Hitachi Data Systems WebTech Series
Heterogeneous Storage Capacity Reporting and Planning

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Hitachi Data Systems
• **Heterogeneous Storage Capacity Reporting and Planning**
  
  – Business Session: Reporting on storage capacity utilization by application can be challenging, especially when the environment includes heterogeneous storage systems, and the installation of host based agents is prohibited. Richard Jew, Senior Product Marketing Manager, will introduce the new Hitachi Storage Capacity Reporter, powered by APTARE®, software that can help storage administrators create application based storage capacity reports without requiring host based agents to improve storage capacity utilization and planning.

  – You’ll learn how to:
    
    • Monitor and report storage capacity end-to-end for applications, hosts, and storage systems
    • Provide storage utilization reports for Oracle, Microsoft® SQL Server, and Microsoft Exchange applications
    • Customize capacity reports across multivendor storage systems
Agenda

- Today’s Heterogeneous Storage Management Challenges
- Introducing Hitachi Storage Capacity Reporter Software, powered by APTARE®
- Hitachi Storage Capacity Reporter Capabilities
- Demonstration of Storage Capacity Reports
- Summary
- Questions and Answers
• **Reduce Costs**
  – Do more with less
  – Simplify storage management wherever possible

• **Meet Service Levels**
  – Ability to meet or exceed service level objectives

• **Manage and Minimize Risk**
  – Ensure application availability
  – Proactively identify issues before they become problems
Heterogeneous Storage Environments

Multivendor operating systems, storage systems and management applications

- Vendor-specific storage management applications
- Requires installation of host-based software agents
- How do I report on storage capacity across the environment?
“My arrays are 80% allocated and the application teams are requesting 5TB per month... I have no idea what they are really using”

— Storage Administrator
Storage Professionals’ Pain Points

What are your top Storage related pain points?

- Managing Storage Growth: 45%
- Proper Capacity Forecasting & Storage Reporting: 40%
- Backup Administration & Management: 35%
- Managing Costs: 25%
- Storage Provisioning: 20%
- Lack of Integrated Tools: 15%
- Managing Complexity: 10%
- Data Mobility: 5%
- Dealing with Performance Problems: 5%
- Archiving and Archive Management: 5%
- Power Management: 5%
- Regulatory Compliance: 5%
- Application Recoveries / Backup Retention: 5%
- Managing Storage Equipment: 5%
- Vendor Management: 5%
- Other: 0%

(11/21/07): F1000 Sample. n=151. * Note that due to multiple responses per interview, total exceeds 100%
Hitachi Storage Capacity Reporter Introduction

• Agentless Storage Capacity Reporting
  – Hitachi Storage Capacity Reporter is a new reporting product that provides end-to-end storage capacity reporting from applications and hosts to heterogeneous storage arrays without the use of host based agents

• Hitachi Storage Capacity Reporter
  – Storage capacity utilization reporting for storage systems, hosts and leading Enterprise applications (Oracle, Microsoft Exchange, Microsoft SQL Server)
    • Current and historical views
    • Predictive analysis for future projected growth
  – Heterogeneous storage system support for Hitachi, EMC, Sun StorageTek, HP XP
  – Using the latest Web 2.0 architectures
    • Ease of use
    • GUI speed
    • Multiple reporting options

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Complete End-To-End Storage Capacity View

- View Capacity at All Levels
- Storage System: 100 TB
- Hosts: 60 TB
- Applications: 20 TB
- Complete End-To-End Storage Capacity View
**Hitachi Storage Capacity Reporter Capabilities**

- **Feature: Storage Systems, Hosts and Application Capacity Reporting**

- **Capability:**
  - Identify overused, underused or wasted storage resources
  - Provide capacity forecasting or predictive analysis

- **Business Value:**
  - End-to-end storage capacity view from the host perspective
  - Helps to ensure the availability and performance of mission critical business applications

- **What Makes This Unique?**
  - Application level storage reporting without the need to install host based agents
### End-to-End Storage System Capacity

**System Capacity Viewpoint**
- Capacity, RAID Groups, LUNS
- Total, Allocated, Used, Available

![Screen shot of Hitachi Storage Viewpoint](image-url)

<table>
<thead>
<tr>
<th>Array Capacity &amp; Utilization</th>
<th>RAID Group Capacity</th>
<th>LUN Capacity</th>
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<tbody>
<tr>
<td>Raw Capacity</td>
<td>RAID Group Usage</td>
<td>LUN Usage</td>
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<td>&lt;br&gt;Raw Capacity</td>
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![Image of Hitachi Storage Viewpoint](image-url)

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Storage System – Capacity Planning

Capacity Forecasting
- Use historical growth trends
- Predict future capacity needs
- Projected allocated capacity
- Projected total capacity
Application Storage Capacity Utilization

Direct View into Application storage usage for
- Microsoft Exchange
- Microsoft SQL Server
- Oracle

View of individual Oracle database tablespaces

Application Storage
- Total Capacity
- Free Capacity
- Used Capacity
Agentless Architecture – Host Resources

If Hitachi Storage Capacity Reporter is installed in a Windows Server then the WMI service can be deployed on the same server.
**Feature:** Heterogeneous Storage System Support

**Capability:**
- Leverages the respective storage management application (element manager) for each supported storage array

**Business Value:**
- Reduces both the resources and costs of managing a heterogeneous storage network

**What Makes This Unique?**
- Focused storage capacity reporting across heterogeneous storage assets
Supported Storage Systems

- Hitachi Universal Storage Platform V, Network Storage Controller, Adaptable Modular Storage, Workplace Modular Storage, Thunder, Lightning, TagmaStore
- CLARiiON, Symmetrix, DMX
- XP Series
- Sun StorageTek 9900 Series
• Feature: Web 2.0 architecture for ease of use, speed, and reporting options

• Capability:
  – Built-in custom reporting capabilities
  – Shared dashboards and reports
  – Agnostic report delivery (web, e-mail, mobile devices)

• Business Value:
  – Easy to use and deploy
  – Customization to fit any reporting need

• What Makes This Unique?
  – One of the first storage resource management products to be fully developed with the Web 2.0 architecture
Create Custom Dashboard
- Leverage existing reports
- Create customized reports
- Design your own dashboard
- Schedule periodic updates
Integrated Custom Reporting

Advanced Filter Reporter
Define specific:
- Resources for reporting
- Report scope
- Groups

Report Template Designer
Define report parameters:
- Specific SQL queries
- Report formatting
- Specific timeframes
Demonstration: Storage Capacity Reporting
**Hitachi Storage Capacity Reporter**

**Benefits**

**Reduces Cost**
- Maximize utilization of existing storage
- Visibility into over provisioned, under utilized storage

**Improve Forecasting**
- Align storage capacity with the required application needs
- Accurately forecast future storage purchases

**Improve Availability**
- Eliminate outages caused by insufficient storage capacity
- Proactive alerting to ensure maximum uptime
• Hitachi Storage Capacity Reporter
  – Storage system, host and application level storage capacity reporting
  – Storage utilization reporting for applications without requiring host agents
  – Heterogeneous storage system support for Hitachi, EMC, HP XP and Sun
  – Deep and rich reporting capabilities
    • Both real time and historical views
    • Forecasting or predictive analysis
    • Report collaboration – Shared dashboards, views and role-based community sharing
    • Agnostic report delivery (web, e-mail, automatic formatting for mobile devices)
    • Built in custom reporting capabilities
Schedule

- **Upcoming sessions**
  - **September 24, 2008, 9am PT**
    Upgrading from Hitachi Storage Navigator to Hitachi Device Manager
  - **October 1, 2008, 9am PT**
    How Hitachi Replication Maximizes a VMware Site Recovery Manager Deployment
  - **October 8, 2008, 9am PT**
    Creating Real Time Alerts in Hitachi Tuning Manager 6.0
  - **October 15, 2008, 9am PT**
    Mainframe Storage Virtualization: Making Modular Storage Useful to z/OS
  - **October 22, 2008, 9am PT**
    Crafting an Effective NAS Consolidation Strategy
  - **October 29, 2008, 9am PT**
    Effective Use of Virtualized Tiered Storage Systems

- **Please check** [www.hds.com/webtech](http://www.hds.com/webtech) **for:**
  - Link to the recording, the presentation, and Q&As (available next week)
  - Schedule and registration for upcoming WebTech sessions
Questions and Answers
Thank You