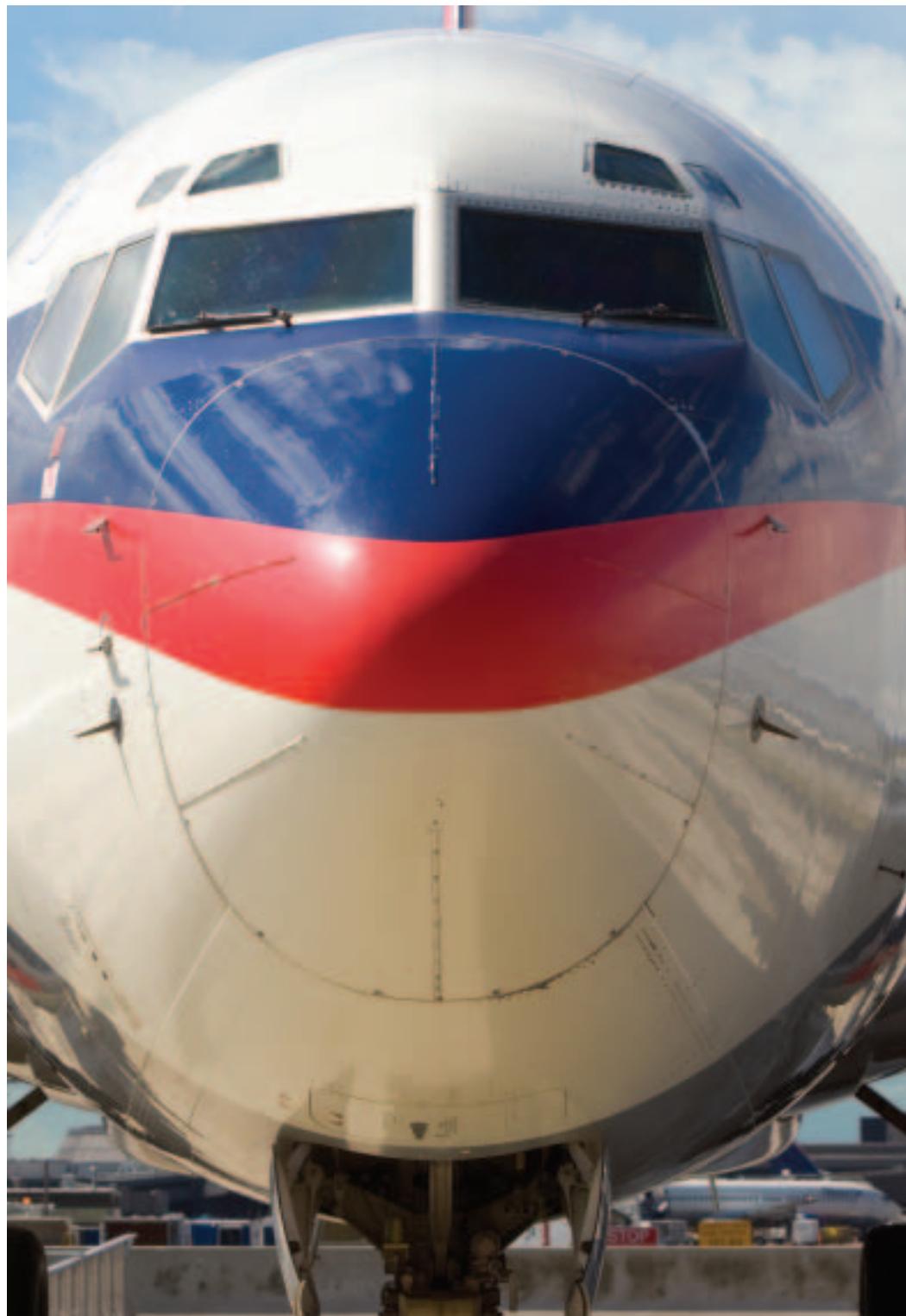
HP helped to design, configure and install its new storage solution, based on an HP StorageWorks EVA5000 and EVA3000, plus HP StorageWorks Continuous Access EVA for real-time data replication and HP OpenView Storage Data Protector to ensure rapid recovery from any disruption.

In addition to the performance benefits of the new hardware, Chivas can now complete its backup operations within minutes rather than hours thanks to Data Protector.

Continental Airlines is the fifth largest airline in the U.S., offering an extensive service throughout the Americas, and to Europe and Asia. The company recently invested in an HP Superdome environment on which to consolidate its applications, resulting in over 40 percent improvements in processing. A key component of this environment is HP OpenView Storage Data Protector, which protects the data and ensures high availability.

“At Continental we believe in the future of HP’s OpenView Data Protector and its ability to help manage our business. With the release of Data Protector 5.5, we see the new Advanced Media Management features, specifically disk-to-disk backup, as the next breakthrough technology which will lower scalability costs, increase performance and allow Continental to meet our data compliance objectives.”

Devin York, Director of Financial Systems,
Continental Airlines



For more information about HP OpenView Storage
Data Protector, visit: www.hp.com/go/dataprotector

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