



# Tivoli Business Systems Manager

*DFSMShsm Release Notes*

*Version 1.5*





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## Tivoli Business Systems Manager DFSMSHsm Release Notes, Version 1.5

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# 1

## Release Notes

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### Overview

DFSMSHsm (Data Facility Systems Managed Storage Hierarchical Storage Manager) is a storage management and productivity tool for managing low activity and inactive data. It improves DASD use by automatically managing both space and data availability in a storage hierarchy. DFSMSHsm handles data set archiving, backup, recovery, and manages available space on DASD volumes. It stores the data by compressing it and relocating it from normal DASD to DFSMSHsm-controlled DASD and tape, a process known as migration. When relocated data is requested, DFSMSHsm intercepts the requests and performs a recall. The recall process decompresses the data and copies it back to storage accessible by the requestor of the data.

Space management is the function of DFSMSHsm that allows you to keep DASD space available for users in order to meet the service-level objectives for your system. The purpose of space management is to manage your DASD storage efficiently. To do this, space management automatically and periodically performs the following functions:

- Moves low-activity data sets from user-accessible volumes to DFSMSHsm volumes.
- Reduces the space occupied by data on both the user-accessible volumes and the DFSMSHsm volumes.

Availability management ensures that lost or damaged data sets can be retrieved at the most current possible level. To do this, availability management automatically and periodically performs the following functions:

- Copies all the data sets on DASD volumes to tape volumes.
- Copies the changed data sets on DASD volumes either to other DASD volumes or to tape volumes.

While copying the data sets, DFSMSHsm minimizes the space that is occupied by the data set on the backup volume. Tivoli Business Systems Manager integrates with DFSMSHsm processes as an exception source to monitor and control DFSMSHsm objects. Tivoli Business Systems Manager reports DFSMSHsm exceptions based upon a pre-defined workflow of messages that define DFSMSHsm events.

The Tivoli Business Systems Manager object model for DFSMSHsm includes DFSMSHsm objects established during the DFSMSHsm session. Each object is managed according to a “desired state” model. Tivoli Business Systems Manager automatically tracks and records all state changes and generates a visual notification on the Tivoli Business Systems Manager graphical user workstation when an object varies from the desired state.

This integration provides an end-to-end view of how DFSMSHsm processes are affecting applications and other system components including the operating system, OLTP, and batch. The Line of Business View capability of Tivoli Business Systems Manager offers a business systems-centric view of how storage is affecting each critical business application.

## Monitoring DFSMSHsm Components

The integration of DFSMSHsm and Tivoli Business Systems Manager provides functionality in four primary areas:

- DFSMSHsm Objects – Several DFSMSHsm-specific objects are added to the Tivoli Business Systems Manager object model to enhance the breadth and detail of DFSMSHsm object monitoring.
- DFSMSHsm Exceptions – The exceptions generated by DFSMSHsm are applied to the appropriate Tivoli Business Systems Manager object instance, affecting the alert state and properties, enabling you to view the exception history for an object. The monitoring information collected through DFSMSHsm messages provides assistance in the following areas:
  - Monitoring when DFSMSHsm objects change state and graphically depicting the effect on other critical system components and applications.
  - Recognizing DFSMSHsm error conditions and qualifying their impact.
  - Receiving HSM Monitor/Tuner alerts.
- Launch of HSM Monitor/Tuner – The HSM Monitor/Tuner workstation is launched from the Tivoli Business Systems Manager graphical user interface to facilitate detailed problem determination information.

## DFSMSHsm Objects

The integration of DFSMSHsm and Tivoli Business Systems Manager introduces new objects for monitoring. These objects are described in the following table along with the icons that represent them in Tivoli Business System Manager graphical views and their parent objects in the physical hierarchy. The mapping of DFSMSHsm messages and events to each object type appear in the appendix.

DFSMSHsm is represented in Tivoli Business Systems Manager by the following registered objects:

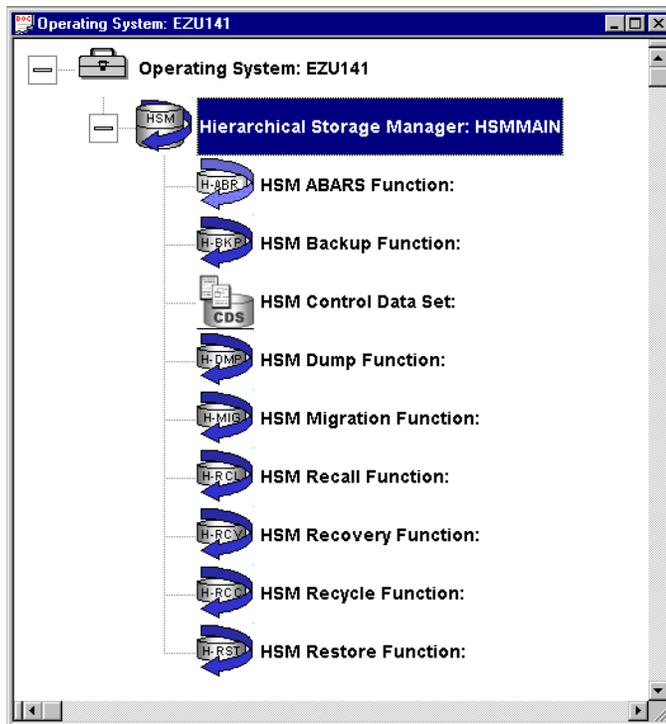
Icon name	Description
DFSMSHsm Process 	DFSMSHsm process includes functions for data set archiving, backup, recovery, and space management. DFSMSHsm automatic processes include migration, backup, and dump functions. DFSMSHsm stores information about events in the DFSMSHsm log data set.  The journal data set stores a record for each critical change made to a control data set from any host since the last time that CDS was successfully backed up. PDALog data sets provide trace information about DFSMSHsm processing.

Icon name	Description
DFSMShsm ABARS 	Aggregate backup and recovery support (ABARS) can be used to back up and recover both SMS and non-SMS-managed data (Level 0) using DFSMSdss as data mover. Aggregate backup function backs up a user-defined group (called aggregate group) of data sets for recovery at another computer site or at the same site. Aggregate recovery function recovers the aggregate group of data sets that were previously backed up by aggregate backup.
DFSMShsm Migration Function 	DFSMShsm Migration function moves appropriate data sets from the level 0 volumes to ML1 and/or ML2 volumes. Automatic volume space management includes automatic primary space management (at specific time of day) and interval migration (at specific intervals). Automatic secondary space management makes space available on DFSMShsm-owned volumes by moving eligible migrated data sets.
DFSMShsm Recall Function 	DFSMShsm recall function is the reverse of migration that returns data sets from ML1 or ML2 volumes to level 0 volumes.
DFSMShsm Backup Function 	DFSMShsm backup function makes copies (versions) of changed data sets residing on level 0 volumes to backup volumes
DFSMShsm Restore Function 	DFSMShsm restore function is the reverse of dump that returns dumped data sets from dump volumes to level 0 volumes.
DFSMShsm Dump Function 	DFSMShsm dump function is performed on complete volumes by copying data sets from level 0 volumes to dump volumes.
DFSMShsm Recovery Function 	DFSMShsm recovery function is the reverse of backup that returns data sets from backup volumes to level 0 volumes.
DFSMShsm Recycle Function 	DFSMShsm recycle function moves ML2 data sets from one ML2 tape volume to another ML2 tape volume.

Icon name	Description
Control Data sets 	<p>The Migration Control Data Set (MCDS) contains statistics and control information about migrated data sets and the volumes under DFSMSHsm control that are used in migration.</p> <p>The Backup Control Data Set (BCDS) stores information about backed up data sets, backup volumes, dump volumes, and other volumes under control of the backup and dump functions of DFSMSHsm.</p> <p>The Offline Control Data Set (OCDS) stores information about each migration and backup tape and about each data set residing on these tapes.</p>

## DFSMSHsm Physical Hierarchy

The following illustration portrays the Tivoli Business System Manager object model for DFSMSHsm integration.



## Discovery

The fixed structure of the DFSMSHsm object hierarchy makes automatic object discovery unnecessary. The latest release of DFSMSHsm supports up to 39 DFSMSHsm process with multiple DFSMSHsm address spaces per operating system.

Tivoli Business Systems Manager supports DFSMSHsm objects as a children of the Operating System (OS) object. When you insert a DFSMSHsm object under an OS, Tivoli Business Systems Manager generates nine child objects; one for each of eight supported

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functions (ABARS, Migration, Backup, Dump, Recall, Restore, Recovery and Recycle) and CDS object (aggregate object that represents MCDS, BCDS, and OCDS control data sets).

## Processing DFSMShsm Events

Tivoli Business Systems Manager is a suite of applications that resides in a three-tiered client/server environment and has server components on the OS/390 and Windows NT Server environments. Client workstation support includes Windows NT Workstation and Windows NT Server. OS/390 messages pre-registered as DFSMShsm events are defined for each DFSMShsm object class and uploaded to OS/390 host upon the TBSM Source/390 Object Pump initialization in order to generate generic traps. When captured by TBSM Source/390 Object Pump trap manager, these messages are sent to NT for processing by the DFSMShsm message handler.

### Event Flow

1. Upon TBSM Source/390 Object Pump initialization, the pre-defined DFSMShsm message codes generate TBSM Source/390 Object Pump generic traps used for DFSMShsm objects.
2. The Tivoli Business Systems Manager trap manager formats these events as generic messages and places them on the Object Server Queue.
3. Tivoli Business Systems Manager Comms tasks forwards the event to Windows NT SNA server via a LU6.2 or IP link.
4. The SNA Server forwards the event to a special message handler that parses incoming messages and formats the event message as specified by the event message table.
5. The message handler forwards the event to a SQL database where it is acted upon by a method within the Tivoli Business Systems Manager object model structure and is applied to the appropriate DFSMShsm object.

Once an event has been posted to the Tivoli Business Systems Manager data store, event notification services post the exception or message to the target object. Every unique event type is assigned an alert state (red or yellow) and priority (critical, high, medium, low and ignore) that determines how many events of a specific type are required before an alert icon is overlaid on the object receiving the exception or message. Tivoli Business System Manager is installed with default alert state and priority settings for each unique message or exception type. You can customize these settings through administrative dialogs available with administrative authority.

Detailed information on the interaction between priority and alert state and how alerts are posted to the Tivoli Business Systems Manager graphical user workstation is found in the *Tivoli Business Systems Manager Users Guide*. Information on how to customize priority and alert state settings is found in the *Tivoli Business Systems Manager Administration Guide*.

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## Integration with HSM Monitor/Tuner

The HSM Monitor/Tuner (StorWatch DFSMSHsm Monitor Version 1, Release 1) interfaces directly with DFSMSHsm to display its status and activities. It also provides automation triggers and corrective actions by invoking host resident REXX routines. HSM Monitor/Tuner enables monitoring of one or more DFSMSHsm objects and periodically transfers DFSMSHsm control block information to the HSM Monitor/Tuner workstation through the communication address space.

The following two levels of monitoring are supported:

- Real time monitoring
- Time interval monitoring

The HSM Monitor/Tuner uses built-in algorithms to calculate status values, which indicates the health of various functions within DFSMSHsm. Tivoli Business Systems Manager supplies REXX module GTMHMTRX, which is shipped with an alias of MON9999. This module should be installed in the HSM Monitor/Tuner address space and executed as the MON9999 REXX automation routine.

### Registration of HSM Monitor/Tuner Alerts

Tivoli Business Systems Manager provides exceptions for all HSM Monitor/Tuner interval alerts. Refer to Appendix, *HSM Monitor/Tuner Events (HMT\_Alerts)* for details. Registration usually happens when the TBSM Source/390 Object Pump starts and requests registration from the NT server. This event triggers the upload of all message ids that are registered as traps for the requesting host operating system. Upon receiving the registration record for HSM Monitor/Tuner alerts, the corresponding TBSM Source/390 Object Pump starts trapping HMT alert conditions.

### Processing HSM Monitor/Tuner Alerts

DFSMSHsm periodically invokes the REXX automation routine MON9999 provided by Tivoli Business Systems Manager. This routine polls the HSM Monitor/Tuner to determine which alerts are currently true and uses that information to post or clear alerts from the Tivoli Business Systems Manager console. The provided code uses EDI to pass the information to Tivoli Business Systems Manager. The Tivoli Business Systems Manager REXX MON9999 routine processes the received HSM Monitor/Tuner alert status data and generates an exception message for each reported alert. The messages are transported to the Tivoli Business Systems Manager object database and posted to the corresponding DFSMSHsm objects. You view DFSMSHsm objects from the DFSMSHsm object property sheet as exceptions.

## Launching the HSM Monitor/Tuner Workstation

You launch the HSM Monitor/Tuner workstation session directly from Tivoli Business Systems Manager by right-clicking a DFSMSHsm object, pointing to **Launch ►HSM Monitor**.

The HSM Monitor/Tuner workstation provides a GUI for viewing the overall status of DFSMSHsm. You also view the current state of automated functions (primary space management, secondary space management, interval migration, automatic dump, and automatic backup), review historical activity by means of a workstation playback file, and a menu-driven termination of volume and data set level tasks.

## Configuration

### Enabling the HSM Monitor/Tuner Interface

In order to interface Tivoli Business Systems Manager with DFSMSHsm, the PTF UW80013 for HSM Monitor/Tuner is required to be installed prior to the following configuration.

1. In order for Tivoli Business Systems Manager to receive alerts from HSM Monitor/Tuner modifications must be made to the HSM Monitor/ Tuner started task procedure (GFTJHMT).
  - The Tivoli Business Systems Manager module library **HILEV.SGTMMODS** should be added to the STEPLIB DD concatenation. Either the REXX run time library or the REXX alternate library should also be included in the STEPLIB concatenation.
  - The Tivoli Business Systems Manager EXEC library **HILEV.SGTMEXEC** should be added to the SYSEXEC DD concatenation.
  - If you are running multiple copies of the Tivoli Business Systems Manager mainframe components on a single image, an **ACC1IDxx DD DUMMY** card should coded, which corresponds to the desired instance of Tivoli Business Systems Manager.

For more information see the *Tivoli Business Systems Manager Installation and Configuration Guide*.

### Configuring HSM Monitor/Tuner Workstation

For installation of the HMT workstation, refer to Chapter 3 of IBM document, *SG24-5248-00, DFSMS Optimizer: The New HSM Monitor/Tuner*.

Tivoli Business Systems Manager launches the HMT workstation by invoking the *runmontuner.bat* file from the HMT installation directory.

The default directory for HMT workstation component is the following:

```
c:\Program Files\IBM\DFSMSOPT V1.2.0
```

To run the HSM Monitor/Tuner workstation you **must** update your environment path variables by either editing the *Autoexec.bat* file or updating the PATH variable in the system Control Panel. The following example assumes you have used the aforementioned default installation directory:

```
PATH=C:\Program Files\IBM\DFSMSOPT V1.2.0;
```

### Modifying an Existing MON9999 Routine

If there is an existing MON9999 automation routine used in the HSM Monitor/ Tuner address space it must be modified to invoke the Tivoli Business Systems Manager interface. The parameter passed to the MON9999 routine must be propagated to the Tivoli Business Systems Manager interface.

The following REXX code can be inserted into the MON9999 routine to invoke the Tivoli Business Systems Manager interface.

```
ARG ARG1, ARG2, ARG3
RC = GTMHMTRX(ARG1, ARG2, ARG3)
```

In this case, the Tivoli Business Systems Manager provided HILEV.SGTMEXEC library should appear in the SYSEXEC concatenation below the library containing the MON9999 routine.

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## DFSMSHsm Event Scenarios

Sample DFSMSHsm scenarios appear in this section. For a complete list of DFSMSHsm events see the Appendix, *Mapping of DFSMSHsm Events to Object Types*.

### DFSMSHsm Session State Change

#### DFSMSHsm is shutting down due to error

1. An error occurred, which caused the DFSMSHsm session HSM01 to end.
2. MVS console on SYSA that runs the corresponding HSM address space received ARC0061I message.
3. Tivoli Business Systems Manager traps the message (this message was pre-registered and uploaded to SYSA) and forwards the event to the TBSM Source/390 Object Pump.
4. The TBSM Source/390 Object Pump then forwards the request through the TBSM Source/390 Object Server and LU 6.2 or IP connection up to the Tivoli Business Systems Manager database.
5. The event is propagated and posted to the DFSMSHsm session HSM01 object. Since this is a yellow/warning event, this object and its parent SYSA operating system object, are tagged with yellow alert. The alert icon appears on any Tivoli Business System Manager view containing this object

### DFSMSHsm Log Object - Error Exception

#### Journaling is disabled due to error

1. An error has occurred while attempting to write data in the DFSMSHsm journal data set.
2. MVS console on SYSA that runs the HSM01 address space, received ARC0026E message.
3. Tivoli Business Systems Manager traps the message (this message was pre-registered and uploaded to SYSA) and forwards the event to the TBSM Source/390 Object Pump.
4. The TBSM Source/390 Object Pump forwards the request through the TBSM Source/390 Object Server and LU 6.2 or IP connection up to the Tivoli Business System Manager database.
5. The event is propagated and posted to the HSM01 object. Since this is a red/critical event this object and its parent object, the SYSA operating system, are tagged with red alert. The alert icon appears on any Tivoli Business System Manager view containing this object.

## Troubleshooting

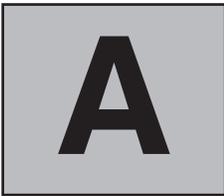
This section provides you with information concerning why certain symptoms occur and how to correct the situation. For each symptom, follow the steps in the User Actions column until you have completed the following:

- Found the cause of the problem.
- You are instructed to stop.
- You exhausted the list of user actions for the symptoms you are experiencing.

If you cannot solve the problem, contact Tivoli Customer Support. Be prepared to describe the results of your troubleshooting steps.

Symptoms	User Actions
Tivoli Business Systems Manager alerts are not being generated for OS/390 console messages	<ol style="list-style-type: none"> <li>1. Verify the message traps are registered on OS/390. From an OS/390 console, enter: F GTMPUMP,SHOW TRAPS AAM*</li> <li>2. If message traps are registered, continue with the following steps. If they are not registered, go to the steps for Message traps that are not being registered on OS/390.</li> <li>3. Verify that the NT service Tivoli BSM MVSEventHandlerSvc is running on the SQL server. The system from which you want to receive messages.</li> <li>4. Verify that you have a DFSMShsm object that can receive an event.</li> </ol>
Message traps are not being registered on OS/390	<ol style="list-style-type: none"> <li>1. Registration usually happens when the TBSM Source/390 Object Pump starts and requests registrations from the NT server and a TBSM message is generated for the operating system every message trap registrations are sent to the host. Open the property sheet for the operating system that is receiving the message trap registrations. Make sure that a recent message exists under the operating system. This indicates that registration has occurred.</li> <li>2. Verify that the NT service Tivoli BSM MVSSenderSvc is running for the system you want to register traps on.</li> <li>3. Verify that the message traps are enabled in the SQL server: <ul style="list-style-type: none"> <li>■ Start the SQL Server 7.0 Query Analyzer</li> <li>■ Connect to your SQL server</li> <li>■ Run the following SQL statements: <pre>use Object select * from GenericTrapCategory_C select * from GenericTrapDescription_C</pre> </li> </ul> </li> <li>4. Find the row DFSMShsm Console Messages category and verify that its enabled column has a value of 1.</li> <li>5. Find the row with the message id of a message you want to be processed. Verify the enabled column has a value of 1.</li> </ol>

Symptoms	User Actions
<p>HSM Monitor/ Tuner alerts are not being registered on OS/390</p>	<ol style="list-style-type: none"> <li data-bbox="880 237 1417 615">1. Registration usually happens when the TBSM Source/390 Object Pump starts and requests registrations from the NT server and a Tivoli Business Systems Manager message is generated for the operating system every time interval registrations are sent to the host. Open the property sheet for the operating system that should receive the HSM Monitor/ Tuner alert exception registrations. Make sure that a recent message exists under the operating system. This indicates that registration has occurred.</li> <li data-bbox="880 636 1417 720">2. Verify that the NT service Tivoli BSM MVSSenderSvc is running for the system you want to register traps on.</li> </ol>
<p>HMT Monitor launch failed</p>	<ol style="list-style-type: none"> <li data-bbox="880 751 1417 951">1. If you cannot find the application (if it was not installed or not in the PATH) you receive the following <i>runmontuner_tbsm_err.log</i>: The name specified is not recognized as an internal or external command,operable program or batch file</li> <li data-bbox="880 972 1417 1056">2. Install the HMT Monitor or add the program name to the PATH (refer to the Configuration section for details).</li> </ol>



## Mapping of DFSMShsm Events to Object Types

The following table shows all of the DFSMShsm events that are integrated with Tivoli Business Systems Manager. The “source” for the events will be either MVS ARCXXX console messages generated by the DFSMShsm component. Some events have other messages that correct the error condition.

Object Type	Event Type	Event	Description	Resolution	Source
DFSMShsm	State Message	ARC0001I	DFSMShsm starting	N/A	MVS
	State Message	ARC0002I	DFSMShsm Shutdown has completed	ARC0001I	MVS
	State Message	ARC0008I	DFSMShsm initialization successful	Informational	MVS
	State Message	ARC0016I	DFSMShsm shutdown has been requested	ARC0002I	MVS
	State Message	ARC0033E	DFSMShsm initialization failed	ARC0001I	MVS
	State Message	ARC0038I	Status of adding resource manager	Informational	MVS
	State Message	ARC0046I	DFSMShsm issued cmd to automatic restart	Informational	MVS
	State Message	ARC0047I	DFSMShsm automatic restart failed	ARC0001I	MVS
	State Message	ARC0048I	DFSMShsm exceeds five minute restart failed	Informational	MVS
	State Message	ARC0061I	DFSMShsm shutting down due to error	ARC0001I	MVS
	State Message	ARC0801I	DFSMShsm audit started	Informational	MVS
	State Message	ARC0802I	DFSMShsm audit ended	Informational	MVS
	State Message	ARC0027I	Log switched	Informational	MVS
	State Message	ARC0037I	PDO data set switched	Informational	MVS
	Journal exception	ARC0909E	Journal% full threshold exceeded	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
	Journal exception	ARC0023I	Unable to read journal record	Ownership	MVS
	Journal exception	ARC0025I	Journal not opened	Ownership	MVS
	Journal exception	ARC0461I	Journal data set is in error	Ownership	MVS
	Journal exception	ARC0026E	Journal disabled due to error	Ownership	MVS
	Journal exception	ARC0860E	Journal space monitoring disabled	Ownership	MVS
	Log exception	ARC0021I	DFSMSHsm logging function disabled	Ownership	MVS
	Log exception	ARC0109I	Cannot switch activity log due to error	Ownership	MVS
	Log exception	ARC0110I	Cannot close activity log due to error	Ownership	MVS
	Log exception	ARC0022I	Log rename error	Ownership	MVS
	Log exception	ARC0024I	Logging inhibited due to error	Ownership	MVS
	Log exception	ARC0028I	I/O error opening log	Ownership	MVS
	PDO exception	ARC0034I	I/O error encountered	Ownership	MVS
	PDO exception	ARC0036I	I/O disabled due to error	Ownership	MVS
	Development exception	ARC0007I	There are no volumes in DFSMSHsm	Ownership	MVS
	Development exception	ARC0404I	Error while accessing VTOC	Ownership	MVS
	Development exception	ARC0409I	Error reading VTOC	Ownership	MVS
	Development exception	ARC0501I	I/O error processing VTOC	Ownership	MVS
	Function exception	ARC0029E	Function disabled due to MVS level	Ownership	MVS
	Function exception	ARC0111I	Sub function cannot be released while main function held	Ownership	MVS
	Function exception	ARC035I	Cannot update CDS entry - in use by another host	Ownership	MVS
	Function exception	ARC0087I	CDS backup is needed	Ownership	MVS
	Function exception	ARC0570I	Function terminated due to error	Ownership	MVS
	System exception	ARC0045I	MWE queue damaged	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
	System exception	ARC0057I	CSA thresh is reached for inactive DFSMSHsm	Ownership	MVS
	System exception	ARC0058I	CSA thresh is reached for no-wait action requests	Ownership	MVS
	System exception	ARC0059I	DFSMSHsm reached max CSA usage limit	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm Migration	State message	ARC0580I	Interval migration started	Informational	MVS
	State message	ARC0581I	Interval migration ended	Informational	MVS
	State message	ARC0520I	Primary space management started	Informational	MVS
	State message	ARC0521I	Primary space management ended	Informational	MVS
	State message	ARC0556I	Space management failed to restart	Ownership	MVS
	State message	ARC0517I	Secondary space management started	Informational	MVS
	State message	ARC0518I	Secondary space management ended	Informational	MVS
	State message	ARC0526I	Migration cleanup started	Informational	MVS
	State message	ARC0527I	Migration cleanup ended	Informational	MVS
	State message	ARC0530I	Level 1 migration started	Informational	MVS
	State message	ARC0531I	Level 1 migration ended	Informational	MVS
	State message	ARC0532I	Level 1 migration terminated	Ownership	MVS
	Function exception	ARC0571I	No migration, SMS is not active	Ownership	MVS
	Cmd exception	ARC0112I	Auto migration not released due to previous hold in progress	Ownership	MVS
	Error exception	ARC0073I	Error processing IDCAMS request	Ownership	MVS
	Error exception	ARC0507I	Error de-allocating tape volume	Ownership	MVS
	Error exception	ARC0338I	ML2 scratch tape was mounted in private pool	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm Recall	State message	ARC1010I	User request for migrated DS failed	Ownership	MVS
	Error exception	ARC0051A	Job is waiting on DFSMSHsm to recall	Ownership	MVS
	Error exception	ARC0318I	No primary volume avail for recall	Ownership	MVS
	Error exception	ARC0367I	A recall task disabled	Ownership	MVS
	Error exception	ARC0380I	Recall is waiting – volume in use	Ownership	MVS
	Error exception	ARC1104I	No primary volume available for recall	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm Dump	State message	ARC0620I	Automatic dump started	Informational	MVS
	State message	ARC0621I	Automatic dump ended	Informational	MVS
	State message	ARC0625I	Automatic dump terminated	Ownership	MVS
	State message	ARC0628I	Automatic expiration started	Informational	MVS
	State message	ARC0629I	Automatic expiration ended	Informational	MVS
	State message	ARC0630I	Creation of selection table started	Informational	MVS
	State message	ARC0631I	Creation of selected table ended	Informational	MVS
	State message	ARC0632I	Creation of selected table failed	Ownership	MVS
	State message	ARC0634I	Automatic dump failed to restart	Ownership	MVS
	State message	ARC0648I	Automatic deletion of excess VTOC entries started	Informational	MVS
	State message	ARC0649I	Automatic deletion of excess VTOC entries ended	Informational	MVS
	Error exception	ARC0262I	Dump copy invalidated	Ownership	MVS
	Error exception	ARC0263I	Status of dump copy invalidation	Ownership	MVS
	Error exception	ARC0644I	Dump failed after successful copy	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
	Error exception	ARC0333I	Volume is not dumped – in use	Ownership	MVS
	Error exception	ARC0652I	Error updating DCR record	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm Restore	Error exception	ARC0753I	Cannot restore - dump allocate error	Ownership	MVS
	Error exception	ARC0752I	Cannot restore – dump not available	Ownership	MVS
	Error exception	ARC0759I	Cannot restore – tape is not available	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm Backup	State message	ARC0720I	Automatic backup started	Informational	MVS
	State message	ARC0721I	Automatic backup ended	Informational	MVS
	State message	ARC0717I	Automatic backup terminated	Ownership	MVS
	State message	ARC0735I	Backup of migrated data sets started	Informational	MVS
	State message	ARC0736I	Backup of migrated data sets ended	Informational	MVS
	State message	ARC0740I	CDS backup stated	Informational	MVS
	State message	ARC0741I	CDS backup ended	Informational	MVS
	Error exception	ARC0700I	Backup suspended, task is waiting	Ownership	MVS
	Error exception	ARC0745E	Unable to read MHCR during CDS backup	Ownership	MVS
	Error exception	ARC0747E	Unable to process data set during CDS backup	Ownership	MVS
	Error exception	ARC0788I	Backup terminated, tape error	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm Recovery	Error exception	ARC0751I	Cannot recover, unusable VTOC copy	Ownership	MVS
	Error exception	ARC0754I	Cannot recover, catalog process error	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
	Error exception	ARC0752I	Cannot recover – backup not available	Ownership	MVS
	Error exception	ARC0059I	Cannot recover – tape is not available	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm Recycle	State message	ARC0830I	Recycle command processing started	Informational	MVS
	State exception	ARC0831I	Recycle command processing ended	Informational	MVS
	State exception	ARC0835I	Recycle terminated early	Ownership	MVS
	Error exception	ARC0378I	Inconsistent TTOC and content	Ownership	MVS
	Error exception	ARC0434I	Recycle failed – data set is delete	Ownership	MVS
	Error exception	ARC0440I	Volume contains invalid CDD	Ownership	MVS
	Error exception	ARC0445I	Volume cannot be recycled	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm CDS	State message	ARC0909E	CDS% full threshold exceeded	Ownership	MVS
	State message	ARC0910E	CDS is full	Ownership	MVS
	State message	ARC0911E	CDS index% full threshold exceeded	Ownership	MVS
	Error exception	ARC0564I	Unexpected MCDS record encountered	Ownership	MVS
	Error exception	ARC0860E	CDS space monitoring disabled	Ownership	MVS
	Error exception	ARC0133I	Cannot open data set – tape not active	Ownership	MVS
	Error exception	ARC0134I	Cannot open data set – backup not enabled	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
DFSMSHsm ABARS	State message	ARC6024I	ABARS secondary address space started	Informational	MVS
	State message	ARC6027I	Primary AS cancelled secondary AS	Ownership	MVS

Object Type	Event Type	Event	Description	Resolution	Source
	State message	ARC6030I	Start failed for secondary AS	Ownership	MVS
	State message	ARC6032E	Cancel of secondary AS failed	Ownership	MVS
	State message	ARC6022I	DFSMSHsm has been set to non-swappable	Informational	MVS
	State message	ARC6054I	Aggregate backup has started	Informational	MVS
	State message	ARC6055I	Aggregate backup has completed	Informational	MVS
	State message	ARC6398E	Hold EOD stopped ABAR process	Ownership	MVS
	State message	ARC6102I	Aggregate recovery has started	Informational	MVS
	State message	ARC6103I	Aggregate recovery has completed	Informational	MVS
	Error exception	ARC6375I	Error reading BCDS, functions held	Ownership	MVS
	Error exception	ARC6390I	Catalog locate error, functions held	Ownership	MVS
	Error exception	ARC6034E	Invoked DFDSS returned nonzero	Ownership	MVS
	Error exception	ARC6056E	Error reading selection data set	Ownership	MVS
	Error exception	ARC6058E	Error writing output data set	Ownership	MVS
	Error exception	ARC6073E	Error attempting enqueue/dequeue	Ownership	MVS
	Error exception	ARC6086I	Exit marked inoperative, nonzero RC	Ownership	MVS
	Error exception	ARC6124E	Control data set exceeded 15 volumes	Ownership	MVS
	Error exception	ARC6151E	Error due to failed SMS request	Ownership	MVS
	Error exception	ARC6179E	Error updating MCV record	Ownership	MVS
	Error exception	ARC6112E	Error reading input data set	Ownership	MVS
	Error exception	ARC6127E	Data set is incomplete recall status	Ownership	MVS
	Error exception	ARC6194E	Sequence error reading control file	Ownership	MVS
	Error exception	ARC6391E	Error deleting DFSMSHsm control record	Ownership	MVS

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# B

## Default Alert State Settings

All events in Tivoli Business Systems Manager are categorized by alert state and priority. When installed, Tivoli Business Systems Manager has default settings for these values. The Tivoli Business Systems Manager administrator also has the ability to override these values in order to “tune” Tivoli Business Systems Manager so that only meaningful alerts are propagated to the user workstation.

Alert State can have the values of Red, Yellow, Green or Unknown.

Priority can have the values of Critical, Medium, Low or Ignore.

For more detailed information on understanding and setting alert state and priority refer to the *Tivoli Business Systems Manager Administration Guide*.

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSHsm	State Message	ARC0001I	DFSMSHsm starting	N/A	MVS	Green	High
	State Message	ARC0002I	DFSMSHsm Shutdown has completed	ARC0001I	MVS	Yellow	High
	State Message	ARC0008I	DFSMSHsm initialization successful	Informational	MVS	Green	High
	State Message	ARC0016I	DFSMSHsm shutdown has been requested	ARC0002I	MVS	Red	High
	State Message	ARC0033E	DFSMSHsm initialization failed	ARC0001I	MVS	Yellow	Medium
	State Message	ARC0038I	Status of adding resource manager	Informational	MVS	Unknown	Ignore
	State Message	ARC0046I	DFSMSHsm issued cmd to automatic restart	Informational	MVS	Green	High
	State Message	ARC0047I	DFSMSHsm automatic restart failed	ARC0001I	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
	State Message	ARC0048I	DFSMSHsm exceeds five minute restart failed	Informational	MVS	Yellow	Low
	State Message	ARC0061I	DFSMSHsm shutting down due to error	ARC0001I	MVS	Yellow	Medium
	State Message	ARC0801I	DFSMSHsm audit started	Informational	MVS	Unknown	Ignore
	State Message	ARC0802I	DFSMSHsm audit ended	Informational	MVS	Unknown	Ignore
	State Message	ARC0027I	Log switched	Informational	MVS	Unknown	Ignore
	State Message	ARC0037I	PDO data set switched	Informational	MVS	Unknown	Ignore
	Journal exception	ARC0909E	Journal% full threshold exceeded	Ownership	MVS	Yellow	High
	Journal exception	ARC0023I	Unable to read journal record	Ownership	MVS	Yellow	High
	Journal exception	ARC0025I	Journal not opened	Ownership	MVS	Yellow	High
	Journal exception	ARC0461I	Journal data set is in error	Ownership	MVS	Yellow	High
	Journal exception	ARC0026E	Journal disabled due to error	Ownership	MVS	Yellow	High
	Journal exception	ARC0860E	Journal space monitoring disabled	Ownership	MVS	Yellow	High
	Log exception	ARC0021I	DFSMSHsm logging function disabled	Ownership	MVS	Yellow	High
	Log exception	ARC0109I	Cannot switch activity log due to error	Ownership	MVS	Yellow	High
	Log exception	ARC0110I	Cannot close activity log due to error	Ownership	MVS	Yellow	High
	Log exception	ARC0022I	Log rename error	Ownership	MVS	Yellow	High
	Log exception	ARC0024I	Logging inhibited due to error	Ownership	MVS	Yellow	High
	Log exception	ARC0028I	I/O error opening log	Ownership	MVS	Yellow	High

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
	PDO exception	ARC0034I	I/O error encountered	Ownership	MVS	Yellow	Medium
	PDO exception	ARC0036I	I/O disabled due to error	Ownership	MVS	Yellow	Medium
	Development exception	ARC0007I	There are no volumes in DFSMSHsm	Ownership	MVS	Yellow	Medium
	Development exception	ARC0404I	Error while accessing VTOC	Ownership	MVS	Yellow	Medium
	Development exception	ARC0409I	Error reading VTOC	Ownership	MVS	Yellow	Medium
	Development exception	ARC0501I	I/O error processing VTOC	Ownership	MVS	Yellow	Medium
	Function exception	ARC0029E	Function disabled due to MVS level	Ownership	MVS	Yellow	Low
	Function exception	ARC0111I	Sub function cannot be released while main function held	Ownership	MVS	Yellow	Low
	Function exception	ARC035I	Cannot update CDS entry (in use by another host)	Ownership	MVS	Yellow	Low
	Function exception	ARC0087I	CDS backup is needed	Ownership	MVS	Yellow	Low
	Function exception	ARC0570I	Function terminated due to error	Ownership	MVS	Yellow	Low
	System exception	ARC0045I	MWE queue damaged	Ownership	MVS	Yellow	High
	System exception	ARC0057I	CSA thresh is reached for inactive DFSMSHsm	Ownership	MVS	Yellow	High
	System exception	ARC0058I	CSA thresh is reached for no-wait action requests	Ownership	MVS	Yellow	High
	System exception	ARC0059I	DFSMSHsm reached max CSA usage limit	Ownership	MVS	Yellow	High

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSHsm Migration	State message	ARC0580I	Interval migration started	Informational	MVS	Green	Medium
	State message	ARC0581I	Interval migration ended	Informational	MVS	Green	Ignore
	State message	ARC0520I	Primary space management started	Informational	MVS	Green	Medium
	State message	ARC0521I	Primary space management ended	Informational	MVS	Green	Ignore
	State message	ARC0556I	Space management failed to restart	Ownership	MVS	Yellow	Medium
	State message	ARC0517I	Secondary space management started	Informational	MVS	Green	Medium
	State message	ARC0518I	Secondary space management ended	Informational	MVS	Green	Ignore
	State message	ARC0526I	Migration cleanup started	Informational	MVS	Green	Medium
	State message	ARC0527I	Migration cleanup ended	Informational	MVS	Green	Ignore
	State message	ARC0530I	Level 1 migration started	Informational	MVS	Green	Medium
	State message	ARC0531I	Level 1 migration ended	Informational	MVS	Green	Ignore
	State message	ARC0532I	Level 1 migration terminated	Ownership	MVS	Yellow	Medium
	Function exception	ARC0571I	No migration, SMS is not active	Ownership	MVS	Yellow	Low
	Cmd exception	ARC0112I	Auto migration not released due to previous hold in progress	Ownership	MVS	Yellow	Low
	Error exception	ARC0073I	Error processing IDCAMS request	Ownership	MVS	Yellow	Low
	Error exception	ARC0507I	Error de-allocating tape volume	Ownership	MVS	Yellow	Low
	Error exception	ARC0338I	ML2 scratch tape was mounted in private pool	Ownership	MVS	Yellow	Low

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSHsm Recall	State message	ARC1010I	User request for migrated DS failed	Ownership	MVS	Yellow	Medium
	Error exception	ARC0051A	Job is waiting on DFSMSHsm to recall	Ownership	MVS	Yellow	Medium
	Error exception	ARC0318I	No primary volume avail for recall	Ownership	MVS	Yellow	Medium
	Error exception	ARC0367I	A recall task disabled	Ownership	MVS	Yellow	Medium
	Error exception	ARC0380I	Recall is waiting – volume in use	Ownership	MVS	Yellow	Medium
	Error exception	ARC1104I	No primary volume available for recall	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSHsm Restore	Error exception	ARC0753I	Cannot restore - dump allocate error	Ownership	MVS	Yellow	Medium
	Error exception	ARC0752I	Cannot restore – dump not available	Ownership	MVS	Yellow	Medium
	Error exception	ARC0759I	Cannot restore – tape is not available	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSHsm Recycle	State message	ARC0830I	Recycle command processing started	Informational	MVS	Green	Medium
	State exception	ARC0831I	Recycle command processing ended	Informational	MVS	Green	Ignore
	State exception	ARC0835I	Recycle terminated early	Ownership	MVS	Yellow	Medium
	Error exception	ARC0378I	Inconsistent TTOC and content	Ownership	MVS	Yellow	Medium
	Error exception	ARC0434I	Recycle failed – data set is delete	Ownership	MVS	Yellow	Medium
	Error exception	ARC0440I	Volume contains invalid CDD	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
	Error exception	ARC0445I	Volume cannot be recycled	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSshm Recovery	Error exception	ARC0751I	Cannot recover, unusable VTOC copy	Ownership	MVS	Yellow	Medium
	Error exception	ARC0754I	Cannot recover catalog process error	Ownership	MVS	Yellow	Medium
	Error exception	ARC0752I	Cannot recover (backup not available)	Ownership	MVS	Yellow	Medium
	Error exception	ARC0059I	Cannot recover (tape is not available)	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSshm Dump	State message	ARC0620I	Automatic dump started	Informational	MVS	Green	Medium
	State message	ARC0621I	Automatic dump ended	Informational	MVS	Green	Ignore
	State message	ARC0625I	Automatic dump terminated	Ownership	MVS	Yellow	Medium
	State message	ARC0628I	Automatic expiration started	Informational	MVS	Green	Ignore
	State message	ARC0629I	Automatic expiration ended	Informational	MVS	Green	Ignore
	State message	ARC0630I	Creation of selection table started	Informational	MVS	Green	Ignore
	State message	ARC0631I	Creation of selected table ended	Informational	MVS	Green	Ignore
	State message	ARC0632I	Creation of selected table failed	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
	State message	ARC0634I	Automatic dump failed to restart	Ownership	MVS	Yellow	Medium
	State message	ARC0648I	Automatic deletion of excess VTOC entries started	Informational	MVS	Green	Ignore
	State message	ARC0649I	Automatic deletion of excess VTOC entries ended	Informational	MVS	Green	Ignore
	Error exception	ARC0262I	Dump copy invalidated	Ownership	MVS	Yellow	Medium
	Error exception	ARC0263I	Status of dump copy invalidation	Ownership	MVS	Yellow	Medium
	Error exception	ARC0644I	Dump failed after successful copy	Ownership	MVS	Yellow	Medium
	Error exception	ARC0333I	Volume is not dumped – in use	Ownership	MVS	Yellow	Medium
	Error exception	ARC0652I	Error updating DCR record	Ownership	MVS	Yellow	Medium

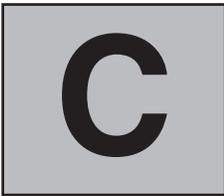
Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSHsm	State message	ARC0909E	CDS% full threshold exceeded	Ownership	MVS	Yellow	Medium
	State message	ARC0910E	CDS is full	Ownership	MVS	Red	High
	State message	ARC0911E	CDS index% full threshold exceeded	Ownership	MVS	Yellow	Medium
	Error exception	ARC0564I	Unexpected MCDS record encountered	Ownership	MVS	Yellow	Medium
	Error exception	ARC0860E	CDS space monitoring disabled	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
	Error exception	ARC0133I	Cannot open data set – tape not active	Ownership	MVS	Yellow	Medium
	Error exception	ARC0134I	Cannot open data set – backup not enabled	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
DFSMSshm ABARS	State message	ARC6024I	ABARS secondary address space started	Informational	MVS	Green	High
	State message	ARC6027I	Primary AS cancelled secondary AS	Ownership	MVS	Yellow	High
	State message	ARC6030I	Start failed for secondary AS	Ownership	MVS		
	State message	ARC6032E	Cancel of secondary AS failed	Ownership	MVS		
	State message	ARC6022I	DFSMSshm has been set to non-swappable	Informational	MVS	Unknown	Ignore
	State message	ARC6054I	Aggregate backup has started	Informational	MVS	Green	Ignore
	State message	ARC6055I	Aggregate backup has completed	Informational	MVS	Green	Ignore
	State message	ARC6398E	Hold EOD stopped ABAR process	Ownership	MVS	Yellow	High
	State message	ARC6102I	Aggregate recovery has started	Informational	MVS	Green	High
	State message	ARC6103I	Aggregate recovery has completed	Informational	MVS	Green	Ignore
	Error exception	ARC6375I	Error reading BCDS, functions held	Ownership	MVS	Yellow	Medium

Object Type	Event Type	Event	Description	Resolution	Source	Alert State	Priority
	Error exception	ARC6390I	Catalog locate error, functions held	Ownership	MVS	Yellow	Medium
	Error exception	ARC6034E	Invoked DFDSS returned nonzero	Ownership	MVS	Yellow	Medium
	Error exception	ARC6056E	Error reading selection data set	Ownership	MVS	Yellow	Medium
	Error exception	ARC6058E	Error writing output data set	Ownership	MVS	Yellow	Medium
	Error exception	ARC6073E	Error attempting enqueue/dequeue	Ownership	MVS	Yellow	Medium
	Error exception	ARC6086I	Exit marked inoperative, nonzero RC	Ownership	MVS	Yellow	Medium
	Error exception	ARC6124E	Control data set exceeded 15 volumes	Ownership	MVS	Yellow	Medium
	Error exception	ARC6151E	Error due to failed SMS request	Ownership	MVS	Yellow	Medium
	Error exception	ARC6179E	Error updating MCV record	Ownership	MVS	Yellow	Medium
	Error exception	ARC6112E	Error reading input data set	Ownership	MVS	Yellow	Medium
	Error exception	ARC6127E	Data set is incomplete recall status	Ownership	MVS	Yellow	Medium
	Error exception	ARC6194E	Sequence error reading control file	Ownership	MVS	Yellow	Medium
	Error exception	ARC6391E	Error deleting DFSMSshm control record	Ownership	MVS	Yellow	Medium

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## HSM Monitor/Tuner Events (HMT\_Alerts)

Object Type	HMT Alert	Description	Threshold	Alert State	Priority
DFSMSHsm	MON0001	DFSMSHsm is not active		Yellow	Medium
DFSMSHsm	MON0002	DFSMSHsm is in emergency mode		Red	High
DFSMSHsm	MON0003	DFSMSHsm processing errors have occurred		Yellow	Medium
DFSMSHsm	MON0011	ABACKUP function is held		Yellow	Medium
DFSMSHsm	MON0012	ARECOVER function is held		Yellow	Medium
DFSMSHsm	MON0013	Audit function is held		Yellow	Medium
DFSMSHsm	MON0014	Auto migration function is held		Yellow	Medium
DFSMSHsm	MON0015	Backup functions are held		Yellow	Medium
DFSMSHsm	MON0016	Automatic backup is held		Yellow	Medium
DFSMSHsm	MON0017	All dump functions are held		Yellow	Medium
DFSMSHsm	MON0018	Automatic dump is held		Yellow	Medium
DFSMSHsm	MON0019	Expire backup versions function is held		Yellow	Medium
DFSMSHsm	MON0020	List function is held		Yellow	Medium
DFSMSHsm	MON0021	Log function is held		Yellow	Medium
DFSMSHsm	MON0022	All migration functions are held		Yellow	Medium
DFSMSHsm	MON0023	All recall functions are held		Yellow	Medium
DFSMSHsm	MON0024	All tape recall functions are held		Yellow	Medium
DFSMSHsm	MON0025	All TSO tape recalls are held		Yellow	Medium
DFSMSHsm	MON0026	All recover and restore functions are held		Yellow	Medium
DFSMSHsm	MON0027	All tape recover and restore functions are held		Yellow	Medium
DFSMSHsm	MON0028	Recycle function is held		Yellow	Medium
DFSMSHsm	MON0029	Report function is held		Yellow	Medium
DFSMSHsm	MON0030	Tape copy function is held		Yellow	Medium
DFSMSHsm	MON0031	Tape replace function is held		Yellow	Medium
DFSMSHsm	MON0032	Log data set is inhibited		Red	High
DFSMSHsm	MON0033	Journaling is inhibited		Red	High
DFSMSHsm	MON0034	Logging is inhibited		Red	High
DFSMSHsm	MON0035	PDA function is disabled		Yellow	High

Object Type	HMT Alert	Description	Threshold	Alert State	Priority
DFSMSHsm	MON0041	Free space below 16 MB less than threshold	1,048,576	Yellow	Medium
DFSMSHsm	MON0042	Largest space below 16 MB less than threshold	307,200	Yellow	Medium
DFSMSHsm	MON0043	Second largest space below 16 MB less than threshold	102,200	Yellow	Medium
DFSMSHsm	MON0044	Free space above 16 MB less than threshold	2,097,152	Yellow	Medium
DFSMSHsm	MON0045	Largest space above 16 MB less than threshold	307,200	Yellow	Medium
DFSMSHsm	MON0046	Second largest space above 16 MB less than threshold	102,400	Yellow	Medium
DFSMSHsm	MON0051	Recall MWEs greater than threshold	20	Yellow	Medium
DFSMSHsm	MON0052	Migrate MWEs greater than threshold	20	Yellow	Medium
DFSMSHsm	MON0053	Backup MWEs greater than threshold	20	Yellow	Medium
DFSMSHsm	MON0054	Operator MWEs greater than threshold	20	Yellow	Medium
DFSMSHsm	MON0055	General MWEs greater than threshold	20	Yellow	Medium
DFSMSHsm	MON0056	CSA MWEs greater than threshold	20	Yellow	Medium
DFSMSHsm	MON0057	Wait recall greater than threshold # 2	25	Red	High
DFSMSHsm	MON0058	Wait recall greater than threshold # 1	10	Yellow	Medium
DFSMSHsm	MON0059	No wait recall greater than threshold # 2	50	Red	High
DFSMSHsm	MON0060	No wait recall greater than threshold # 1	15	Yellow	Medium
DFSMSHsm	MON0061	Users have more recalls than threshold	15	Yellow	Medium
DFSMSHsm	MON0062	Users have more deletes than threshold	15	Yellow	Medium
DFSMSHsm	MON0071	ML1 queue time is greater than threshold	15	Yellow	Medium
DFSMSHsm	MON0072	ML1 allocate time is greater than threshold	15	Yellow	Medium
DFSMSHsm	MON0073	ML1 process time is greater than threshold	15	Yellow	Medium
DFSMSHsm	MON0074	ML2 queue time is greater than threshold	15	Yellow	Medium
DFSMSHsm	MON0075	ML2 allocate time is greater than threshold	15	Yellow	Medium

Object Type	HMT Alert	Description	Threshold	Alert State	Priority
DFSMSHsm	MON0076	ML2 process time is greater than threshold	15	Yellow	Medium
DFSMSHsm CDS	MON0081	MCDS size exceeds high threshold	95	Red	High
DFSMSHsm CDS	MON0082	MCDS size exceeds mid threshold	90	Yellow	Medium
DFSMSHsm CDS	MON0083	MCDS size exceeds low threshold	80	Yellow	Low
DFSMSHsm CDS	MON0084	BCDS size exceeds high threshold	95	Red	High
DFSMSHsm CDS	MON0085	BCDS size exceeds mid threshold	90	Yellow	Medium
DFSMSHsm CDS	MON0086	BCDS size exceeds low threshold	80	Yellow	Low
DFSMSHsm CDS	MON0087	OCDS size exceeds high threshold	95	Red	High
DFSMSHsm CDS	MON0088	OCDS size exceeds mid threshold	90	Yellow	Medium
DFSMSHsm CDS	MON0089	OCDS size exceeds low threshold	80	Yellow	Low
DFSMSHsm	MON0090	Journal size exceeds high threshold	95	Red	High
DFSMSHsm	MON0091	Journal size exceeds mid threshold	90	Yellow	Medium
DFSMSHsm	MON0092	Journal size exceeds low threshold	80	Yellow	Low

Object Type	HMT Alert	Description	Alert State	Priority
DFSMSHsm Migration	MON0121	PSM Volumes > 25%, volumes < 10% done	Yellow	Medium
DFSMSHsm Migration	MON0122	PSM Volumes > 25%, volumes < 20% done	Yellow	Medium
DFSMSHsm Migration	MON0123	PSM Volumes > 25%, volumes < 25% done	Yellow	Medium
DFSMSHsm Migration	MON0124	PSM Volumes > 50%, volumes < 30% done	Yellow	Medium
DFSMSHsm Migration	MON0125	PSM Volumes > 25%, volumes < 40% done	Yellow	Medium
DFSMSHsm Migration	MON0126	PSM Volumes > 50%, volumes < 50% done	Yellow	Medium
DFSMSHsm Migration	MON0127	PSM Volumes > 75%, volumes < 50% done	Yellow	Medium
DFSMSHsm Migration	MON0128	PSM Volumes > 75%, volumes < 60% done	Yellow	Medium
DFSMSHsm Migration	MON0129	PSM Volumes > 75%, volumes < 75% done	Yellow	Medium

Object Type	HMT Alert	Description	Alert State	Priority
DFSMSHsm Migration	MON0130	PSM volume time > volume process time threshold 1	Yellow	Medium
DFSMSHsm Migration	MON0131	PSM volume time > volume process time threshold 2	Yellow	Medium
DFSMSHsm Migration	MON0135	PSM data set time > data set process time threshold 1	Yellow	Medium
DFSMSHsm Migration	MON0136	PSM volume time > volume process time threshold 2	Yellow	Medium
DFSMSHsm Migration	MON0235	SSM volume time > volume process time threshold 1	Yellow	Medium
DFSMSHsm Migration	MON0236	SSM volume time > volume process time threshold 2	Yellow	Medium
DFSMSHsm Migration	MON0330	SSM data set time > data set process time threshold 1	Yellow	Medium
DFSMSHsm Migration	MON0331	SSM data set time > data set process time threshold 2	Yellow	Medium
DFSMSHsm Migration	MON0421	AB window > 25%, volumes < 10% done	Yellow	Medium
DFSMSHsm Migration	MON0422	AB window > 25%, volumes < 20% done	Yellow	Medium
DFSMSHsm Migration	MON0423	AB window > 25%, volumes < 25% done	Yellow	Medium
DFSMSHsm Migration	MON0424	AB window > 50%, volumes < 30% done	Yellow	Medium
DFSMSHsm Migration	MON0425	AB window > 50%, volumes < 40% done	Yellow	Medium
DFSMSHsm Migration	MON0426	AB window > 50%, volumes < 50% done	Yellow	Medium
DFSMSHsm Migration	MON0427	AB window > 75%, volumes < 50% done	Yellow	Medium
DFSMSHsm Migration	MON0428	AB window > 75%, volumes < 60% done	Yellow	Medium
DFSMSHsm Migration	MON0429	AB window > 75%, volumes < 75% done	Yellow	Medium
DFSMSHsm Migration	MON0430	AB volume time > volume process time threshold 1	Yellow	Medium
DFSMSHsm Migration	MON0431	AB volume time > volume process time threshold 2	Yellow	Medium
DFSMSHsm Migration	MON0435	AB data set time > data set process time threshold 1	Yellow	Medium
DFSMSHsm Migration	MON0436	AB data set time > data set process time threshold 2	Yellow	Medium
DFSMSHsm Migration	MON0521	AD window > 25%, volumes < 10% done	Yellow	Medium
DFSMSHsm Migration	MON0522	AD window > 25%, volumes < 20% done	Yellow	Medium

Object Type	HMT Alert	Description	Alert State	Priority
DFSMSHsm Migration	MON0523	AD window > 25%, volumes < 25% done	Yellow	Medium
DFSMSHsm Migration	MON0524	AD window > 50%, volumes < 30% done	Yellow	Medium
DFSMSHsm Migration	MON0525	AD window > 50%, volumes < 40% done	Yellow	Medium
DFSMSHsm Migration	MON0526	AD window > 50%, volumes < 50% done	Yellow	Medium
DFSMSHsm Migration	MON0527	AD window > 75%, volumes < 50% done	Yellow	Medium
DFSMSHsm Migration	MON0528	AD window > 75%, volumes < 60% done	Yellow	Medium
DFSMSHsm Migration	MON0529	AD window > 75%, volumes < 75% done	Yellow	Medium
DFSMSHsm Migration	MON0530	AD volume time > 75%, volume process time threshold 1	Yellow	Medium
DFSMSHsm Migration	MON0531	AD volume time > 75%, volume process time threshold 2	Yellow	Medium



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