



HP StorageWorks – helping to ensure continuity and performance for business intelligence

Create a competitive advantage and manage business growth

Business intelligence (BI) is gaining strategic importance as users demand faster and more detailed analysis of your ever-growing information to help them better react to changing business market conditions. The new prominence of BI is leading to its transformation from a range of batch-driven reporting tools intended for a selective audience to systems that analyse and deliver intelligence, in real time, to decision-makers at all levels of the business.

If your company is like most, your BI projects started at the departmental level with the creation of single-subject-area data marts that were used by a limited number of staff to produce departmental intelligence reports. Unfortunately, these types of solutions led to a proliferation of hardware and software tools that are difficult and costly to manage, maintain and grow.

In today's business you must operationalise your BI environment, creating more sophisticated data integration that can satisfy a wider and more experienced class of users. Because BI is embedded in the business fabric, you must look at solutions that help you ensure the availability of your intelligence and consolidate your storage environments to develop an efficient BI solution that is highly flexible as well as scalable – and that minimises total cost of ownership (TCO).

Understanding the BI maturity level

The use of BI is maturing as companies move from using intelligence on a local, ad hoc basis to using it at a strategic corporate-wide level. As this shift continues, there is a change in how BI is utilised – from both information management and business enablement standpoints.

‘Not only did HP offer an exceptional hardware, storage and services solution with support for the business intelligence applications we needed, but also HP’s responsive, knowledgeable staff helped get us up and running quickly. It is clear that HP really cares about our success.’

– Dave Geiver, Vice President of Technology,
PREMIER Bankcard¹

The maturity journey of information management-related business intelligence has seen BI transform from a tool that gains local access to data on specific subject areas in departmental data marts and warehouses to a corporate-wide environment that manages a single version of the truth. This organisation-wide BI environment requires integration across multiple subject areas and business units with advanced information management solutions that deliver intelligence via a service model. This transformative journey requires changes in information strategies and architectures, as well as a very robust technical infrastructure.

The transformation of business enablement shifts organisational focus from using BI as a reporting analysis tool to using intelligence to transform the way business processes are designed – as well as the way people work – and to differentiate the organisation strategically.

HP StorageWorks provides a range of open-standards-based solutions to help you move down both of these evolutionary paths. Our solutions deliver the agility you need to adapt to your organisation’s changing business needs – from creating data marts and data warehouses to building solutions that use network storage for consolidation and allow the scaling out and scaling up of BI repositories.

Addressing key issues in business intelligence

As your BI solution grows to accommodate more users and starts aggregating gigabytes or even terabytes of information, you need an underlying infrastructure that can support a mission-critical environment. By adding capabilities such as high availability, failover, disaster recovery and security, your organisation reduces the risk of loss of intelligence access, improves compliance and helps create an infrastructure for operationalising business intelligence.

HP storage solutions for business intelligence consolidation

Your BI application runs and relies on critical applications, including those from Microsoft®, Oracle® and SAP. Application consolidation can enhance availability, lower application complexity, reduce administration costs and increase application performance.

HP’s application consolidation solutions help you improve your ability to deploy new applications and upgrade existing ones, boost user productivity, manage data growth proactively and improve administrative efficiency.

Your situation

I need to consolidate data marts and data warehouses in multi-vendor server, application and OS environments.

I am virtualising my BI server environment.

I am planning for data-warehouse and data-mart growth. I need new ways to manage and house my ever-expanding storage assets.

I need to improve backup reliability for multiple data marts and data warehouses and reduce data protection management costs.

Ongoing administration and maintenance of my existing BI infrastructure are consuming the lion's share of my IT budget.

I am buying too much storage upfront to create headroom and protect future growth for multiple data marts and data warehouses.

My growing BI environment is creating unpredictable storage demands and driving up my infrastructure costs.

HP recommends

- HP Neoview for end-to-end enterprise data warehousing
- HP SAN disk arrays for Oracle, SAP and Microsoft BI consolidation, including:
 - HP StorageWorks XP Disk Array for always-on availability, especially for those highest-performance enterprise warehouses that integrate third-party storage
 - HP StorageWorks Enterprise Virtual Array (EVA) for high-availability, high-performance BI environments that are standardising on HP storage

Consider virtualising your storage with HP network storage to reap the fullest benefit from server virtualisation.

Enhance BI application availability, using economies of scale to increase or decrease storage capacity easily.

- HP network storage, including HP EVA and XP arrays and network-attached storage (NAS), helps your organisation consolidate and increase storage utilisation, breaks down islands of storage and creates a single pool of storage.

Backup consolidation can reduce BI application backup and restore times and reduce costs significantly. We recommend:

- HP Data Protector software for enterprise backup and recovery, coupled with HP tape technologies and tape libraries to protect your intelligence assets efficiently
- HP StorageWorks Virtual Library Systems to use your SAN infrastructure for fast backups that reduce impact on BI operations

HP Unified Infrastructure solutions can help you monitor and control your BI IT environment holistically.

- HP Storage Essentials and Systems Insight Manager deliver single-console storage management to deploy and monitor data marts and data warehouses from the database to the network and hardware infrastructure. You will reduce the time and costs associated with analysing and resolving infrastructure and application problems.
- HP Storage Essentials suite offers specialised options such as:
 - HP Storage Essentials Global Reporter for management and control of a distributed BI environment
 - Application Storage Management, which extends HP Storage Essentials' capabilities 'inside' Oracle, Microsoft and Sybase application databases in a SAN environment

Right-size, efficiently provision and simplify storage for BI applications with HP SAN Virtual Provisioning solutions.

- HP XP Thin Provisioning helps improve consolidation and accelerate your return on investment (ROI) by supplying disk storage capacity to your BI applications from a pool of virtualised storage.
- HP EVA Dynamic Capacity Management provides automated storage provisioning intelligently, increasing or decreasing the size of the file system and underlying storage based on application needs.

A utility approach to storage allows you to expand and contract your consolidated environment smoothly.

- With an HP Utility Ready Storage solution, you pay a simple monthly invoice for the actual storage capacity that you use, when you use it. This strategy allows you to balance the risks and capital costs associated with buying and upgrading storage devices and software.

HP Utility Ready Storage solutions feature hardware, software and services that help you improve predictability and flexibility to match your actual SAN storage costs to your BI projects.

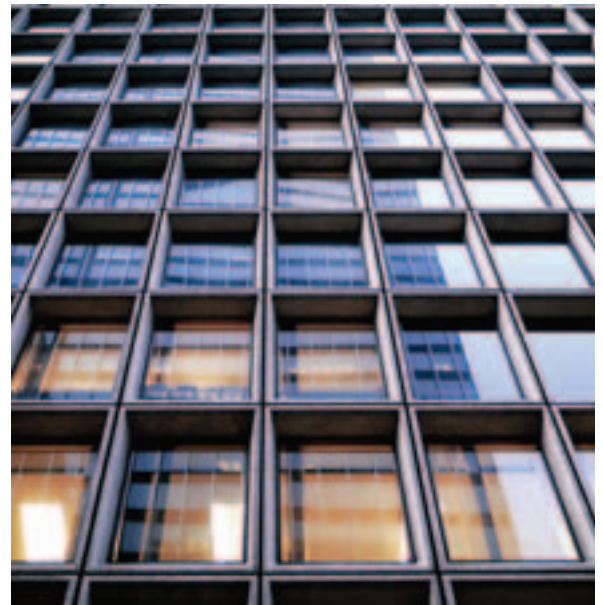
Whether you choose a managed capacity, metered capacity, or instant capacity solution, HP services are available to help you plan, deploy and manage a customised solution that matches your requirements and business objectives.

HP delivers a complete set of cost-effective solutions that help you scale up, scale out and protect your business intelligence assets. The combination of HP Storage Essentials Enterprise Edition software, HP Systems Insight Manager software and HP software management tools helps tie your BI applications to business processes and monitors them to make sure critical business activities run smoothly. In addition, our HP StorageWorks SAN

arrays (EVA and XP) help customers consolidate their data marts and warehouses across multiple vendor applications and servers. These arrays provide high availability (XP is designed for always-on availability) and multiple levels of disaster recovery, while HP storage virtualisation solutions simplify multi-vendor infrastructure management and reduce TCO.

‘The HP StorageWorks MSA30 matches our model for efficient growth with its modular design, allowing us to treat storage as a utility and preserve our storage investment as we progress.’

– Jonathan Kaye, President,
Health Data Management Solutions²



Building resilient operations

Any failure in your BI infrastructure limits the availability of the data your organisation needs to react to market or operational changes in a timely manner. Business continuity and availability storage solutions can help you reduce the risk of failures by enabling you to secure and protect your BI applications, data marts and data warehouses. HP offers three types of business continuity storage solutions that can, individually or in combination, help you meet the current levels of data protection as well as RPO and RTO objectives – and are flexible and cost-effective enough to grow with your BI deployments.

Backup and recovery solutions

No matter the size of your business, a physical tape solution provides a solid foundation for any business continuity and availability solution to protect your data. HP offers a wide range of tape libraries, drives and tape technologies to help you meet your cost points, automate your processes and achieve your backup windows.

As more users rely on BI for day-to-day decision-making, backups can affect the performance of the BI system. HP virtual tape backup solutions help you improve the performance of data backup and recovery, reduce the cost of unplanned downtime and use existing tape automation for off-site vaulting.

Replication

As your BI database-centred environment becomes more mission critical, protecting your environment and maintaining overall performance can be achieved by local replication solutions that work with your SAN environment. Combining simplicity of management and advanced local replication technologies helps to protect your data by creating snapshots and clones that can be attached to a backup server. This solution enables backups with no disruption to the production environment, reduces backup windows and improves application availability.

As BI becomes mission critical for your organisation, you must meet service-level agreements (SLAs) to maintain access to your data and eliminate restore windows in case of disaster. A remote replication solution allows stored data to be duplicated across large distances as it provides inherent site protection, consistent recovery points, reduced planned downtime and total site mirroring.

Clustering

In order to operationalise your BI activities, your organisation must keep its corporate information and mission-critical applications available during periods of planned and unplanned downtime. The right clustering solution can help you achieve this goal by providing fully automatic failover, inherent site protection and consistent recovery points; and it can remove the need for server reboot during failover. These high-availability solutions are in use by 88 per cent of the world’s stock exchanges.

Your situation

I need to consolidate my data marts or warehouses but want to ensure protection and performance.

I need a tape-based solution to protect data marts and data warehouse information, but I want a solution that integrates with major databases and applications to enable application-aware backups and restores – and it must provide extensive support for all major operating systems, applications, databases, drives, libraries, or disk arrays.

I need security and privacy for my off-site BI backups because they contain highly sensitive corporate information and customer intelligence.

I need a tape-based solution to protect my data mart and data warehouse information, but I already have backup software.

My data marts and data warehouses are growing, and tape backups may affect the use of BI analysis and reporting – and also queries performance. Can I use my SAN for backups?

My BI environment is mission critical. I need to protect data marts and warehouses with no disruption to the production environment, and I must have very fast restore capabilities.

Because my business depends on BI 24x7, I need to eliminate restore windows. How can I use my remote DR facility to provide instant failover and failback between local and remote data centres for my BI application environment?

I have to operationalise the deployment and use of BI across business processes, so I need maximum uptime for servers and storage.

HP recommends

HP SAN disk arrays deliver the right performance, price and data protection options for all BI applications:

- MSA-based solutions for small to medium databases
- EVA with high availability for medium to large organisations
- XP always-on availability for mission-critical 24x7 BI deployments

HP Data Protector software automates high-performance backup and recovery from disk or tape over unlimited distances to enable 24x7 business continuity and improve IT resource utilisation. It:

- Supports HP StorageWorks tape automation on a variety of servers, OSs, HBAs, switches, disk arrays, software and applications
- Provides zero-downtime backup and instant recovery capabilities to help you reduce the backup window and respond to your need for application availability.
- Supports the latest technologies, including LTO Ultrium, SDLT and virtual tape, as well as advanced features such as WORM and the Extended Tape Library Architecture (ETLA)

To increase your tape security:

- HP SWD LTO-4 Ultrium 1840 drives provide hardware-based data encryption (AES 256-bit) to enable greater levels of security for tape storage, encrypting backups without a loss in performance.
- The HP StorageWorks Secure Key Manager reduces your risk of a costly data breach and the resulting damage to your reputation. It improves regulatory compliance with a secure, centralised encryption key management solution for HP LTO-4 enterprise tape libraries.

The HP family of tape automation libraries, drives and tape technologies have been certified through the HP Enterprise Backup Solution (EBS) with many popular backup software packages.

Absolutely!

- The D2D backup system provides simple, reliable and affordable disk-to-disk backup. It is designed specifically for small and medium businesses' intelligence deployments and can automate the daily backup process for up to four servers.
- For larger organisations, HP Data Protector provides backup-to-disk capabilities. It uses your existing SAN configuration to reduce backup windows and simplify backup configurations without additional infrastructure cost.
- For maximum performance and compatibility with your existing backup software, choose HP StorageWorks 6000 Virtual Tape Library with HP VTL EVA Gateway and your existing HP EVA. This will accelerate backup and restore performance dramatically with minimal backup impact on other applications that use the EVA. HP VTL can also be used in conjunction with HP tape backup solutions to create off-site WORM media for off-site vaulting.


HP local replication solutions work with your SAN environment and key Microsoft, Oracle and SAP applications to provide optimum availability.

- HP StorageWorks XP arrays running HP StorageWorks XP Business Copy software deliver always-on availability for your primary system, snapshots and clones.
- HP StorageWorks EVA arrays running HP StorageWorks Business Copy EVA software enable you to create snapshots and clones in a highly available environment.
- HP Data Protector 'instant restore' capability enables you to restore directly from a snapclone.

Choose HP StorageWorks Continuous Access for XP and EVA to duplicate BI environments across large distances while providing inherent site protection, consistent recovery points, reduced planned downtime and total site mirroring in highly available (EVA) and always-on availability (XP) storage.

Clustered configurations fully automate necessary storage interaction such as failover, failsafe override and status checking.

- HP clustered servers and cluster extension software for HP SAN arrays deliver automatic replication reversal after failover without server reboot during failover. Because host access to the local SAN infrastructure is limited on each site, it removes unnecessary I/O and therefore extends the cluster to Metro/Continental distances. Backup infrastructure is mirrored and split 50:50.



'Our HP StorageWorks infrastructure provides strong value and performance for our business intelligence needs. We have been able to increase the amount of time we spend on our business – rather than on our business platform.'

– Todd Crites, Chief Information Officer,
SARCOM, Inc.³



HP commitment to and leadership in BI

As technology is increasingly measured by business outcomes, companies are looking to BI to help manage their information value chain. Many companies have turned to HP to make the most of their BI capabilities. In fact, according to IDC, HP has more than 200,000 BI sales per year.

HP is helping companies further capitalise on their business information with new technologies and services that drive informed decision-making and enhance profitability. In addition, with its recent acquisition of BI consultancy firm Knightsbridge, HP now has more than 2,800 employees focused on BI. Finally, HP Labs continues to drive innovation by conducting extensive research in BI centred around advanced database research, workflow automation, data mining and business analytics.

HP Neoview platform

The HP Neoview platform is an enterprise data warehouse that enables your organisation to capitalise confidently on your business information at dramatically lower cost. This platform provides the dependability, scalability, reliability, functionality and continuous availability required by high-end data warehouse systems. It helps your organisation turn data into usable, shareable information that is available in real time – and does so with appliance-like simplicity and speed.

Partnerships with application leaders

HP partners with leading providers of BI applications for data integration, data warehousing, and data access and analysis. These comprehensive solutions help you maximise your use of technology while reducing your TCO and providing the flexibility to accommodate more data and users.

In addition, HP partners with leading global systems integrators who serve as trusted advisers in the planning and execution of large BI projects. We also partner with industry leaders such as Oracle, Microsoft and SAP in the development of reference configurations and best practices to optimise the scaling and performance of data warehouses.

Integrated solutions

SAP NetWeaver BI Accelerator draws on industry-leading technology designed specifically to boost performance for SAP NetWeaver BI. Running on quad-core Intel® Xeon™ processors, low-cost HP ProLiant BL460c blade servers and HP StorageWorks EVA technology, this BI Accelerator solution can be deployed quickly to work seamlessly with traditional SAP NetWeaver BI installations. As a result, companies can gain instant access to detailed information such as inventory and profitability data.

HP Database Archiving software boosts data warehouse performance and availability, manages infrastructure costs and helps meet compliance requirements by relocating historical data to on-line archival data stores. HP Database Archiving manages retention policies in production data warehouses and provides real-time access to archival data, drawing on your investments in enterprise reporting tools.

For more information

To learn more about HP storage solutions for BI, visit:

www.hp.com/storage/bi

¹ For the full story on how Premier BankCard is using HP solutions to solve its BI challenges, go to:

<http://cceaacspro02.cce.cpqcorp.net/ERC/downloads/5983-0468ENN.pdf>

² For the full story on how Health Data Management Solutions is using HP solutions to solve its BI challenges, go to:

<http://h71028.www7.hp.com/ERC/downloads/4AA0-2695ENA.pdf>

³ For the full story on how SARCOM is using HP solutions to solve its BI challenges, go to:

<http://h71028.www7.hp.com/ERC/downloads/4AA1-2009ENW.pdf>

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