

# Hitachi Tiered Storage Manager for Mainframe software lets you take full advantage of Hitachi Dynamic Tiering for Mainframe in IBM® z/OS® operating system environments

## DATASHEET

## Hitachi Tiered Storage Manager for Mainframe

### Easily Manage Storage Service Levels by DFSMS Storage Groups or Individual Volumes

Ongoing growth of data storage capacity requirements and escalating performance requirements challenge today's IT organizations. Where application quality of service requirements need to be flexibly matched to storage assets to help solve these problems, Hitachi Tiered Storage Manager (HTSM) for Mainframe offers online storage service level control. It does this using Hitachi Dynamic Tiering (HDT) for Mainframe policies.

Dynamic Tiering for Mainframe automates fine-grain, page-based tiering for optimal performance and usage with tiered storage. Now, with Tiered Storage Manager for Mainframe control of HDT for Mainframe policies you can control storage service levels to improve performance and avoid problems before they happen. At the same time, HTSM for Mainframe provides reporting and control for ongoing management and monitoring of HDT for Mainframe operations.

### Mainframe Host-Based Software Manages Hitachi Dynamic Tiering for Mainframe

In order to maximize capital investment in tiered storage environments, IT organizations need to spend considerable effort to manage storage service levels, balancing performance against costs. When operations personnel do not have the time or skills

for this manual effort there are risks that storage is not used effectively, capacity is wasted, and a maximum return on investment cannot be achieved.

Hitachi Dynamic Tiering for Mainframe automates the performance management task and is designed to automate effective use of multiple storage media types installed in a storage system.

Using an IOPS-based "heat" mechanism, HDT for Mainframe places 38MB pages within a volume on the proper tier, based on how often that page has

Use Case:  
Reduce Costs  
With HDT  
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been accessed over a given interval. HDT for Mainframe places the most accessed pages on the faster tiers and the lesser-accessed pages on slower tiers. Although this is very useful in most environments, it does not meet all of the requirements in the mainframe arena. Left unchecked, it can violate service level agreements and reduce performance of a performance-critical application. Using IBM DB2® as an example, access to any part of a tablespace located on slower-tiered disk could possibly affect the performance of the entire application since queuing will likely result. To be effective, HDT for Mainframe needs to selectively

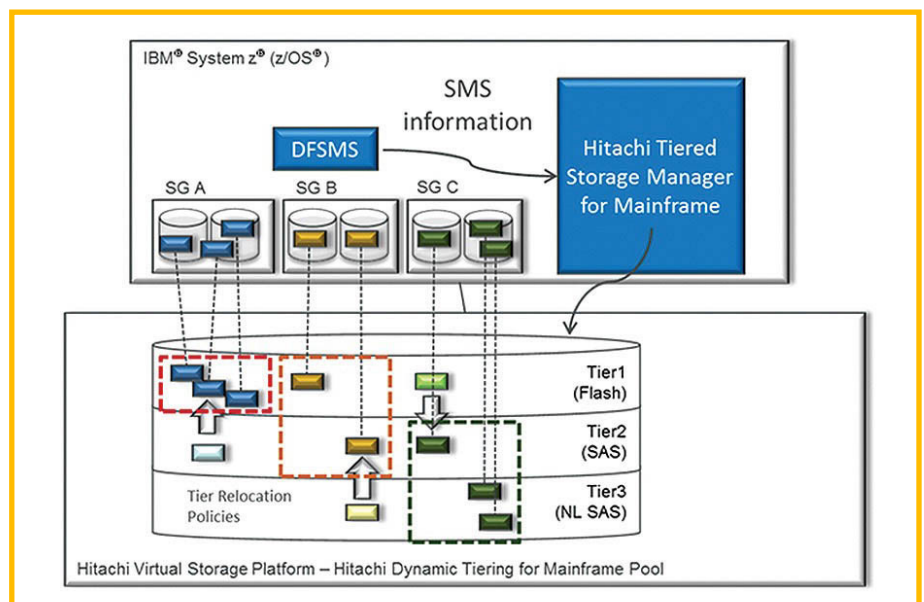


Figure 1. Hitachi Tiered Storage Manager for Mainframe lets you control service levels to DFSMS storage groups (SG) using Hitachi Dynamic Tiering for Mainframe policies and controls.

have the capability to not demote certain data, regardless of the access patterns.

Hitachi Tiered Storage Manager for Mainframe is a z/OS software-management product for HDT for Mainframe that gives you this capability. It enables HDT for Mainframe to be managed from the mainframe both at the volume level or using DFSMS tools and constructs familiar to the mainframe administrator. And it enables control and automation of tiering policies for application datasets aligned to an SMS storage group or to individual devices. At the same time, HTSM for Mainframe provides reporting and capabilities for ongoing management and monitoring of HDT for Mainframe.

### Easy-to-Manage Target Volumes via Group Operation

HTSM for Mainframe defines target volumes as a group. A single operation for the group applies to all volumes belonging to the group [called tiering policy group (TPG)]. Once the group is defined, subsequent management can be done via a group operation.

### Linkage With z/OS DFSMS

HTSM for Mainframe works with SMS storage group constructs. The TPG can have one or more storage groups. This feature gives users the capability to manage the HDT for Mainframe environment from the z/OS point of view. This SMS integration helps reduce the total cost of ownership (TCO).

### Customization via REXX Scripting

HTSM for Mainframe provides a command-line interface (CLI) (TSO/E REXX) that enables users to tailor the operation to their environments. The CLI also has the ability to cooperate with operating system

## SOLUTION PREREQUISITES

Mainframe Prerequisites	
<b>Operating System</b>	IBM® z/OS® v1r10 to v1r13
<b>Software</b>	IBM Compiler and Library for REXX on zSeries or IBM Alternate Library for REXX on zSeries, z/OS Security Server (RACF) or equivalent
Storage Prerequisites	
<b>Model</b>	Hitachi Virtual Storage Platform (VSP): VSP G1x00 and VSP F1500
<b>Microcode</b>	v02 microcode or later
<b>Software</b>	Hitachi Dynamic Provisioning for Mainframe Hitachi Dynamic Tiering for Mainframe

services (for example, TSO/E service) and other products. HTSM for Mainframe separates operation procedure (REXX script) and objects (for example, group definition), which helps to improve the manageability.

### Benefits

- Easy optimized management of application storage service levels.
- Native management directly from the z/OS mainframe operating system, reduced dependency on open-server-based operations.
- Control for data location from the mainframe host's point of view, not the storage system's point of view, which improves control and simplifies operations.
- Ability to utilize HDT for Mainframe performance and relocation data with other mainframe data [for example, IBM System Management Facilities (SMF) records].
- Linkage with z/OS DFSMS storage groups speeds integration and simplifies operations.
- Resource grouping operations simplify

management in large-scale environments.

- Flexible CLI (TSO/E REXX) enables easy custom automations and enables users to get the most out of HDT for Mainframe.
- Autodiscovery helps eliminate installation errors and speeds deployment.

### Complementary Software Solutions

- Hitachi Dynamic Provisioning for Mainframe.
- Hitachi Dynamic Tiering for Mainframe.
- Hitachi Business Continuity Manager for Mainframe.
- Hitachi Tiered Storage Manager.

Hitachi Vantara Global Services Solutions (GSS) can also help you address your mainframe data and storage needs. GSS offers a variety of analysis, planning and implementation services for mainframe environments, including design and implementation of Hitachi Dynamic Tiering for Mainframe managed by Hitachi Tiered Storage Manager for Mainframe.

## Hitachi Vantara

Corporate Headquarters  
2845 Lafayette Street  
Santa Clara, CA 95050-2639 USA  
www.HitachiVantara.com | community.HitachiVantara.com

Regional Contact Information  
Americas: +1 866 374 5822 or info@hitachivantara.com  
Europe, Middle East and Africa: +44 (0) 1753 618000 or info.emea@hitachivantara.com  
Asia Pacific: +852 3189 7900 or info.marketing.apac@hitachivantara.com

