

HP Storage Essentials Storage Resource Management (SRM) software

Family data sheet

The award-winning, heterogeneous, and standards-based HP Storage Essentials SRM software reduces complexity and lowers cost for managing physical and virtual enterprise storage while it improves the efficiency of your IT staff. This powerfully complete SRM solution provides a big-picture view of your storage infrastructure, allowing you to optimize and increase its usage, improve its performance, easily customize reports, and automate the day-to-day operations to enable you to meet your business demands.

Technology was seldom simple, but today's technology environments are rapidly growing in complexity, resulting in increased management costs, downtime related to uncontrolled change, and risks of meeting compliance requirements.

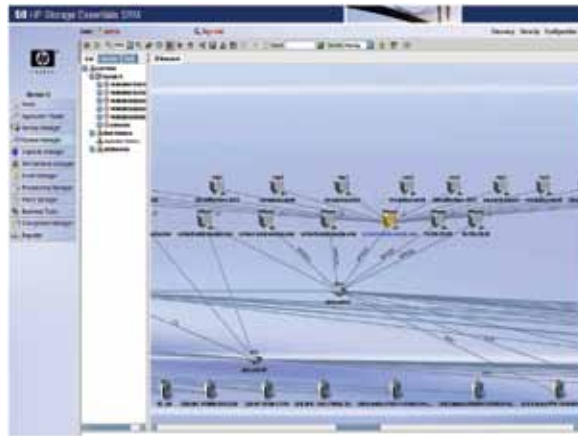
The HP Storage Essentials SRM software suite is an award-winning tool that simplifies enterprise heterogeneous management of physical and virtual storage, and infrastructure with powerful provisioning, storage metering, customized reporting, business application and backup monitoring, and end-to-end performance management. These rich set of storage infrastructure management features makes HP Storage Essentials a key enabler of our HP Business Service Automation strategy, which allows you to manage and automate your entire technology service, including applications, servers, network, and storage infrastructure. HP Storage Essentials allows you to discover and baseline your storage service and manage its operations to deliver high performance, availability, and predictability.

HP Storage Essentials business value does not stop at traditional SRM. HP offers a number of powerful integrations that enhance and expand its value to technology.

- **HP Operations Orchestration:** Automate manual and error-prone infrastructure management processes with an easy to use workflow authoring and execution solution.
- **HP Universal Configuration Management Database (CMDB):** Perform impact analysis modeling and reporting of requested changes to storage environments and automated change tracking and compliance reporting for storage devices.
- **HP Operations Manager:** Manage the end-to-end IT service by populating your operations console service maps with storage infrastructure elements and events.
- **HP Service Desk:** Track and resolve interactions, incidents, and problems with a central triage center.
- **HP Storage Essentials Application Integration Software for SAP Adaptive Computing Controller:** Efficiently and quickly move and visualize storage area network (SAN) attached storage resources between physical servers when SAP services are required for more storage. The software is included with Storage Essentials SRM media.



Figure 1: HP Storage Essentials SRM Enterprise Edition



Features and benefits

HP Storage Essentials SRM Enterprise Edition

HP Storage Essentials SRM Enterprise Edition is ideal for medium to large enterprise SANs. The simple-to-use central console interface helps you understand, monitor, control, plan, and manage infrastructure for direct-attached storage (DAS) and networked storage (SAN and NAS). Storage network status and event monitoring is presented through an easy-to-read topology map that displays physical and virtual devices, the redundant connections among those devices, and disaster recovery mapping for replication.

Manage iSCSI SAN

HP Storage Essentials functionality has now been extended to iSCSI SAN. It maps iSCSI devices on the topology and helps optimize the capacity in context of the applications, virtual machines, and servers. A consolidated management of iSCSI SAN with virtual storage infrastructure will help accelerate the virtualization efforts in the environment.

Storage virtualization

HP Storage Essentials offers management and reporting of storage virtualization investments like SAN Virtualization Services Platform (SVSP), HP XP Thin (virtual) Provisioning, HP XP External Storage virtualization, IBM SAN Volume Controller, EMC virtual provisioning, and more. It can provide backend visibility into the storage pool. Reports on virtual pool, thin-provisioning pool, and vdisks enables improvement of capacity utilization. The visibility and

capacity optimization features provide much needed support for consolidation, application deployment, data migration, and disaster-recovery activities.

Manage disaster recovery environment

HP Storage Essentials automatically discovers and provides mapping between primary and secondary storage in a replication environment. The capacity optimization and performance management functionality can now be extended to the replicated environment. A consolidated view of primary and disaster-recovery sites helps improve utilization and performance. HP Storage Essentials helps manage multi-vendor disaster-recovery solutions for SAN, NAS, and iSCSI environments from a single console. This feature extends to HP XP array, HP EVA array, HP P4000 SAN Solution, HP SAN Virtualization Service Platform and arrays from HDS, EMC, and NetApp.

Storage tier management

HP Storage Essentials allows a flexible way to define storage tiers based on a variety of storage attributes. It automatically discovers and classifies storage into tiers, as per definition. Storage utilization can then be automatically tracked by tiers. Enhanced understanding around tiers helps improve utilization where most needed.

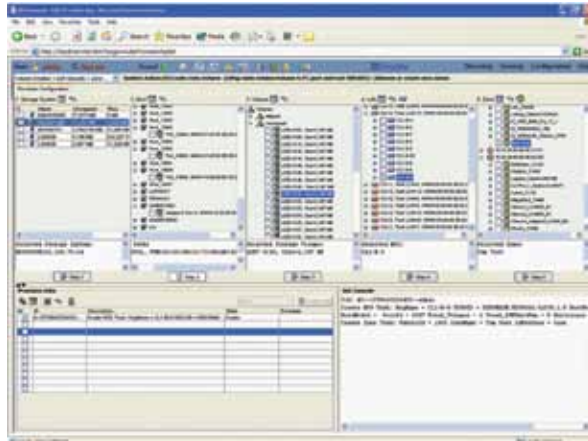
Key features

- Easy to discover and visualize heterogeneous physical and virtual storage, infrastructure, clusters, applications, and displays all device path-dependencies
- Capacity and performance trending and policy-based threshold warning system
- Storage configuration management, reporting, and root cause analysis
- VMware infrastructure discovery, reporting, and performance management
- Heterogeneous SAN Fabric security reporting and management

Key benefits

- Simplifies asset inventory of physical and virtual storage (Single pane of glass view), and infrastructure devices
- Increases capacity utilization of physical and virtual storage assets
- Speeds troubleshooting of storage problems faster in a host virtualized environment
- One tool for provisioning heterogeneous storage and infrastructure. No need to jump from application to application to perform each individual provisioning step

Figure 2: HP Storage Essentials SRM Provisioning Manager



HP Storage Essentials SRM Provisioning Manager

Provisioning Manager is an optional plug-in that extends the HP Storage Essentials SRM suite with device-specific and guided-path provisioning of SAN resources. This path provisioning feature takes advantage of the suite's auto-discovery, dependency management, and capacity management capabilities to offer templates that escort you step by step through provisioning operations. Using the built-in job queue and scheduler, you can quickly create hundreds of provisioning jobs and set them up to run during off hours to reduce business impact. This module reduces the need to launch device managers for LUN carving, modification, and deletion. It also reduces the need to launch Fibre Channel (FC) switch device management tools for zone configuration setup and ongoing changes.

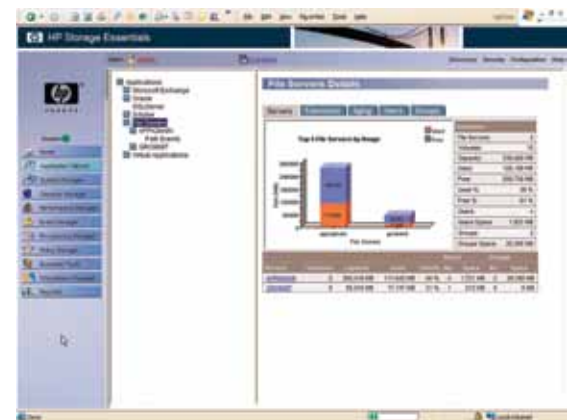
Key features

- End-to-end, path provisioning interface
- Rules and filtering technology
- Job queue and scheduler with built-in calendar
- Role-based security

Key benefits

- Reduces the amount of time it takes to provision SAN resources in support of business applications
- Improves quality of service delivered to business units
- Lowers training costs and ongoing total cost of ownership (TCO)
- Reduces common errors that occur when using many multi-vendor device-specific tools for provisioning

Figure 3: HP Storage Essentials SRM File System Viewer



HP Storage Essentials SRM File System Viewer

The File System Viewer is an optional plug-in that extends HP Storage Essentials SRM suite with scalable, file-level storage resource management capabilities. Whether your file servers are hosted on DAS, NAS, or SAN, the File System Viewer provides the file system scanning, analysis, and reporting features you need to reclaim wasted disk space, verify file server availability, monitor user consumption, and classify unstructured data for information lifecycle management (ILM) initiatives. An easy-to-use wizard helps you create detailed reports to categorize files according to file extensions (including .mp3, .log, .tmp, .pst); sizes; and dates created, last accessed, and last modified, so you can quickly identify recyclable disk space and critical files that should be replicated.

Better together with ILM initiatives

To classify data for ILM initiatives, administrators can use File System Viewer to sort files by file extension, date created, and date last modified with just a few mouse clicks. From the information gathered, the administrator can begin to classify data for ILM purposes quickly and remove files not related to the business, as well as correlate file server and storage usage better with the associated business units. This results in storage resources that align with the business need.

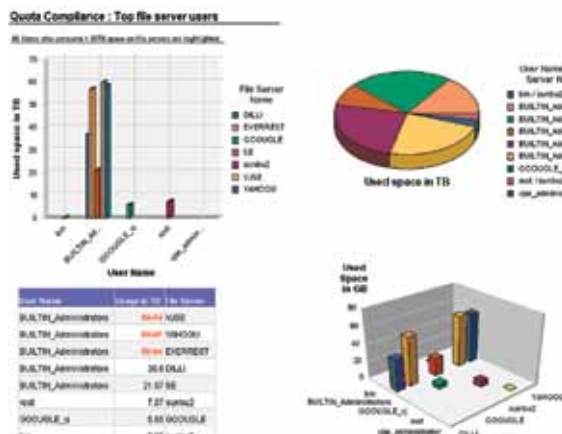
Key features

- File age and file type analysis based on file attributes
- Capacity and management planning
- Event and policy engines
- Role-based security and organizational groupings

Key benefits

- Lowers the impact on file server and network performance
- Identifies aged files that can be deleted or archived to free up disk space
- Keeps track of how much disk space and tape media to allocate for incremental backups
- Identifies inappropriate or unnecessary files that can be deleted or archived to free up disk space

Figure 4: HP Storage Essentials SRM Report Optimizer



HP Storage Essentials SRM Report Optimizer

Report Optimizer is an optional plug-in that extends HP Storage Essentials SRM suite with simple and intuitive yet powerful ad hoc reporting capabilities that satisfy your unique audit, service-level management, compliance, and communication needs. Report Optimizer helps technology and end users perform query and analysis on thousands of storage objects with more than 150 standard report templates. It allows end users to interact with physical and virtual heterogeneous storage and infrastructure information to answer ad hoc questions with minimal knowledge of underlying data sources and structures. A simple

intuitive drag-and-drop interface makes it easy to analyze data quickly and answer questions or design and deliver custom reports that empower business and end users with actionable business intelligence for better business outcomes. It helps chart the metrics captured in a dashboard layout for tracking all relevant ones at the same time within the context of an application.

Report Optimizer's flexible deployment options and comprehensive security supports a range of user type's power users, report authors, and viewers with sophisticated report creation for storage consolidation, capacity planning, ILM, asset, chargeback and service level agreement (SLA), and other technology initiatives. Tables, graphs, cross-tabs, charts, invoices, forms, and sub-reports can be quickly designed using intuitive interfaces and tools. A visual environment enables you to view reports as they are being developed, while providing one-click access to properties for all report objects.

Figure 5: HP Storage Essentials SRM Report Optimizer Global Reporting



Global enterprise reporting with HP Report Optimizer

HP Storage Essentials SRM Report Optimizer can also be extended to give you enterprise-wide control over distributed data center operations. The software's powerful roll-up reporting capabilities provide aggregated views of distributed data center storage. Designed for enterprises that implement multiple instances of the HP Storage Essentials SRM software, the global reporting capability within HP Report Optimizer summarizes key storage statistics from the different domains in your storage infrastructure so you can manage enterprise-wide storage operations more efficiently, and implement strategic IT initiatives

such as capacity planning and data center consolidation at an enterprise level. HP Storage Essentials SRM Report Optimizer provides several out-of-the-box enterprise reports—users can also easily create new reports or customize existing reports with a simple drag-and-drop interface. Lastly, users can easily drill up or down from reports to visualize data at enterprise-wide/detailed granularity.

Key features

- Drag-and-drop Web-based interface for authoring reports with powerful query and analysis
- Granular role-based security and integrates with existing security schemas
- Easy-to-create dashboards
- Knowledge management portal integration
- Multi-site data roll-up with global roll-up of capacity, configuration, and performance statistics

Key benefits

- Enables worldwide access for query and analysis in a single interface
- Simplifies end users ability to assess, analyze, and share information
- Collects and reports on the storage information you need for better business outcomes
- Allows users to quickly create reports, which saves time and reduces costs
- Enables easy creation of detailed, executive (enterprise-wide), technical, and business dashboards
- Consolidates global view for company-wide capacity, configuration, and performance analysis

HP Storage Essentials SRM Chargeback Manager

Chargeback Manager is an optional plug-in that extends HP Storage Essentials SRM suite with asset management and accounting capabilities that enable you to associate storage infrastructure costs with business initiatives to achieve better business outcomes. Whether you are a service provider offering storage services to external customers or an internal technology organization building a tiered storage utility for your lines of business, the Chargeback Manager accelerates and attempts to error-proof your ability to meter utilization, control storage costs, increase revenue, and differentiate your services offering to better meet customer demands.

Chargeback Manager leverages the HP Storage Essentials SRM software unified database of application, host, fabric switch, and storage system connectivity information to offer two options for managing the costs of storage services. **Asset-based** chargeback calculates costs based on a department's ownership percentage and depreciated value of its assigned storage assets. **Storage-based** chargeback calculates costs based on the actual amount of storage used by each business application, the tier of storage it is using, and a department's asset ownership percentage. You can also leverage the asset records (pre-defined and custom) and reports to centrally manage the cradle-to-grave lifecycle of your storage assets and costs with storage services.

Storage tiers for chargeback

HP Storage Essentials offers a flexible and automatic way to manage the storage infrastructure based on tiers. In addition to tracking capacity utilization by tiers, it also reports on costs associated with storage tiers. A combination of tier management and tracking of costs based on actual amount of storage capacity used allows the chargeback model to be aligned with the business.

Key features

- Asset and storage-based chargebacks
- Department definitions
- Infrastructure costs
- Tiered storage definitions

Key benefits

- Automates calculation of storage charges and billing
- Automates usage metering, calculation of storage charges, and billing based on storage consumption
- Aligns storage supply chain with lines of business
- Accounts for full costs of storage services

HP Storage Essentials SRM Exchange Viewer

Exchange Viewer is an optional plug-in that extends HP Storage Essentials SRM suite with application-to-spindle management of Microsoft® Exchange Server. With its powerful capacity, performance, and dependency management capabilities, the Exchange Viewer provides the availability and performance of Microsoft Exchange messaging and collaboration services in SAN environments.

The Exchange Viewer automatically discovers Microsoft Exchange Server instances running on physical and Virtual Machine guests, storage groups, and message stores and graphically depicts their dependencies on the SAN. The path that each Microsoft Exchange resource takes through mount points on VMware Guests as well as physical, Windows® hosts, volume management software, Host Bus Adapters (HBAs), fabric switches, and storage systems is represented in a single, integrated view. These powerful path management capabilities, combined with performance monitoring features, enable you to predict the impact of planned and unplanned SAN downtime on your messaging environment and determine where in the SAN “stack” performance is being impacted.

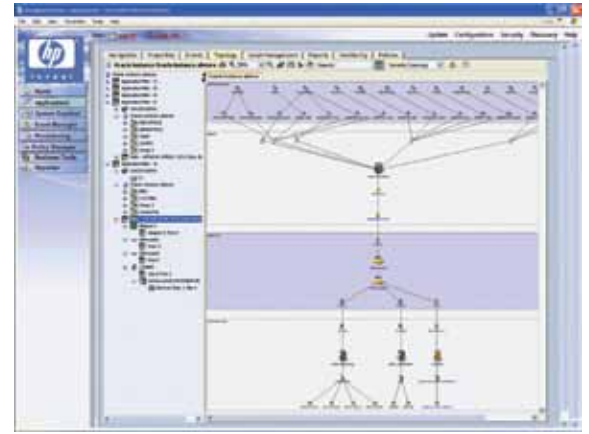
Key features

- Discovery of user mailboxes, folders, and SAN dependency management on physical and virtual host infrastructure
- Application explorer with topology visualization
- Capacity management and planning
- Performance monitoring and reporting

Key benefits

- Easily visualizes topology of individual user mailboxes, folders, and usage consumption
- Verifies that SAN implementation is consistent with design
- Predicts what Microsoft Exchange data may be impacted by SAN configuration changes
- Prevents planned SAN downtime from impacting Microsoft Exchange availability

Figure 6: HP Storage Essentials SRM Database Viewer



HP Storage Essentials SRM Database Viewer

Database Viewer module is an optional plug-in that extends HP Storage Essentials SRM suite with extensive application-to-spindle management of Oracle, DB2, Informix, Sybase, MS SQL Server, and InterSystems Caché databases. With its powerful capacity, performance, and dependency management capabilities, Database Viewer helps improve the availability and performance of databases, and applications in SAN environments.

Database Viewer automatically discovers Oracle databases, tablespaces, and files; Sybase databases, devices, and files; and MS SQL Server and InterSystems Caché databases, file groups, and files; and graphically depicts their dependencies on the SAN. The path that each database element takes through mount points, physical and virtual host servers, volume management software, HBAs, fabric switches, and storage systems is represented in a single, integrated view.

These powerful path management capabilities, combined with performance monitoring features, enable you to predict the impact of planned and unplanned SAN downtime on database applications and determine where in the SAN “stack” performance is affected.

Figure 7: HP Storage Essentials SRM NAS Manager



Key features (Oracle, DB2, Informix, Sybase, MS SQL Server, and InterSystems Caché)

- Application explorer with topology visualization
- Capacity management, planning, and reporting
- Performance monitoring
- Event and policy management

Key benefits (Oracle, DB2, Informix, Sybase, MS SQL Server, and InterSystems Caché)

- Verifies that SAN implementation is consistent with design
- Predicts what data may be impacted by SAN configuration changes
- Prevents planned SAN downtime from impacting database availability
- Verifies database paths have no single points of failure

HP Storage Essentials SRM NAS Manager

NAS Manager is an optional plug-in that extends HP Storage Essentials SRM suite with comprehensive management for network storage solutions. The NAS Manager automatically discovers your storage assets; collects a wide range of capacity, performance, and configuration details; and maps your topology. IP network connections to devices as well as Fibre Channel connections to SAN fabric switches and storage systems for NAS gateway configurations are represented in a single, integrated view. Powerful path

and dependency management capabilities enable you to predict the impact of NAS events on your business quickly, while the real-time performance monitoring and current and historical capacity management features enable you to improve performance and utilization. NAS Manager allows you to manage all your file-sharing activities for HP ProLiant Storage Servers, HP Enterprise File System (EFS) Clustered Gateway, NetApp, and EMC Celerra.

Key features

- Discover and report on Fibre Channel and IP linkages of NAS devices
- Discover and report on local and remote replication pairs
- Discover and report on NAS clusters
- NAS device discovery and metadata collection
- Topology visualization with path and dependency management
- Capacity management and planning
- Performance monitoring and trending

Key benefits

- Single console to manage FC and IP storage
- Reduces the need to manually track NAS assets
- Improves accuracy of NAS asset management
- Predicts impact of configuration changes or downtime of lines of business
- Identifies which NAS devices to recover first after disaster to speed business recovery

Figure 8: HP Storage Essentials SRM Backup Manager



HP Storage Essentials SRM Backup Manager

Backup Manager is an optional plug-in that extends powerful backup resource management, monitoring and reporting to improve the health and performance of your data protection infrastructure. The Backup Manager reports on statistics such as backup resources, drive and library utilization success/failure, SLAs, backup volume, job size, and client history. It also maps backup dependencies on SAN resources and extends topology to tape libraries, drives, and backup servers.

Unlike backup reporting point tools—which only collect logical backup application information—the SRM Backup Manager leverages the physical resource management capabilities of HP Storage Essentials SRM suite to present the full picture of your tape-based and disk-to-disk backup configurations in a single, unified view. The module also inherits the full range of role-based security, capacity forecasting, performance analysis, reporting, running job monitor, and policy-based automation capabilities of HP Storage Essentials SRM software. Backup Manager supports HP Data Protector, Symantec NetBackup, EMC Legato, and IBM Tivoli Storage Manager.

Key features

- Automatically discovers your distributed backup environment, including clients, master servers, media servers, tape libraries, drives, and media
- Delivers an instant picture of your backup topology so you can visualize resource dependencies
- Reports and alerts on backup successes and failures, unprotected assets, root causes of backup failures, and performance against SLAs
- Analyzes historical trend

Key benefits

- Provides a single, centralized platform for visualizing, monitoring, and managing all DAS, NAS, SAN, iSCSI, and backup infrastructure
- Discovers all distributed backup resources, including backup clients, master servers, media servers, tape libraries, and drives
- Collects and displays detailed asset and capacity information, including library and drive statistics, and media pool membership, state, retention, and use
- Reduces the need to manually track backup assets

Figure 9: HP Storage Essentials SRM Performance Pack



HP Storage Essentials SRM Performance Packs for HP EVA, HP XP, and HDS arrays

Performance Pack is optional software plug-in that provides end-to-end performance monitoring from the application to the disk drive for SANs based on multiple HP Enterprise Virtual Array (EVA), HP XP arrays, and Hitachi Data Systems (HDS) arrays. To keep your business moving forward, you need the ability to visualize and analyze the end-to-end performance of your mission-critical HP EVAs, XP arrays, HDS arrays, and your SAN. This view is one of the keys in identifying emerging or potential problems and enabling proactive work to avoid performance bottlenecks.

The performance management solution comes in two flavors:

- **Performance Pack:** An HP EVA-focused performance management solution, this pack provides a big-picture holistic performance view of the entire EVA SAN environment including business applications running on Oracle, Sybase, InterSystems Caché, MS Exchange and SQL, hosts, HBA ports, switch ports, storage system port counters, and HP EVA. This is the primary performance management solution for your HP EVA.

- **Performance Pack Enterprise:** An HP XP array and HDS array-focused performance management solution, this pack provides a big-picture, holistic-performance view of the entire HP XP and/or HDS array SAN environment including business applications hosts, HBA ports, switch ports, storage system port counters, and HP XP array. The Performance Pack Enterprise is complementary to the HP XP Performance Advisor, which provides deep performance metrics for the HP XP storage array.

HP Storage Essentials SRM software suite, including the performance packs, provides a unified and powerful interface that helps your staff to quickly visualize the big performance picture of one or multiple HP EVAs, HP XP arrays, HDS arrays, and SAN infrastructure, from the business application down to the spindle.

Key features

- Historical performance charts
- Customizable statistics aid the ability to take hourly, weekly, or monthly snapshots
- Deep EVA, XP array, and HDS array performance metrics
- Enhanced EVA, XP array, and HDS array performance reports
- Performance policies to trigger response (event, email, action) based on set thresholds

Key benefits

- **Gain a unified performance view of your entire EVA, XP, HDS, and SAN environment:** A powerful interface helps your IT staff quickly visualize the big performance picture of HP EVAs and SANs, from the application down to the spindle, decreasing the reliance on multiple point tools to do the job.
- **Simplify end-to-end troubleshooting for quick problem identification:** Today's IT staff cannot waste time learning about multiple interfaces and different performance monitoring tools to determine how storage is performing. Non-integrated tools reduce staff efficiency and limit ability to troubleshoot quickly across a SAN and reduce finger pointing.

- **Enable real-time performance data gathering:** Easily display graphs that simultaneously chart the performance statistics of each resource you selected, resulting in immediate visualization of where the application-storage path performance is being impacted.
- **Extrapolate trends to forecast future performance:** For proactive actions, you can plot the trend period you need to forecast, resulting in a complete picture of how performance will look if the trend continues.

HP Storage Essentials Performance Edition

For customers that desire performance management for HP (XP and EVA) and HDS Arrays, HP Storage Essentials provides a performance-focused starter package—Storage Essentials Performance Edition—that provides deep and consolidated application to SAN to storage array performance.

Storage Essentials Performance Edition comes in two bundles—SE performance edition 150 MAPs and SE Performance Edition 300 MAPs.

- SE Performance Edition 150 MAPs is targeted at HP EVA arrays and includes support for 150 MAPs (managed ports), one MAL (application instance like database, Exchange) and one (EVA focused) SE array performance pack.

- SE Performance Edition 300 MAPs is targeted at HP XP and HDS arrays and includes support for 300 MAPs (managed ports), one MAL (application instance like database, Exchange) and one (XP or HDS focused) SE array performance pack.

For more information, visit www.hp.com/go/SEPE

Key features

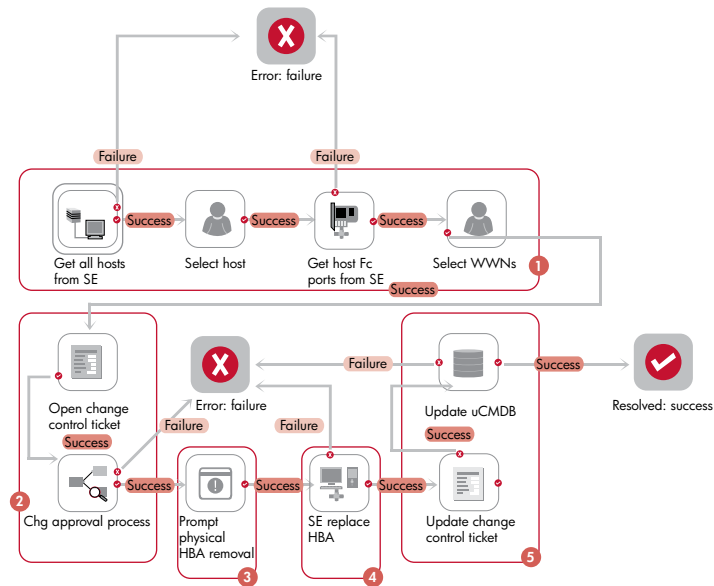
- Comprehensive application—SAN—HP EVA, XP array, and HDS array visibility
- Deep and near real-time performance management of storage array and SAN, with consolidated view of user-specified metrics
- Out-of-the-box performance and historical reporting
- Integrated capacity management of applications, hosts, SAN, and storage arrays

Key benefits

- Increases IT staff efficiency by providing shared understanding of application-server-storage path
- Simplifies SAN troubleshooting and enables problem resolution with consolidated views
- Helps EVA, XP, and HDS administrators to visualize quickly the big performance picture of their applications, storage, hosts, and SAN infrastructure



Figure 10: HP Storage Essentials SRM Integration with HP Operations Orchestration



HP Storage Essentials SRM Enterprise Integrations—HP Operations Orchestration

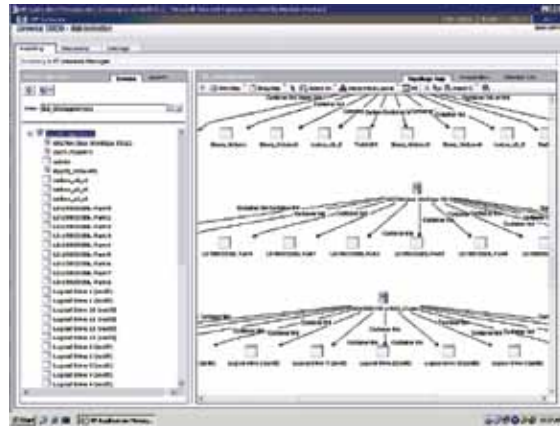
Storage is an integral part of the technology service. Our HP Storage Essentials integration with HP Operations Orchestration run book automation platform automates error-prone technology management processes by providing an easy-to-use workflow authoring and execution solution. Storage administrators can automate technology processes—from routine maintenance tasks to complex change operations, by easily creating orchestration workflows that defines the process. The automated workflows ensure that these processes are executed with zero latencies and errors; they also allow process to be documented, enforceable, and auditable. Workflows can be linked together for complete end-to-end automation of all business service tasks and processes.

Key features

- Pre-configured flows and ops, drag-and-droppable to create new flows
- Built-in debugger for test and validation of workflows
- Auditing with owner, version, and timestamp
- Customizable using the intuitive, powerful flow designer (studio) feature

Key benefits

- Ability to automate SRM processes, including end-to-end processes that span multiple technology departments (servers, networks, storage)
- Automatic physical and virtual storage provisioning/de-provisioning (with optional background approval by storage administrator)
- Information Technology Infrastructure Library compliant storage change management process automation



HP Storage Essentials SRM Enterprise Integrations—HP Universal CMDB

HP Universal CMDB now offers SAN Storage Service Context for the enterprise through integration with HP Storage Essentials SRM software suite. This integration enriches the HP Universal CMDB with a comprehensive catalog of heterogeneous storage configuration items (CIs) representing storage hosts, arrays, switches, zones, fabrics, and more. Adding deep storage configuration information to HP Universal CMDB lets you rapidly assess the impact of storage infrastructure changes on enterprise applications. It also speeds up troubleshooting by making it easy to correlate SAN changes with network incidents. Take advantage of HP's complete data center automation suite. Combine HP Operations Orchestration, HP Storage Essentials, and the HP Universal CMDB to build solutions that scale end-to-end, automated IT service across the physical and virtual infrastructure of hosts, network, and storage.

Key features

- **Change tracking:** Allows comparing a single storage resource state with accumulated historical states
- **Gold Master (GM):** Allows comparing a single reference storage resource (for example, an array) with all discovered resources of the same type

Key benefits

- Enables technology operations with an extended view into the storage infrastructure that supports critical business services
- Provides deep configuration information about SAN and NAS storage
- Model the impact of changes to the storage environment before making the change
- Generates change tracking reports that show the history of every configuration change made to the configuration items that make up the storage environment
- Monitors compliance of mandated storage configurations using the gold standard and snapshot capabilities of the HP Universal CMDB

Figure 12: Complete application to array visualization

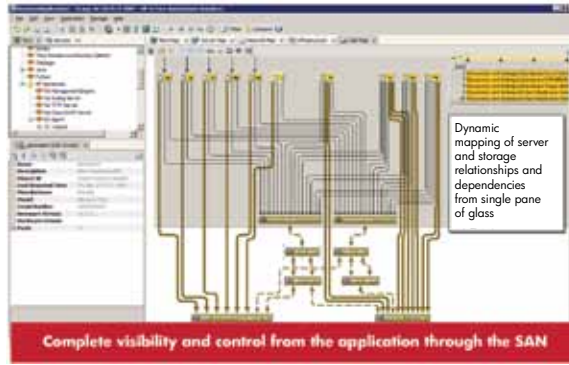
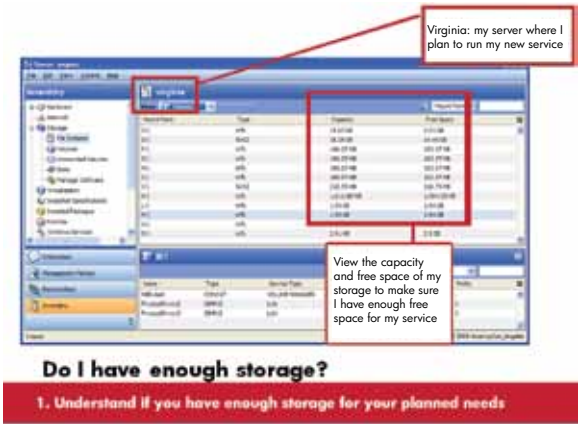


Figure 13: Storage capacity and utilization reports for server admins



HP Storage Essentials and HP BSA Server Automation

Storage visibility and automation is a feature in HP Server Automation (SA) software that leverages HP Storage Essentials (SE) to provide server administrators with the storage data they need to effectively do their jobs. Storage visibility and automation requires the HP Storage Essentials Connector for HP Server Automation, a storage scanner that collects SAN topology, relationship and capacity data from SE, and loads it into the SA model repository where it can be visualized, monitored, and reported with server data in a single pane of glass.

Key features

- Storage visibility and reporting for server administrators
- Supports SAN, NAS, and DAS storage
- Common host agent; no additional agents required
- Application to array path visualization

- Dynamic mapping of server and storage dependencies in a single pane of glass
- Combined server and storage analytics in a single pane of glass
- SAN configuration compliance auditing

Figure 14: Audit SAN & NAS configuration compliance with custom reports

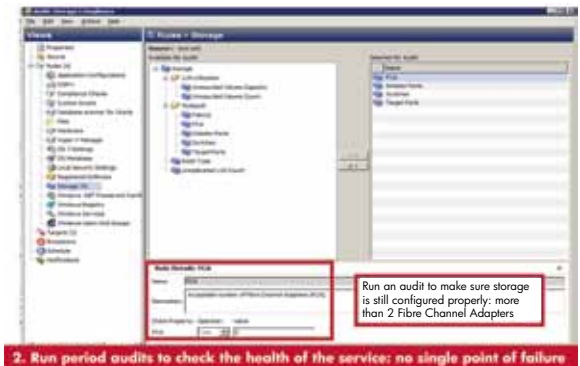


Figure 15: Business impact of storage events as seen in the HP Operations Manager Console

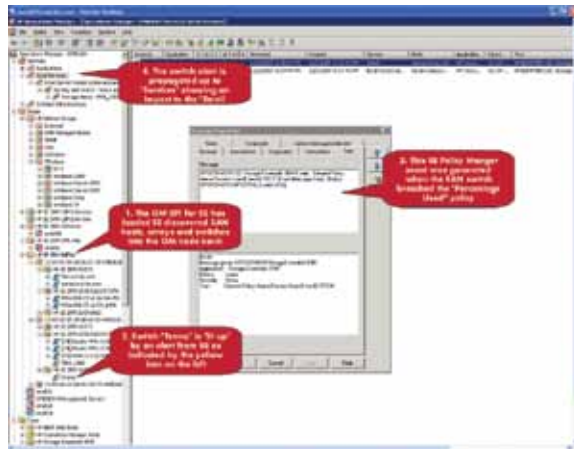
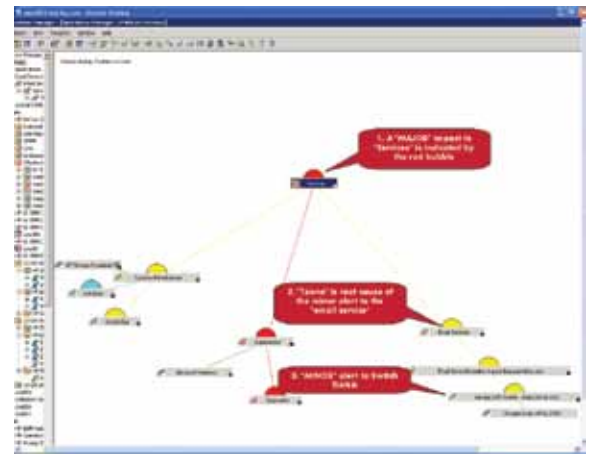


Figure 16: HP Operations Manager map view



Key benefits

- Prevents storage related service disruptions
- Helps maximize service uptime and achieve application SLA's
- Common agent simplifies host management
- Improves communications between server and storage teams
- Improves storage utilization and configuration compliance

Storage Incident Management —HP Storage Essentials and HP Operations Manager

The HP Operations Manager Smart Plug-in (SPI) for HP Storage Essentials helps SAN administrators monitor the health and availability of HP Storage Essentials Central Management Server (CMS) nodes, their corresponding agent nodes, and related SAN infrastructure. It also helps IT administrators understand the impact of storage events on key business services and determine the root causes of storage incidents quickly.

HP Operations Manager uses the SPI to model node maps of HP Storage Essentials as an application and of the SAN topology. When HP Operations Manager receives HP Storage Essentials alerts from the SPI, icons for the impacted HP Storage Essentials CMS,

agent nodes and SAN elements light up on the HP Operations Manager console. The SPI can be used to build service maps to show the impact of storage events on related business services. In addition, the SPI allows operators to use HP Operation Manager to start, stop and check the status of HP Storage Essentials services.

Key features

- Monitors SAN health and availability
- Identifies impact and root cause of storage incidents
- Can be customized to show the impact of storage events on critical business services
- Suppresses duplicate events
- Provides two way event acknowledgement between SE & OM

Key benefits

- Spend less time analyzing storage events
- Quickly identify the root cause of storage related problems
- Understand the impact of storage events on the SAN and key business services
- Faster MTTI and MTTR for storage incidents
- Minimizes storage event storms

Technical specifications

Implementation	Available as HP Storage Essentials SRM software media and license to use (LTU). HP Installation and Start Up Service is required
What's in the box?	Set of CDs, DVDs, and LTU
Technology Support	HP Storage Essentials SRM software provides support for a heterogeneous multi-vendor ecosystem. For information on hardware supported, software supported, and operating systems supported, please refer to QuickSpec at www.hp.com/go/SEEE

A complete solution

Comprehensive training

HP provides a comprehensive curriculum of HP Software and IT Service Management courses. These offerings provide the training you need to realize the full potential of your HP solutions, increase your network optimization and responsiveness, and achieve better return on your infrastructure investments. With more than 30 years of experience in meeting complex education challenges worldwide, HP knows training. This experience, coupled with unique insights into HP Software products, positions HP to deliver an outstanding training experience. For more information about these and other educational courses, visit www.hp.com/learn

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