Intelligence built in: Storage management in HP solutions white paper

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Executive summary

Today, IT is measured not only by the quality of services it offers, but also by how it helps the business reach its financial goals. Increasingly, IT is being held responsible for end-customer satisfaction.

HP storage management solutions enable businesses to see their key business services as their customers do, and understand the business impact of resource problems so they can prioritize IT resources to resolve them before they impact the bottom line. Whether delivering services for mission-critical applications that drive revenues or business-critical systems that drive differentiated customer services and a competitive advantage, or enabling new services, such as Rich Digital Media, to deliver on new market opportunities and future revenue streams, leveraging a foundation of HP storage management solutions will provide you with timely, intelligent information to enable your success by reducing your risk.
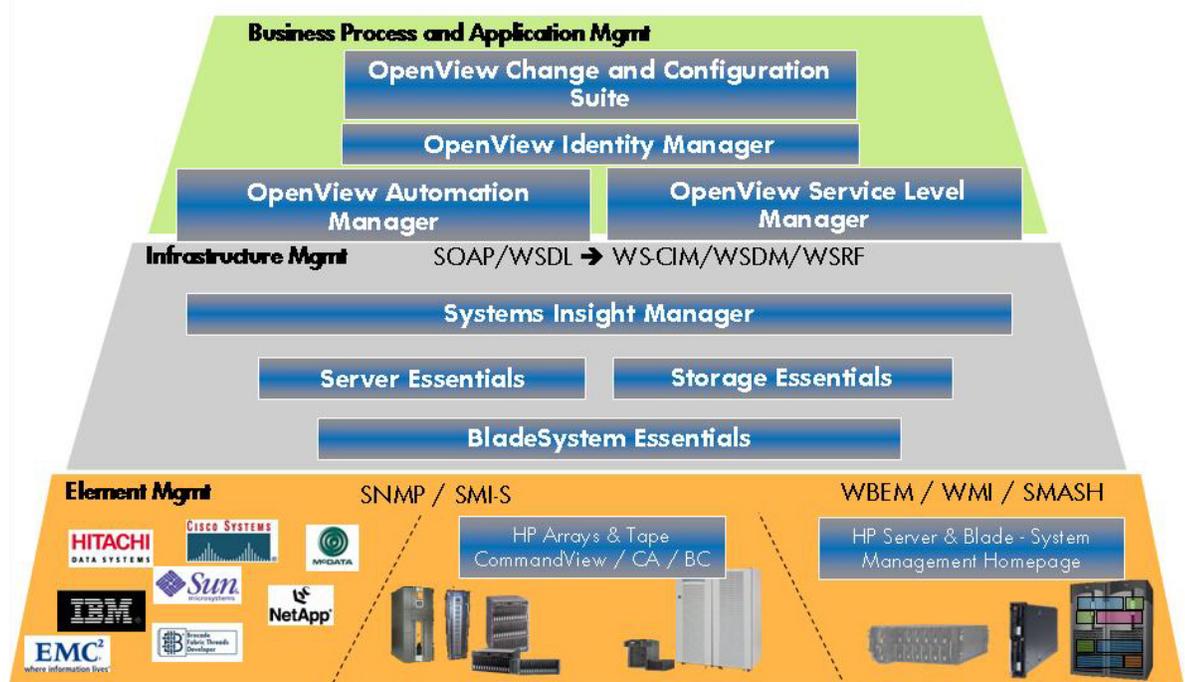
HP storage management drives horizontally across business solutions to increase business agility and value. Increased revenues, customer services, and improved TCO are delivered through a standards-based, modular foundation of unified management. With HP storage management, businesses can improve business continuity, improve and automate Information Lifecycle Management (ILM) processes, and simplify management and security administration.

Introduction

Today's IT infrastructures are complex and difficult to manage. Many enterprises spend many of their IT resources and much of their IT budget keeping their critical services available and performing efficiently.

HP storage management solutions address these challenges by providing the software and services needed to manage today's demanding IT environments. Operational costs are reduced by increased staff efficiency, better application availability, and optimized service delivery. You are free to focus on innovation instead of maintenance.

Figure 1.

HP storage management solutions for an Adaptive Enterprise extend across
your company, helping solve critical enterprise-wide challenges.

Business needs

Giving businesses increasing agility is the motivation behind HP storage management solutions. These solutions offer stability within a business environment that, too often, is volatile and unpredictable. Through integration into a larger, unified management strategy, HP can deliver control that strengthens the one organization that everyone else depends on for information.

No matter how large or small a business, which industry you compete in, or where you are located, every business needs a unified management solution that will improve business operation, uptime, and agility. In particular, most businesses look to more intelligent management to improve operation in the following key business areas:

- Business continuity—Businesses are constantly implementing programs to improve continuity of data (performance and uptime).
- IT consolidation—Businesses are more aggressively assessing and re-assessing their IT infrastructure to drive more efficiency, agility, and manageability.
- Application services—Businesses are driven by the mission-critical applications on which they operate. Businesses need more knowledge not only about the operation of the application but the specific components within the environment that support it.
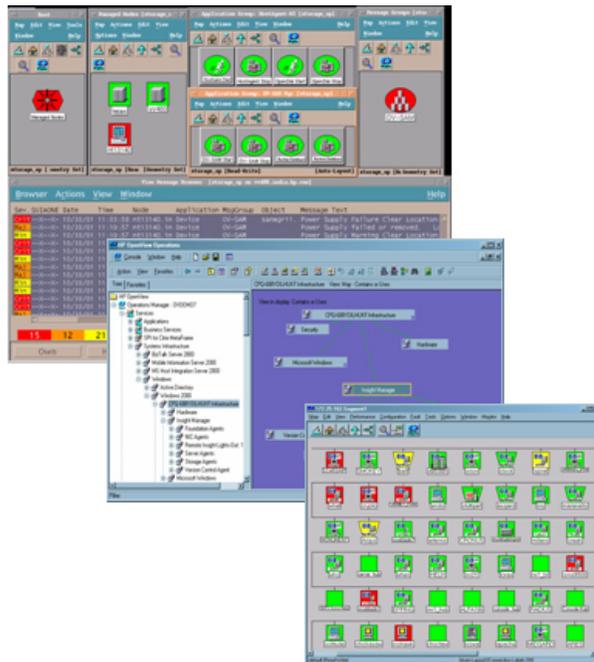
Infrastructure management

Infrastructure management solutions from HP not only allow enterprises and service providers to understand the availability and performance of their infrastructures, but they also enable control over them. The speed of doing business demands unprecedented agility—based on access to a lot of information, at the right time, presented in the right way to the right decision makers. An automated, managed storage network makes that possible.

Historically, businesses have not had the level of management application integration, leaving them to manage environments as separate, isolated islands with little to no association between them. Businesses require the capability of managing entire environments—end to end, from a multitude of views (for example, application, server, and so on) or levels (for example, HP OpenView Operation Manager).

Management consolidation is one of the top three reasons for businesses implementing IT consolidation. The goal is to reduce overhead, increase efficiencies, improve business continuity, and enable agility and ability to adapt to change.
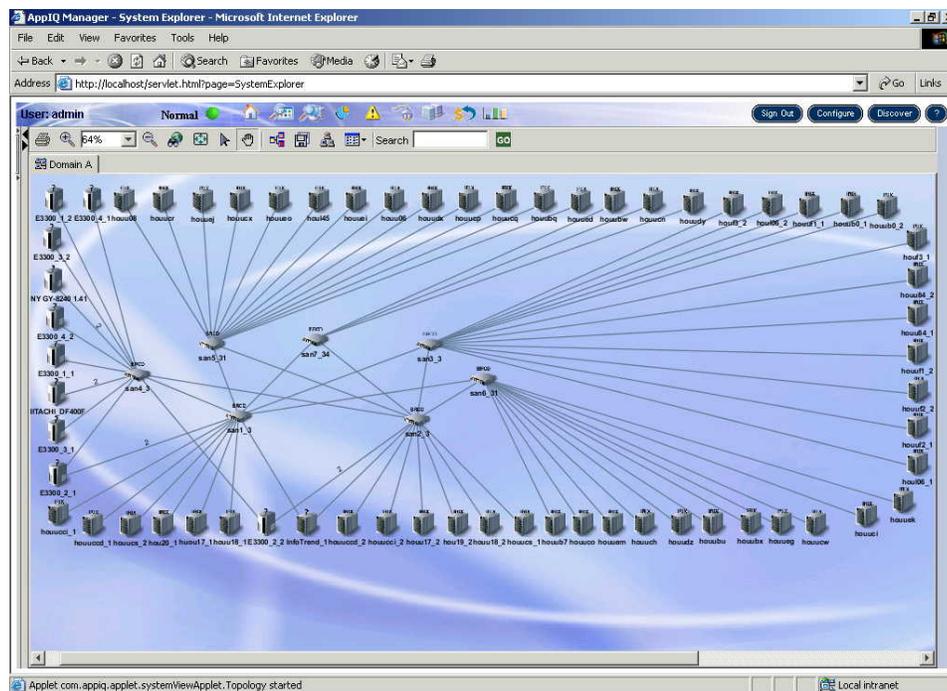
Figure 2.

The HP strategy is to deliver a unified management architecture based on industry standards, developed to be modular and open for third-party applications. The advantage of HP over many of its competitors is in the ability to deliver an open, standards-based architecture, while still offering a tightly integrated, end-to-end management solution, spanning from the lowest level HP device managers to the highest level of HP OpenView Operation Manager.

Businesses will increase their efficiencies of management, as well as their ability to respond more quickly to events, through a tighter integration of HP resource management tools with higher level managers, like HP OpenView Operations. With this integration into HP OpenView Operations, HP provides a distributed large-scale management solution that monitors, controls, and reports the health of the IT environment across boundaries, thereby improving uptime for all layers that compose the electronic enterprise and service provider environments of today: network, systems, databases, storage, applications, services, and the Internet.

HP OpenView Service Navigator provides management capabilities for end-to-end application service environments. Service Navigator's graphical Application Service Views can capture the elements of a complex end-to-end service environment, such as network elements, computer systems, databases, and the applications themselves, and then display their interdependencies in an easy-to-understand manner. IT staff can then look at the complex dependencies between these managed elements and interpret lower-level data in terms of importance to the higher-level service. Thus, IT organizations can be made immediately aware, from an end-user perspective, of the business impact of lower-level component failures and performance degradations.

To drive this consolidation of notification of events with its relative information, HP is delivering modular storage management architecture, built on industry standards like SMI-S, WBEM, and J2EE.

Figure 3.

Delivered in HP Storage Essentials are the capabilities to drive information up to the higher level HP OpenView Operations and Service Navigator frameworks to provide a common, consistent notification mechanism. With more detailed information about resources and the associations between resources, businesses are better able to identify issues at the onset, often enabling them to improve time to resolution and avoid an impact to business services.

Additionally, through the utilization of policies, businesses can increase their staff efficiencies and possibly reduce instances of operator error. Policies can alert IT staff to occurrences of diminishing performance, capacity inefficiencies, or other events based on user-defined criteria, enabling them to better maintain efficiency levels and meet service level agreements.
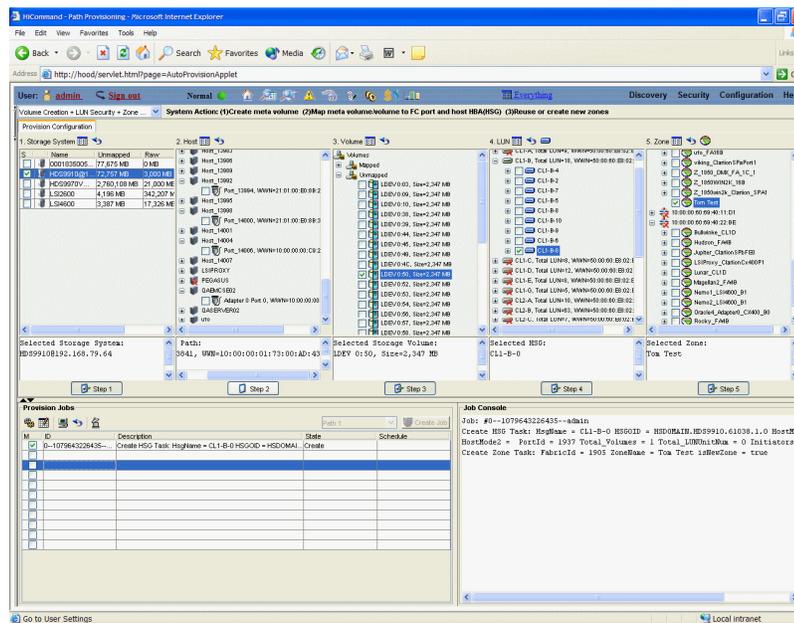
Business continuity

Businesses need the capability to reduce the frequency of incidents, and more quickly identify and resolve incidents before they become critical. Businesses also need the ability to reduce risk and improve change management processes to ensure less planned downtime and elimination of operator errors during implementation.

Improved time to operation

IT environments must be dynamic, ready to change quickly and easily. Management is key to meeting modern business demands head on.

Figure 4.

HP Storage Essentials Provisioning Manager

HP Storage Essentials Provisioning Manager can expedite configuration and reconfiguration of environments by enabling teams to perform software modeling of configurations before the actual event.

This capability enables more time to be allocated to ensuring the accuracy of the configuration, reducing risk, and shortening planned downtime outages needed to perform changes. As well, when ready, the job need only be launched, thus eliminating the need for more technical resources to be present during the planned downtime.
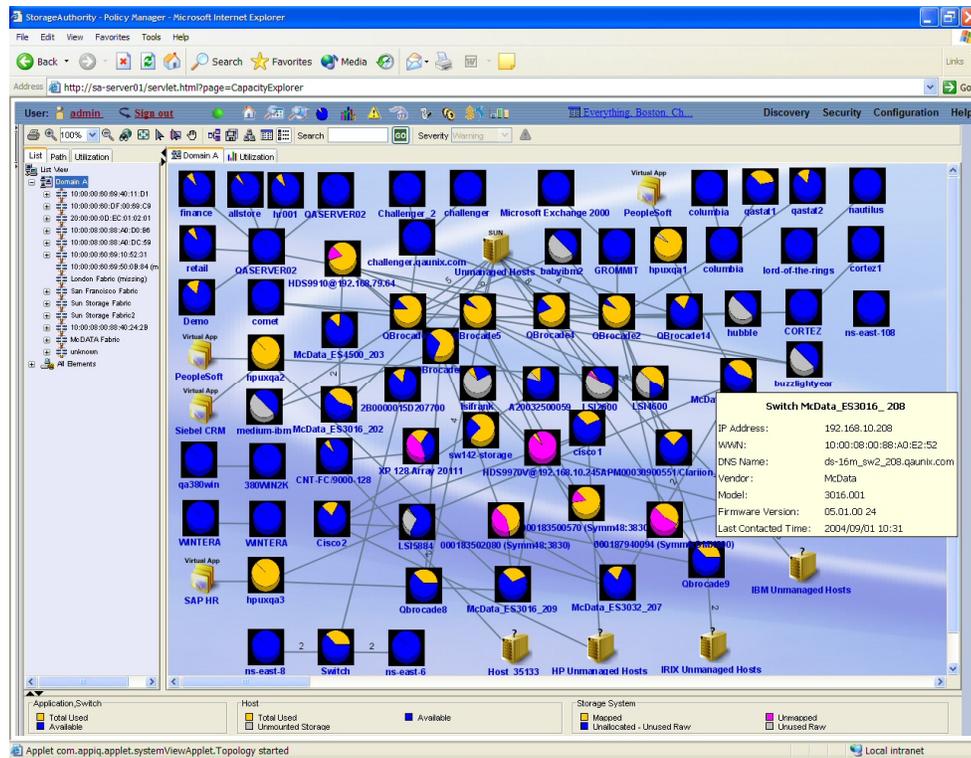
The HP Storage Essentials Provisioning Manager provides businesses the capability to better manage and change the environment through common configuration tools and user interfaces. From one tool IT staff can configure from the host bus adapter to the LUN and establish rules-based policies for end-to-end "path" provisioning.

Recognizing that many issues IT experiences are due to operator error, HP has focused on reducing instances of operator error through the use of SmartGuide technology, which leverages a common knowledge base to minimize mistakes and enables modeling their changes and setting a Job scheduler to provision during "off" hours without the need for operator intervention.

Improved time to resolution

Businesses require continuous monitoring, reporting troubleshooting and automated response capabilities to manage today's complex, heterogeneous storage infrastructures.

Figure 5.

Businesses need the capability to manage resources from a physical and logical view, and identify the relationships between them. From a single pane, businesses can identify the resources associated with a specific environment and monitor performance and capacity capability and reality.

Additionally, businesses are better able to identify issues at the onset, often enabling them to improve time to resolution and avoid an impact to business service.

Some businesses require the ability to set alerts to proactively inform them of diminishing capacity resources. This proactive notification, at a defined interval, allows more time to determine how best to respond. In most cases, the growth path will be based on where and how they want to grow and the type of capacity resources required. However, in other cases, businesses can assess how current capacity is being used and can migrate data, based on age, type, and so on, between storage resources to maintain balance.
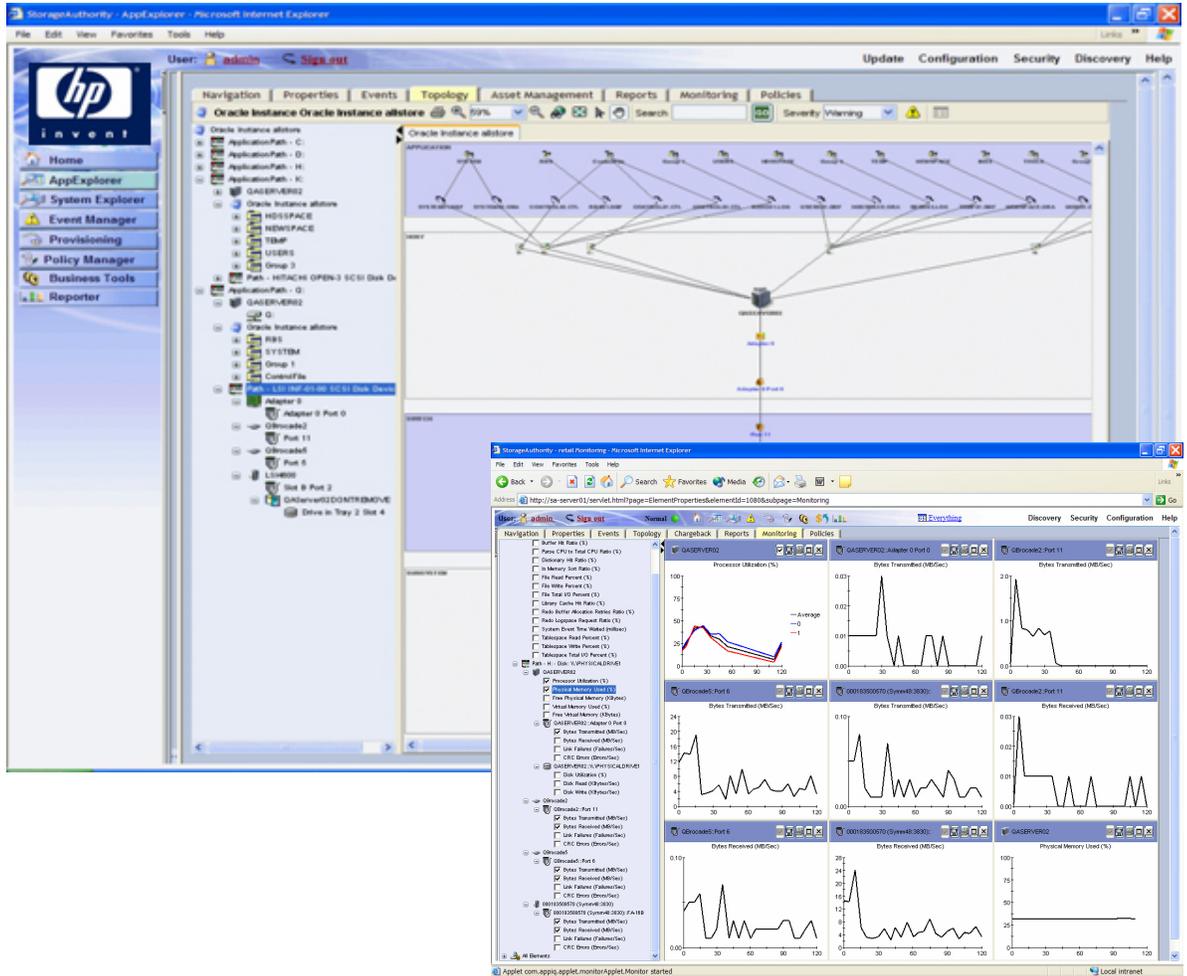
Application management

Businesses today rely on complex business processes supported by business-critical custom and commercial applications. And, in all businesses, there are certain applications that represent the life's blood of the business. It most likely is not the same application for every business, but what they will have in common is that their most critical application will be the one that provides them the greatest revenue, the greatest profit, or the greatest competitive advantage.

Keeping these applications running is no trivial task, and, unfortunately, many applications are unaware of the environments that service them and therefore problems are not detected and associated to the application when they occur. How healthy is your business-critical application today? Are you confident that its environment is providing the business continuity you require?

Application management enables businesses to understand the impact of underlying infrastructure of the application, and quickly isolate problems to their root cause, before they impact customers or the bottom line.

Application Service Views provide a single pane of glass for managing Oracle®, Sybase, and Exchange environments.

Figure 6.

HP Storage Essentials offers the capabilities to drill "inside" Oracle, Sybase, and Exchange environments to ensure availability and performance.

This single point of view for businesses into their most critical application environments—from the hosts through the networks to the storage to the LUNs—increases the ability of businesses to ensure the continued operation and performance of the application environment.

Storage Essentials application viewers provide:

- For Oracle, discovery of database instances, hosts, databases and table spaces
- For Exchange, discovery of messaging servers, databases, and storage groups
- Storage area network (SAN) dependency and path management
- "Closed loop" capacity management
- Real-time performance monitoring
- Role-based security

- Policies, events, and reports For businesses that cannot afford to not manage their environment as a whole, HP management solutions provide the capability for consolidated management and control.

Business use cases

Business case—Financial institution

Business profile

This leading wealth management company operates in more than 20 international markets and is a wealth manager with more than $50 billion USD in assets under management. This business offers products and services for over 8 million customers worldwide together with strategic business partners in the United States, Australia, United Kingdom, Europe, Japan, and India.

Business need

This company requires a centralized area of storage that has high performance and high levels of redundancy and expandability, yet is easy to manage and administer. It requires a partnership that allows ease and flexibility of support and is approachable at all times.

Business benefit

Having implemented HP solutions with HP storage management, the company maintained a very stable environment for its key systems. It cites business improvements such as increased availability, simplified administration, and reduced business impact during growth or change, posing no outage to internal customers, due a seamless environment.

Business case—Insurance

Business profile

This medium-sized insurance company operates across countries on a single continent.

Business need

Being a moderately sized company without large IT budgets, the business needed the capability to proactively plan for growth and the time allowance to negotiate best pricing with vendors.

Implementation

To improve IT efficiencies, a consolidation program was first run to increase the flexibility of migrating logical resources to meet the needs of various applications. A storage management solution was implemented with a high focus on capacity management and the need for custom policies to alert IT management to issues in capacity levels.

Business benefit

- Data centralization in a SAN allowed for more flexibility.
- Virtualization enabled a smooth transition when adjusting capacity.
- Flexibility to postpone capacity purchases enabled better negotiations with vendors.
- Ability to offer improved service delivery with guaranteed capacity levels.

Business case—Telecom

Business profile

This large network service provider is known globally, servicing multiple countries.

Business need

- Improve efficiencies
- Reduce risk
- Improve time to implementation for change (expansion, new technologies, and so on)

Implementation

Centralized administration tools to support the entire solution.

Business benefit

Implementing HP storage solutions with HP storage management, the business achieved a very stable environment for key systems.

Additionally, the business stated that by selecting one vendor they were able to:

- Increase the implementation phase (time to market for services is critical).
- Reduce risks for errors and delays, as well as HP increased its power of control (fewer vendors, less complexity, and increased control in terms of hardware and software certifications).
- Create a partnership with HP, thus enabling onsite customizations.
- Obtain better pricing as well as a more flexible pricing model.
- Maintain fewer points of contact.
- Have one service agreement and one support partner, resulting in no hassle with various vendors who may reject their responsibility when/if problems occur.
- Experience better integration with the server platform.

Conclusion

The HP strategy for unified management allows businesses to reduce the complexity of management. Through this reduction in complexity, businesses can reduce the cost of management and the overhead placed on their staffs, while improving their service to the business by increasing their ability to provide continuous access to data.

For more information

HP strategy for an Adaptive Enterprise

http://h71028.www7.hp.com/enterprise/cache/6842-0-0-225-121.html

HP management solutions

http://h71028.www7.hp.com/enterprise/cache/4213-0-0-225-121.html

HP solutions for large enterprise

http://h71028.www7.hp.com/enterprise/cache/19054-0-0-225-121.html

HP success stories

http://h30046.www3.hp.com/search.php?topiccode=casestudy&regioncode=NA&langcode=USENG

HP storage products

http://welcome.hp.com/country/us/en/prodserv/storage.html