

WHITE PAPER

Hitachi Data Systems Optimizes Storage Management Through ITIL-Based Consulting Services

Sponsored by: Hitachi Data Systems

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INTRODUCTION

The reduced cost and greater standardization of IT hardware technology have created new opportunities for customer organizations. For the first time, a significant percentage of corporations are attempting to shift their IT infrastructure toward more virtualized pools of capacity, in the form of grids or other similar architectures. The trend is not limited to hardware. On the software side, it's about service oriented architectures (SOAs) and usage-based pricing, instead of the established but increasingly complex approach of licensing individual software packages. The advent of high-bandwidth, secure, and relatively inexpensive network capacity adds the third significant element that is shaping the way IT is being used today.

Even with advancements in IT, customer challenges remain regarding storage management, availability, and security. As organizations become increasingly information-centric, businesses continually seek strategies, such as consolidating IT, cutting costs, driving up utilization rates by investing in new technology, to gain a competitive advantage. Given these developments, IT managers often struggle to adopt traditional IT management practices within the rapidly evolving IT landscape. Sometimes the practices lag the implementation of new technologies, resulting in the customer not being able to take full advantage of their most recent IT investments. Additionally, many customers find themselves building processes around the management tools they use, rather than designing and adopting best practices and implementing tools to support them.

Hitachi Data Systems' (HDS) Storage Management Process Consulting Services, utilizing both its understanding of storage requirements and its adoption of the internationally recognized IT Information Library (ITIL) best practices model for IT Service Management, can help organizations address these needs.

IN THIS WHITE PAPER

HDS, one of the world's leading storage suppliers, has recently addressed customer issues regarding services management processes with a new set of storage management consulting services. In this IDC White Paper, we discuss storage market trends; examine the portfolio of HDS's services, ITIL; and then discuss the specific services that HDS has built around the ITIL approach to service management to help its customers design and implement best-practice storage management processes within their organizations.

ITIL processes and best practices have become widely recognized as a standardized approach to IT Service Management. Some of the potential benefits ITIL processes offer storage management include:

- ☒ Reduced operational costs
- ☒ Consistent service levels
- ☒ Improved customer satisfaction
- ☒ Better alignment of IT processes with business processes
- ☒ More efficient use of resources, including personnel

MARKET TRENDS

Professionals who are charged with managing data storage environments face a broad set of challenges. Even as the cost of storage capacity has been reduced substantially over the past several years, the availability of cheaper storage has helped fuel the current explosion in data creation and retention in most businesses and organizations today. In other words, today's large pool of cheap storage is quickly becoming tomorrow's data management problem.

In addition, new customer requirements surface, such as the need for reliable data protection in the form of backup and recovery, replication, and, increasingly, remote data retention and protection strategies. Many regulated industries also are facing stringent regulations regarding which information must be saved, how it needs to be stored, how quickly it can be retrieved, how long it must be kept, and how to finally dispose of it. These compliance challenges exist alongside all of the traditional storage management issues that administrators know so well.

Technology developments have also provided advantages to storage managers. Storage networks provide much potential for improved performance of data access, increased storage capacity for a single server, and enhanced data availability. Also, storage networks improve the scalability of storage resources, enabling them to be more adaptable in meeting business and data requirements.

Nevertheless, this potential comes with the cost of much greater complexity in the storage environment. First, there are more components to manage in the path from the application to the data. Moreover, realizing the potential of storage networks for achieving improved performance, availability, better use of existing capacity, and more infrastructure adaptability does not happen simply because servers and storage are now connected through a network — storage networks must be explicitly managed to provide these benefits.

There are several pieces to helping customers manage their more complex storage infrastructure connectivity, as well as helping them realize the greater potential of their storage network. One important piece is virtualization. Another key piece is management software. Equally as important are customers' *IT practices* — the way storage administrators operate and apply the other pieces for managing their storage

environments. Customers' IT practices for effective storage management are made real through their definition, documentation, and implementation as processes that customers follow to achieve specific management results.

Clearly, storage can't be managed in a vacuum. The management of storage directly impacts other parts of the IT infrastructure. Therefore, the storage management process needs to be synchronized with systems, network, and application management processes. Hence, the value of the ITIL best practices that takes a more holistic view of management.

The ITIL best practices have become widely adopted as a way to systematically analyze and improve the management processes that currently exist within an organization. The next section discusses ITIL in detail.

ITIL BEST PRACTICES FOR SERVICE MANAGEMENT

What Is ITIL?

IT Service Management is a business-driven approach to the management of IT that specifically addresses two things: the strategic business value generated by IT organizations and the need to deliver high-quality IT services. Through the use of best practices, the IT Infrastructure Library (ITIL) has become widely recognized as a standardized approach to IT Service Management. ITIL is a set of written directions for IT Service Management, originally developed in the 1980s by the U.K. office — Central Computer and Telecommunications Agency (CCTA) — to improve government IT services.

In addition to a written set of documents, ITIL has facilitated the generation of an entire ITIL industry, including training and certification, consulting services, software tools, and a trade association — the IT Service Management Forum (itSMF).

ITIL is applicable to all organizations, regardless of vertical industry — small or large, centralized or decentralized, commercial, and non-proprietary. In other words, anyone or any group involved in IT service delivery, including IT service providers, IT directors and managers, CIOs, business managers, customers, and end users involved in building good relationships with their IT service providers, as well as organizations that rely on IT services, can benefit from incorporating ITIL.

Although originally popular in Europe, ITIL has rapidly gained international acceptance and has been adopted by organizations worldwide. Organizations that have embraced ITIL include Barclays, BBC, Boeing, Caterpillar, IBM, Internal Revenue Service, HP, Procter and Gamble, and Shell Oil, to name a few. These organizations have implemented ITIL not only to reduce operational costs and improve efficiencies, but also to improve the management of the IT infrastructure and the quality of service delivered.

The ITIL Library

The ITIL library consists of an integrated set of well-documented best practices and procedures for the following IT processes: Service Delivery, Service Support, ICT Infrastructure Management, Planning to Implement Service Management, Application Management, Security Management, Software Asset Management, and the IS View on Delivering Services to the Business. There is an additional business perspective book, *Business Perspective Volume 2*, which looks at IT delivery from a business viewpoint, due to be published in late spring of 2005. A list of the ITIL volumes and what is covered in each is provided below. These volumes are available in hard copy, CD-ROM, or online.

- ☒ **Service Delivery.** Covers the processes required for the planning and delivery of quality IT services
- ☒ **Service Support.** Describes the processes associated with support, maintenance and the provisioning of IT services
- ☒ **ICT Infrastructure Management (ICT IM).** Covers all aspects of information communication technology (ICT), infrastructure management, including ICT systems
- ☒ **Planning to Implement Service Management.** Addresses the issues involved in planning, implementing, and improving service management as well as change management processes
- ☒ **Application Management.** Describes how to manage applications through all stages in the application life cycle
- ☒ **The Business Perspective.** Provides guidance on how IT personnel can contribute to business objectives
- ☒ **Security Management.** Details the process of planning and managing IT security

The Core Curriculum: Service Delivery and Service Support

The introductory books, *Service Delivery* and *Service Support*, are the backbone of ITIL and are the most widely studied. In these volumes, the ITIL best practices are defined and introduced, and provide a set of best practices for IT service management to enable services organizations to implement continuous improvement in the support process. Organizations can then focus on beginning to implement ITIL best practices to continually improve their service levels and the quality of service delivered to clients.

Service Delivery

The *Service Delivery* component of ITIL provides best practices for service delivery, including the processes required for the planning and delivery of quality IT services. Issues covered include capacity management, financial management for IT services,

availability management, service-level management and IT service continuity management.

- ☒ **Capacity management.** Requires input from many areas of a business to identify what services are currently required or will be required in the future, what IT infrastructure is required to support these services, what level of contingency will be needed, and what the cost of this infrastructure is and will be. In other words, Capacity management ensures that IT infrastructure is provided at the right time in the right volume at the right price, and ensuring that IT is used in the most efficient manner.
- ☒ **Financial management for IT services.** This discipline assures that IT infrastructure is obtained at the most effective price and calculates the cost of providing IT services so that an organization can clearly understand the costs of its IT services.
- ☒ **Availability management.** Identifies metrics such as agreement statistics, availability, help desk calls, contingency, capacity, and costing details, and analyzes the most appropriate levels of IT service availability for use in service-level reviews.
- ☒ **Service-level management.** This is the primary management of IT services, focused on ensuring that agreed services are delivered when and where they are supposed to be delivered. This includes reviewing existing services, negotiating with the business, monitoring SLAs, and implementing service improvement policy and processes.
- ☒ **IT service continuity management.** Includes elements of continuity management, disaster recovery, and business continuity, to ensure the adoption of not only reactive measures, but also proactive measures — which can reduce the risk of an IT disaster in the first case.

Service Support

The *Service Support* component of ITIL describes the processes associated with support, maintenance, and the provisioning of IT services. In this volume, topics include best practices for service desk, incident management, problem management, change management, release management, and configuration management.

- ☒ **Service desk.** Provides a single, central point of contact, and provides an interface for all of the other service support practices. The two main focus areas of service desk are Incident Control and Communication.
- ☒ **Incident management.** Includes the management of all incidents from detection and recording through resolution and closure.
- ☒ **Problem management.** Assists incident management by managing all major incidents and problems, and provides analysis and trend reporting to proactively prevent the occurrence of further incidents.

- ☒ **Change management.** Manages the life cycle of changes, through initiation and recording, filtering, assessment, scheduling, implementation, and closure. These processes include ensuring that there is a business reason behind each change, and identifies the specific configuration items and IT services affected by the change, planning the change, testing the change, and having a back out plan.
- ☒ **Release management.** Discusses the management of all software configuration items within the organization, including the management of software development, installation and support of an organization's software products.
- ☒ **Configuration management.** Provides the key for successful IT service management, including a configuration management database (CMDB), which details all of the organization's IT infrastructure components.

ITIL Certification

There are three levels of ITIL certification available: the Foundation Certificate, the Practitioner's Certificate, and the Manager's Certificate. ITIL accreditation demonstrates that an individual has met the standards in IT Service Management as set by an examination certification board comprising representatives from the Office of Government Commerce (OGC), the itSMF, and the Examination Institutes. Descriptions of each follow:

- ☒ **Foundation Certificate.** Designed to provide a foundation level of knowledge in IT Service Management and is aimed at all personnel who wish to become familiar with the best practices for IT Service Management, as defined in the ITIL.
- ☒ **Practitioner's Certificate.** Aimed at individuals who are responsible within their organization for designing specific processes within the IT Service Management discipline, and performing the activities that belong to those processes.
- ☒ **Manager's Certificate.** Geared toward those who need to demonstrate a capability for managing ITIL-based solutions across the breadth of the Service Management subjects.

Benefits of ITIL

The tangible benefits many large and small organizations have realized through the use of ITIL adoption and implementation have fueled the widespread adoption of ITIL. These benefits include reduced costs, increased customer satisfaction, and improved quality of IT services, among others.

Because ITIL requires focusing on the development of a process-driven IT organization, many efficiencies are created, which can lead to millions of dollars of IT savings. Efficiencies and areas of cost savings may include reduced help desk calls, faster time to resolution for support issues, greater IT productivity as a result of efficient use of skills, reduced time to implement changes, or streamlined software upgrades. Many of the inputs and documented processes required by ITIL, such as resource forecasting, demand forecasting, modeling, and workload and performance

monitoring, include an analysis and accounting of processes and expenses, which enable an organization to pinpoint areas for improvement.

As a result of improved IT management, organizations that have implemented ITIL often have improved customer satisfaction. First, customer satisfaction can be improved through a more professional approach to service delivery. Because of today's mission-critical IT environments, having an "always on" infrastructure is often a key to a successful business. ITIL ensures that the availability, reliability, and security of IT services are both provided and optimized, whether to internal or to external customers.

Perhaps the most significant benefit of ITIL is in the improved quality of IT service management. ITIL processes enforce a focus on providing consistent, quality IT Services through the use of proven best-practice procedures. Prior to implementing ITIL, many organizations developed inconsistent processes because of the lack of documented procedures. ITIL ensures that these IT service processes are documented, integrated, and are revisited regularly for continuous improvements.

HDS AND ITIL: HELPING STORAGE CUSTOMERS ADOPT BEST-PRACTICE PROCESSES

As a leading global storage supplier, Hitachi Data Systems delivers storage solutions to an installed base that is located in every major region, across all major vertical industries. These customers continue to face new challenges pertaining to their storage implementations and, almost across the board, are faced with limited IT budgets with which to manage these storage environments effectively. Therefore, it is crucial that HDS customers not only fully leverage storage management software, but also put into place best-practice storage management processes within their organizations to enable them to meet internal service level requirements as well as storage-related demands derived from their own customers, shareholders, and government regulators. As customer organizations begin to put the pieces together to create a truly virtualized storage pool that is scalable and secure, they also need to optimize their management practices in parallel.

HDS's Storage Management Process Consulting Services (SMPC)

Given these customer requirements, HDS's Global Solution Services (GSS) organization has developed a set of consulting services that address customers' needs to develop and put into place optimal storage management processes across their organizations. These consulting services are referred to as Storage Management Process Consulting Services (SMPC) and are designed around the ITIL standards described above.

The goal of these services is to help customers with the following:

- ☒ Address their need for storage management best practices
- ☒ Analyze storage management within the broader context of IT service management
- ☒ Apply internationally accepted IT service management best practices to customers' storage infrastructure
- ☒ Assist customers in improving storage management and maximum storage resource utilization in a method that is consistent with their broader IT infrastructure

(Note: HDS refers to IT Service Management as the discipline that focuses on the delivery and support of IT services to meet the business requirements of an organization.)

The three services include the following:

SMPC Assessment Service

This offering provides customers with an analysis of how well ITIL processes are being applied to their existing IT practices for storage management. The analysis adopts the IT Service Capability Maturity Model (IT Service CMM) for rating the maturity of specific ITIL processes as applied to customers' storage management practices. (ICMM was developed out of a project launched jointly in the late 1990s by several Dutch companies and universities to develop methods and techniques to improve IT services.)

The ITIL processes, under the Assessment Service that are rated for their maturity, include the following: Service Level Management, Availability Management, Capacity Management, IT Service Continuity Management, IT Financial Management, Problem Management, Configuration Management, Incident Management, Change Management, and Release Management. In addition, analysis is performed for Security Management as a process, and for the Service Desk function.

After the analysis is completed, the data is used to produce a report describing how customers' current storage operational practices, policies, procedures, guidelines, and operations templates map to ITIL processes. This mapping is used to help the customer understand how achieving an HDS-recommended maturity level for an ITIL process will improve the effectiveness of the mapped storage management practice. The report also provides the following:

- ☒ A description and prioritization of gaps to overcome in customers' storage management practices with the objective toward achieving targeted ITIL process maturity levels
- ☒ Further description and prioritization of identified gaps that represent opportunities for quick improvements in customers' storage management practices

- ☒ Recommended next steps for definition and documentation of ITIL processes for customers' IT practices to ensure effective storage management

SMPC Process Definition Service

Based on the results of the assessment and if a customer is ready to take the next step, HDS consultants collaborate with the customer's staff to define and document their optimal storage management processes in the SMPC Process Definition Service. Under this offering, HDS delivers to the customer, definition and documentation of ITIL-based processes for storage management that integrate specifically into the customer's environment. This establishes the baseline for implementation and ongoing monitoring of the improvements, efficiencies, and cost savings in the customer's storage management practices.

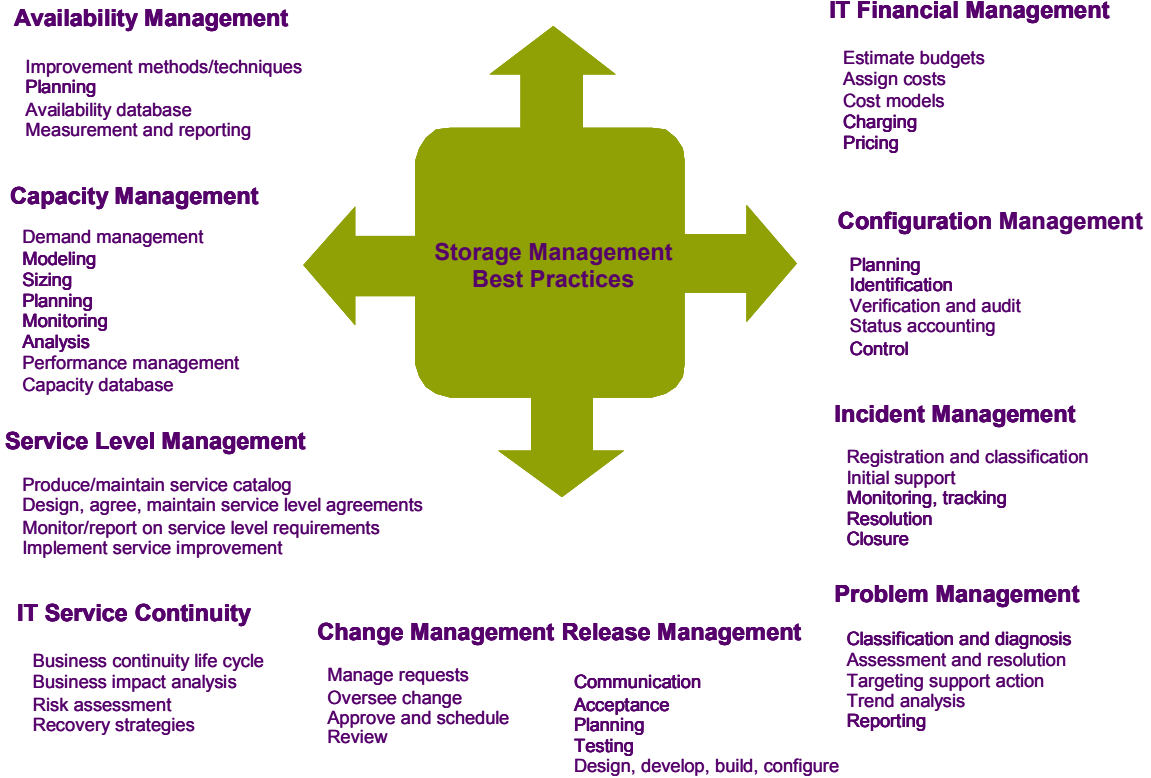
SMPC Health Checks

Under this service, HDS consultants can help customers monitor and assess improvements to their storage management practices on a periodic basis as customers adopt and initiate their storage management best-practice processes.

HDS has tightly integrated its storage management best practices with ITIL processes. HDS's Storage Management Best Practices is illustrated in Figure 1.

FIGURE 1

HDS Storage Management Best Practices: ITIL Processes Mapped to Storage Management Practices



Source: IDC, 2005

Challenges and Opportunities

The implementation of ITIL processes internally and the use of ITIL best practices in its service management offerings is a step in the right direction for HDS, and demonstrates a commitment to continuous improvement to service quality.

However, HDS is not alone in its quest to implement ITIL internally or to use it externally in its storage services offerings. Other vendors, including HP, IBM, and Sun are also champions of ITIL processes. In fact, these and other technology vendors have a significant number of ITIL-certified staff in house, and many have built ITIL consultancy practices.

Research demonstrates that knowledge of ITIL is still low outside of the IT service management community. In addition, one of the challenges for HDS is to demonstrate the value of its investment in ITIL best practices to its clients. To customers, HDS' commitment to ITIL isn't a differentiator in itself — HDS must demonstrate to customers how its commitment to ITIL enables it to improve its ability to help

customers lower storage costs, reduce complexity, increase service levels, and maximize storage resource utilization.

CONCLUSION

For many IT organizations, ITIL has provided a much needed foundation of best practices for service support and delivery. Since its inception, ITIL has been rapidly gaining international acceptance as the leading standard for IT Service Management. The value of ITIL IT Service Management is clear — ITIL helps reduce IT costs while increasing service levels — and ITIL should be a significant component of nearly every organizations' IT strategy and planning for the future.

The HDS approach to IT Service Management is consistent with the requirements of ITIL. As a leading global storage supplier, HDS recognizes the importance of applying and implementing leading storage management processes internally. In addition, HDS' SMPC services combine a thorough understanding of storage requirements with ITIL best practices to help clients analyze storage management requirements while applying internationally accepted best practices, maximize storage resource utilization, and obtain maximum value from HDS storage products.

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