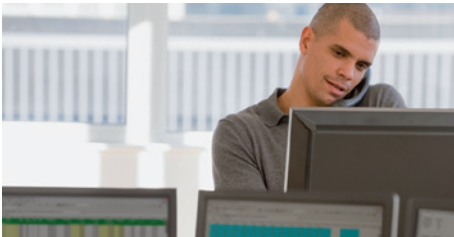




Remote Operational Services from Hitachi Data Systems

- Optimize Your Storage Environment
 - Accelerate Return on Investment
-

Reduce Costs while Successfully Managing More Complex and Larger Storage Environments



The struggle to address growth while efficiently managing large volumes of data is not new. What's more, as storage environments become increasingly complex, budget constraints, the need for 24/7 availability and a shortage of storage skills are driving companies to seek external help in managing their storage environments.

“Customers are increasingly looking for innovative models to manage their growing storage environments. The pressures are mounting to reduce spending while increasing storage management expertise and ensuring an agile, flexible IT organization.”

*Brad Nisbet
IDC Storage Services*

Ensure Continuous Availability, Information Optimization and Efficient Storage Management

An organization's success often depends on its ability to overcome IT challenges and continuously evolve the data center. Are these your challenges, too? Remote Operational Services from Hitachi Data Systems can help you tackle these issues by providing 24/7, cost-effective alternatives that focus on continuous availability, information optimization and efficient storage management. Certified experts in our Service Operations Centers are ready to help you accelerate the return on your storage investment, meet service level

objectives, improve asset utilization and effectively optimize the management of your infrastructure.

Improve Availability with 24/7 Monitoring and Proactive Alerting of Performance and Capacity Use

Proactive SAN performance monitoring is essential for identifying and preventing potential performance issues before they become serious production problems. However, this critical task is often neglected through resource constraints or as new projects take precedence.

Through our Remote Operational Services, storage experts remotely and nondisruptively view the current state of your hosts, file systems, databases, and SAN and storage resources that are being used by applications. Information on storage capacity, performance trends, service levels, incident thresholds and infrastructure maintenance are continuously monitored. If performance issues are detected or you are approaching critical thresholds, proactive alerting and best practices recommendations from our experts provide the information you need to quickly resolve the issues before they impact your operations (see Figure 1).

Boost Decision Making Power and Optimize Your Environment

Performance reporting can be a time consuming process. And producing detailed reports at regular intervals often competes with unexpected daily production issues as they arise.

Hitachi Data Systems remote reporting expertise and best practices have helped hundreds of organizations lower operational costs and optimize operations. We produce a series of performance and capacity reports across the SAN at regular intervals (see Figure 2). With these historical baseline reports, predictive trending to forecast future storage requirements and meet service level agreements is much easier and more accurate.

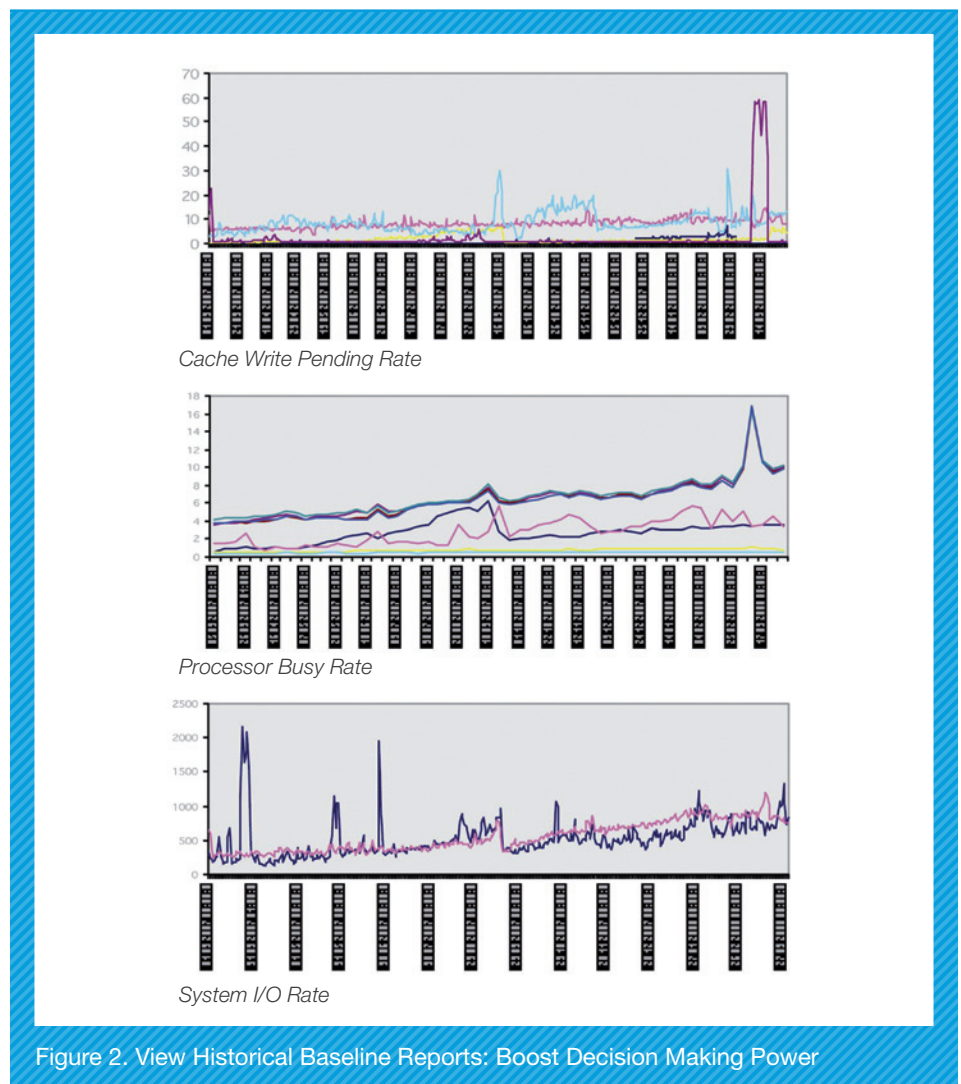
Monitoring and Reporting Capabilities

- **Baseline Dashboarding** allows you to quickly identify areas of potential concern and understand the possible impact to the optimal performance of your environment.
- **Trending** monitors your Hitachi environment, from host storage utilization to traffic analysis and simple load balancing.
- **Reporting and Recommendations** supply customized reports on specific aspects of your environment, such as performance bottlenecks or future storage management capacity requirements.
- **Capacity Planning** provides accurate and critical information on capacity to help you understand future requirements and trend usage per business unit. It also helps rapidly identify where “free storage” is available to further reduce costs and return value to your business.
- **Proactive Maintenance** addresses host bus adapter firmware and microcode upgrades, compatibility checks, reclamation of old storage and documentation audits.

We'll Manage Your Environment so You Can Focus on Your Business

Are you looking for an easier way to provision storage? Your current environment is complex enough, but new applications are seeping into your infrastructure and a lack of qualified resources may be forcing you to re-evaluate the way you provision storage. Let our storage experts, equipped with provisioning management know-how, help you for an agreed upon number of hours each month.

Out-tasking storage provisioning to Hitachi Data Systems allows you to fill critical resource or skill set gaps, remove head count or budget constraints and gain access to “always-on” specialists, exactly when you need them.



Provisioning Capabilities

- Collaboration with your storage support teams
- RAID implementation
- Information Technology Infrastructure Library (ITIL)-based service delivery
- Adherence to defined file standards
- LUN sizing and volume configuration and allocation
- Implementation of securities policies
- Alignment of storage allocation to service levels
- Software certification
- IT service continuity management, including the monitoring of data and replication
- Recovery-based backup, including integration of backup scripts
- Business continuity planning (disaster recovery and data integrity tests)
- Daily storage administration operations
 - Disk space
 - Data backup and recovery
 - Disaster recovery



REMOTE OPERATIONAL SERVICES BENEFITS

Achieve Continuous Availability

- Get the “big picture” on your environment for continuous availability.
- Realize and maintain performance excellence by monitoring resources, from application to storage, and identifying the source of bottlenecks.
- Receive advance notifications or warnings when you approach thresholds and best practice recommendations to address issues as they occur.
- Enable more effective use of administrative resources through enhanced forecasting and monitoring.

Optimize Your Environment

- Improve IT processes via enhanced reporting and forecasting.
- Boost decision making power by understanding storage capacity across platforms and vendors.
- Heighten capacity and performance management.
- Reduce costs by having visibility into storage, whether it is being used efficiently or wasted.
- Support faster application deployment through planning and forecasting of adequate storage resources.

Manage Storage Efficiently

- Fill critical staff or skill set gaps with always-on Hitachi specialists when head count or budget constraints exist.
- Implement best practice processes and procedures to ensure your infrastructure is fully optimized.
- Maximize return on investment and lower operational costs by enabling more storage resources to be managed.

“Comprehensive remote storage management capabilities, such as those offered by Hitachi Data Systems Remote Storage Management Services, are increasingly in demand as customers seek to reduce operational costs while still meeting stringent and growing requirements in the data center.”

*Brad Nisbet
IDC Storage Services (March 2010)*

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