Hierarchical Storage Management for OpenVMS

Command Reference Guide

Order Number: AA-R8EXB-TE

This manual contains the command reference information for HSM and Media and Device Management Services (MDMS).

Required Operating System   OpenVMS V6.2 or higher

Required Software   Storage Library System for OpenVMS V2.9B or higher, **or** Media and Device Management Services for OpenVMS V2.9B or higher

DECnet (Phase IV) or DECnet-Plus (PHASE V)

TCP/IP Services for OpenVMS

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Software Version: HSM V3.0

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Contents

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2   MDMS DCL Commands

A   MDMS Files and Logical Names

B   MDMS V3.0 Rights and Privileges

Preface

Document Structure

This document is organized in the following manner and includes the following information:

Part I   HSM Commands
Part II   MDMS Commands

Related Documents

The following documents are related to this documentation set or are mentioned in this manual.
The lower case x in the part number indicates a variable revision letter.

Document	Order No.
HSM for OpenVMS Installation Guide	*AA-QUJ1x-TE*
HSM for OpenVMS Guide to Operations	*AA-PWQ3x-TE*
HSM for OpenVMS Command Reference Guide	*AA-R8EXx-TE*
HSM for OpenVMS Software Product Description	*AE-PWNTx-TE*
HSM Hard Copy Documentation Kit *(consists of the above HSM documents and a cover letter)*	*QA-0NXAA-GZ*
OpenVMS System Management Utilities Reference Manual: A-L	*AA-PV5Px-TK*
OpenVMS DCL Dictionary: A-M	*AA-PV5Kx-TK*
OpenVMS DCL Dictionary: N-Z	*AA-PV5Lx-TK*
OpenVMS License Management Utility Manual	*AA-PVXUx-TK*
OpenVMS User's Manual	*AA-PV5Jx-TK*

Related Products

The following related products are mentioned in this document:

Product	Description
ABS	Refers to Archive/Backup System for OpenVMS™ software.
ABS OMT	Refers to Archive/Backup System for OpenVMS Management Tools™ software.
HSM	Refers to HSM for OpenVMS™ software.
MDMS	Refers to Media and Device Management Services for OpenVMS™ software.

OpenVMS	Refers to the OpenVMS operating system
SMF	Refers to Sequential Media File System for OpenVMS software
SLS	Refers to Storage Library System for OpenVMS software

Conventions

The following conventions are used in this guide:

Convention	Description
{ }	In the command description format, braces indicate required elements. You must include one of the elements.
[ ]	Square brackets show optional elements in command syntax. You can omit these elements if you wish to use the default response.
...	Horizontal ellipsis indicate the omission of information from a sentence or paragraph that is not important to the topic being discussed.
. . .	Vertical ellipsis indicate the omission of information from an example or command format. The information has been omitted because it is not important to the topic being discussed.
boldface type	Boldface type in text indicates the first instance of that term in the text or in the Glossary.
italic type	Italic type emphasizes important information and indicates: variables, complete titles of manuals and parameters for system information.
`Starting test . . .`	This type font denotes system response to commands, user input, command and other code examples.
Ctrl/x	Indicates that the key labeled Ctrl (Control) and the specified key (such as Ctrl/Z) must be held down simultaneously.
PF1 x	PF1 x indicates that you press and release the PF1 key, and then you press and release another key (indicated here by x)
n (lowercase italic n)	Indicates the generic use of a number. For example, 19nn indicates a four-digit number in which the last two digits are unknown.
x (lowercase italic x)	Indicates the generic use of a letter. For example, xxx indicates any combination of three alphabetic characters.

Determining and Reporting Problems

If you encounter a problem while using HSM, report it to Compaq through your usual support channels.

Review the Software Product Description (SPD) and Warranty Addendum for an explanation of the warranty. If you encounter a problem during the warranty period, report the problem as indicated or follow alternate instructions provided by Compaq for reporting SPD nonconformance problems.

Part I

HSM Commands

This part contains information about the HSM SMU Commands.

1

The HSM Command Environment

This chapter describes the commands for the HSM for OpenVMS software.
This chapter contains the following sections:

- Digital command language (DCL) commands

- The shelf management utility (SMU) commands

In each section, the commands are listed in alphabetical order. Table 1–1 and Table 1–2 contain summaries of the DCL and SMU commands respectively.

Table 1–1 Summary of DCL Commands

Command	Purpose
DIRECTORY	Selects files based on shelving attributes and displays the shelved state of files.
HSM$BACKUP	Backs up headers of HSM files.
PRESHELVE	Copies a file's data from online storage to the shelf or online cache. The file data remains online and accessible to users.
SET FILE	Sets the file to be (pre)shelvable or not using the /[NO]SHELVABLE qualifier. Files set /NOSHELVABLE cannot be shelved or preshelved.
SET PROCESS	Used with the /[NO]AUTO_UNSHELVE qualifier to enable or disable automatic unshelve operations on access to shelved files.
SHELVE	Copies a file's data from online storage to the shelf or online cache, and deletes the online file data. Once shelved, the file must be unshelved prior to any user access. However, its header can be read and modified as needed.
UNPRESHELVE	Converts a formerly shelved or preshelved file to an online file and optionally deletes the cache file and removes the file's HSM catalog entry according to the following criteria set on cache. **In case of a Delete operation on a presheved file(entry):** **If /HOLD is set:** and /SAVETIME is used: The entry is not deleted and /NOSAVE is used: The entry is not deleted. **If /NOHOLD is set:** and /SAVETIME is used: The entry is deleted and /NOSAVE is used: The entry is deleted .
UNSHELVE	Restores a file's data from the shelf to online disk storage. The file acquires all characteristics defined by its current online header.

Table 1–2 Summary of SMU Commands

Command	Purpose
ANALYZE	Compares the online file metadata for shelved files on the specified volume(s) with information in the catalog, and optionally repairs the catalog to reflect the online information.
CHECKPOINT	Dismounts the current shelving tape volume associated with a specified archive class and directs subsequent shelving operations to the next volume in the archive class. The dismounted tapes may then be removed to a remote location for safer storage.
COPY	Copies files, including shelved files, from one location to another without unshelving the files, and updates the HSM catalog to reflect the new location.
EXIT	Exits the SMU utility. QUIT and Ctrl /Z also can be used to exit.
HELP	Displays information on SMU commands and qualifiers.
LOCATE	Searches the HSM catalog to locate shelved file data, which can be manually recovered using OpenVMS BACKUP.
RANK	Displays an ordered list of files that would be shelved if the specified policy were to run on the specified volume.
REPACK	Copies valid shelved data from one shelf volume to another, while eliminating deleted or obsolete data.
SET ARCHIVE	Defines an archive class. For HSM Plus mode, must identify a media type and density defined in TAPESTART.COM. For HSM Basic mode, can be used in special situations to modify the volume label for the shelving tape volume associated with an archive class.
SET CACHE	Specifies a shelf cache disk or magneto-optical device that can be used by HSM.
SET DEVICE	Defines a nearline or offline tape device, magazine loader, or large tape juke-box for use by HSM, and the archive classes supported by the device.
SET FACILITY	Provides VMScluster-wide control of HSM operations, defines eligible shelf servers, controls event logging, and changes the HSM mode from Basic to Plus.
SET POLICY	Defines preventative and reactive policies used for automatic shelving of files by HSM.
SET SCHEDULE	Schedules preventative policy execution for volumes on a periodic basis.
SET SHELF	Defines attributes of a shelf and associates archive classes with the shelf.
SET VOLUME	Defines permitted HSM operations on an online disk and associates the disk with a shelf and reactive policies.
SHOW ARCHIVE	Displays information about an archive class, its associated media type and shelving volume information.

Table 1-2 (Cont.)Summary of SMU Commands

Command	Purpose
SHOW CACHE	Displays information about an online cache-disk or magneto-optical device.
SHOW DEVICE	Displays information about a nearline or offline tape-device and its associated media type and archive classes.
SHOW FACILITY	Displays information about VMScluster-wide HSM operations, designated shelf servers, event logging, and the HSM mode (Basic or Plus).
SHOW POLICY	Displays the characteristics of preventative and reactive policies.
SHOW REQUESTS	Returns a count of the number of active HSM requests and optionally dumps request information to an activity log.
SHOW SCHEDULE	Displays information about a scheduled preventative policy and its associated online disk volume.
SHOW SHELF	Displays information about a shelf and its associated archive classes.
SHOW VERSION	Displays the version identifiers of four components of the HSM software.
SHOW VOLUME	Displays information about an online disk volume, and its associated shelf and reactive policies.
SHUTDOWN	Shuts down HSM and optionally terminates all pending shelving operations.
SPAWN	Creates a subprocess to execute DCL commands without exiting SMU.
STARTUP	Starts up HSM. This command is usually only executed during SYSTEM startup.

1.1 DCL Commands

This section lists the DCL commands that support file shelving. The PRESHELVE, SHELVE and UNSHELVE commands are part of the HSM for OpenVMS product.

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The DIRETORY, SET FILE and SET PROCESS commands are part of the OpenVMS system. As such only OpenVMS extensions that support shelving are described in this document. Description in this section includes both user and system administrator commands.

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DIRECTORY

The DIRECTORY command includes two additional qualifiers that select files based on shelving attributes and display the shelved state of files. These qualifiers are described here for reference.

***

_____Note_____

For a full description of the DIRECTORY command, refer the OpenVMS DCL Dictionary or online help.

***

Format

DIRECTORY [file_spec[,...]]

Parameters

[file_spec[,...]]
Specifies one or more files. To specify two or more files, separate them with commas. Wildcard characters are allowed.

Qualifiers

/SELECT=keyword
The /SELECT qualifier accepts the following additional keywords:

[NO]ONLINEThe ONLINE keyword selects files that are online or preshelved.
   The NOONLINE keyword selects files that are shelved.

[NO]SHELVABLEThe SHELVABLE keyword selects files that are shelvable.
   The NOSHELVABLE keyword selects files that are not
   shelvable, as set by the SET FILE /NOSHELVABLE command.

/SHELVED_STATE
Displays the state of the file as shelved or online. Preshelved files are displayed as online.

Example

The following example shows the DIRECTORY /SHELVED_STATE command:

```
$ DIRECTORY /SHELVED_STATE

DIRECTORY MYDISK:[SMITH]

MYFILE.TXT;2        Online
NOT_SHELVED.TXT;1   Online
SHELVED.TXT;1       Shelved
```

HSM$BACKUP

The HSM$BACKUP command is a special version of OpenVMS BACKUP that supports consolidated Backup with HSM.

—————————————————————————Note—————————————————————————

For a full description of the BACKUP command and qualifiers that can also be applied to HSM$BACKUP, refer the OpenVMS DCL Dictionary or online help.

———

—————————————————————————Warning—————————————————————————

HSM$BACKUP should not be made available to general users. It should be restricted to system managers performing regular system backups when using the consolidated backup with HSM paradigm. Normal OpenVMS BACKUP should be used for all other purposes.

———

HSM$BACKUP is enabled with the SET COMMAND as shown in the set of examples below.

Format

HSM$BACKUP *input_spec output_spec*

Parameters

input_spec
Specifies files to be backed up, or source saveset for a restore operation.

output_spec
Specifies destination output spec for files to be backed up, or destination location for files on a restore.

Qualifiers

/PRESHELVED (default)
/NOPRESHELVED

/NOPRESHELVED backs up only the headers of preshelved files. /PRESHELVED (default) backs up the data of preshelved files. This is applicable to IMAGE and file backup operations and not applicable to restore.

/SHELVED (default)
/NOSHELVED
/NOSHELVED backs up only the headers of shelved files. SHELVED (default) unshelves the file and backs up the data. Applicable to non-image backup operations; not applicable to restore.

Examples

The following example shows how to use HSM$BACKUP to perform image and incremental backups, which back up only the headers of shelved and preshelved files.

```
$ SET COMMAND SYS$SYSTEM:HSM$BACKUP.CLD
$ HSM$BACKUP/IMAGE/IGNORE=INTERLOCK/RECORD/LOG/NOPRESHELVED -
$ $1$DKA100: $1$MUA100:DKA100_AUG23_IMAGE.BCK/SAVESET
$ HSM$BACKUP/RECORD/SINCE=BACKUP/LOG/NOSHELVED/NOPRESHELVED -
$ $1$DKA100: $1$MUA100:DKA100_AUG24.BCK/SAVESET
```

HSM$BACKUP

The following example shows how to use HSM$BACKUP to copy shelved file data from one disk to a saveset on another using /IMAGE. The /INITIALIZE qualifier on the output disk is required.

```
$ MOUNT/FOREIGN $12$DKA400:
$ HSM$BACKUP/IMAGE/IGNORE=INTERLOCK/RECORD/NOPRESHELVED/LOG -
$ $1$DKA100: $12$DKA400:DKA100_AUG30_IMAGE.BCK/SAVESET/INITIALIZE
```

PRESHELVE

The PRESHELVE command copies file data from online storage to shelf storage or cache, but leaves the original file data online and accessible.

The PRESHELVE command requires READ and WRITE access to the file, or an appropriate file access privilege.

Format

PRESHELVE file_spec[,...]

Parameters

file_spec[,...]
Specifies one or more files to be preshelved. If two or more files are specified, separate them with commas. Wildcard characters are allowed.

Qualifiers

/BACKUP
Uses the backup date for selection criteria when using the /BEFORE and /SINCE qualifiers. If a file has no backup date, it is not selected for the operation.

/BEFORE[=time]
Selects only those files dated prior to the specified time. Specify the time as an absolute time, a delta time, or a combination time, or as one of the following keywords:

TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /BEFORE to indicate the time attribute to be used as the basis for selection: /BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

Time must be specified using the OpenVMS formats for absolute and delta times.

/BY_OWNER[=uic]
Selects only those files whose owner user identification code (UIC) matches the specified owner UIC. The default UIC is that of the current process. If not specified, all UICs are eligible.

/CANCEL
Cancels any outstanding command requests for the files.

/CONFIRM
/NOCONFIRM (Default)
Controls whether a question is asked before each PRESHELVE operation to confirm that the operation should be performed on that file. The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/CREATED
Uses the creation date for selection criteria when using the /BEFORE and /SINCE qualifiers.

/EXCLUDE=(file_spec[,...])

Excludes the specified files from the command operation. Wildcard characters are allowed in the file specification. However, you cannot use relative version numbers to exclude a specific version. If you provide only one file specification, you can omit the parentheses.

/EXPIRED

Uses the expiration date for selection criteria when using the /BEFORE and /SINCE qualifiers. The file expiration date is used in conjunction with the volume retention functionality.

When volume retention has been enabled for a volume, the expiration date is updated whenever a file is accessed (read or write). Each time a file is accessed, the current time is added to the minimum retention time. If the sum is greater than the current expiration date, a new expiration date is computed. Updating the expiration date depends on the settings of the retention time for the volume.

Refer the OpenVMS SET VOLUME/RETENTION command for further details.

If a file has no expiration date, it is not selected for the operation.

/KEEP[=number_of_versions]

Specifies that the latest n versions of the file are not processed. If /KEEP is specified without a *number of versions* value, then all versions of the file except the highest version are processed.

/LOG
/NOLOG (Default)

Specifies that a command acknowledgment is displayed. If the command is specified with the /WAIT qualifier or if the shelf handler can process the command immediately, the log output contains the final result of the operation. If the command is specified with the /NOWAIT quali-fier, a message indicating that the request is queued may be displayed on success for long-run-ning operations.

/MODIFIED (Default)

Uses the modification date for selection criteria when using the /BEFORE and /SINCE qualifi-ers.

/NOTIFY
/NONOTIFY (Default)

 Specifies whether a message is sent to the user upon completion of the command operation for each file in the request. The message is sent to all terminals on which the user is logged-in that have BROADCAST enabled.

/SELECT=(keyword[,...])

Allows selection of files according to size or shelved state. Choose one of the following key-words:

SIZE=MAXIMUM=n	Selects files that have fewer blocks than the value of n, which defaults to 1,073,741,823. Use with MINIMUM=n to specify a size range for files to be selected.
SIZE=MINIMUM=n	Selects files that have blocks equal to or greater than the value of n, which defaults to 0. Use with MAXIMUM=n to specify a size range for files to be selected.
NOONLINE	Selects only files that are shelved. Use this keyword to copy shelved file data to additional archive classes.
ONLINE (Default)	Selects only files that are online or preshelved. This is the default file selection.

(ONLINE, NOONLINE)Selects files regardless of their shelved state.

By default, file selection is not based on file size criteria.

/SINCE[=time]

Selects only those files dated after the specified time. Specify the time as an absolute time, a delta time, or a combination time, or as one of the following keywords:

- TODAY (default),

- TOMORROW, or

- YESTERDAY.

Specify one of the following qualifiers with /SINCE to indicate the time attribute to be used as the basis for selection:

/BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

Time must be specified using the OpenVMS formats for absolute and delta times.

/WAIT (Default)
/NOWAIT

Specifies whether to wait for the operation to complete. The default is /WAIT. Files moved to the cache typically take the same amount of time as a similar COPY command. Files shelved directly to nearline/offline storage may take anywhere from tens of seconds to tens of minutes. Multiple files take correspondingly longer.

Example

The following example shows the PRESHELVE/NOTIFY command:

```
$ PRESHELVE/NOTIFY JLRM_DATA.DAT
%HSM-S-PRESHELVED, file $1$DKA0:[BUTLER.DB_FILES]JLRM_DATA.DAT;1 preshelved
```

SET FILE

The SET FILE command includes an additional qualifier to control the eligibility of a file for shelving. This qualifier is described here for reference. For a full description of the SET FILE command, refer the OpenVMS DCL Dictionary or online help.

Format

SET FILE *file_spec[,...]*

Parameters

file_spec[,...]
Specifies one or more files to be modified. If two or more files are specified, separate them with commas. Wildcard characters are allowed.

Qualifiers

/SHELVABLE
/NOSHELVABLE
The /SHELVABLE qualifier sets the file named by file_spec to be shelvable. By default, all user files are shelvable. Use the /NOSHELVABLE qualifier to prevent the file from being shelved or preshelved.

Example

The following example shows the SET FILE /NOSHELVABLE command, which ensures that the file cannot be shelved or preshelved:

```
$ SET FILE /NOSHELVABLE AARDVARKS.TXT;3
```

SET PROCESS

The SET PROCESS command includes an additional qualifier that specifies the default action to be taken when a shelved file is accessed by the process. This qualifier is described here.

───────────────── **Note** ─────────────────

For a full description of the SET PROCESS command, refer the OpenVMS DCL Dictionary or online help.

Format

SET PROCESS *process-name[,...]*

Parameters

process-name[,...]
Specifies the name of the process that will have its characteristics changed. You must own the process or have GROUP privileges to use this command.

Qualifiers

/AUTO_UNSHELVE (default)
/NOAUTO_UNSHELVE
The /AUTO_UNSHELVE qualifier enables the process to generate a file fault upon read, write, extend or truncate access to a shelved file. The process stalls while the file is unshelved, then proceeds normally.
The /NOAUTO_UNSHELVE qualifier disables file faults: accessing a shelved file returns an error message instead. By default, all processes are started with /AUTO_UNSHELVE enabled.

Example

The following example shows the SET PROCESS /AUTO_UNSHELVE command:

```
$ SET PROCESS /AUTO_UNSHELVE SMITH_1
```

SHELVE

The SHELVE command copies file data from online storage to the shelf or the online cache, and deletes the online file data.
Once the file is shelved either to the cache or the shelf, the user cannot read, write, extend, or truncate the file without causing a file fault. However, the user retains access to the file header, and can enter commands such as DIRECTORY and SET FILE without causing a file fault. The user does not have direct access to either the cache or shelf version of the file.

The SHELVE command requires READ and WRITE access to the file, or an appropriate file access privilege.

Format

SHELVE file_spec[,...]

Parameters

file_spec[,...]
Specifies one or more files to be shelved. If two or more files are specified, separate them with commas. Wildcard characters are allowed.

Qualifiers

/BACKUP
Uses the backup date for selection criteria when using the /BEFORE and /SINCE qualifiers. If a file has no backup date, it is not selected for the operation.

/BEFORE[=time]
Selects only those files dated prior to the specified time. Specify the time as an absolute time, a delta time, or a combination time, or as one of the keywords: TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /BEFORE to indicate the time attribute to be used as the basis for selection: /BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

———————————————————**Note**———————————————————
Time must be specified using the OpenVMS formats for absolute and delta times.
——

/BY_OWNER[=uic]
Selects only those files whose owner user identification code (UIC) matches the specified owner UIC. The default UIC is that of the current process. If not specified, all UICs are eligible.

/CANCEL
Cancels any outstanding command requests for the files.

/CONFIRM
/NOCONFIRM (Default)
Controls whether a request is issued before each SHELVE operation to confirm that the operation should be performed on that file.

The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/CREATED
Uses the creation date for selection criteria when using the /BEFORE and /SINCE qualifiers.

/EXCLUDE=*(file_spec[,...])*
Excludes the specified files from the command operation. Wildcard characters are allowed in the file specification. However, you cannot use relative version numbers to exclude a specific version. If you provide only one file specification, you can omit the parentheses.

/EXPIRED
Uses the expiration date for selection criteria when using the /BEFORE and /SINCE qualifiers. The file expiration date is used in conjunction with the volume retention functionality.
When volume retention has been enabled for a volume, the expiration date is updated whenever a file is accessed (read or write).
Each time a file is accessed, the current time is added to the minimum retention time. If the sum is greater than the current expiration date, a new expiration date is computed. Updating the expiration date depends on the settings of the retention times for the volume. Refer the OpenVMS SET VOLUME/RETENTION command for further details.
If a file has no expiration date, it is not selected for the operation.

/HIGH_PRIORITY
Specifies a request priority as HIGH. HSM pushes the request to the top of the queue of requests at that time. In case of multiple /HIGH requests, each request is moved to the top of the queue and execution starts with the latest /HIGH request. This prioritizing of requests does not affect urgent requests like:

• file faults

• make space requests

/KEEP*[=number_of_versions]*
Specifies that the latest n versions of the file are not processed. If /KEEP is specified without a number of versions value, then all versions of the file except the highest version are processed.

/LOG
/NOLOG (Default)
Specifies that a command acknowledgment is displayed. If the command is specified with the /WAIT qualifier or if the shelf handler can process the command immediately, the log output contains the final result of the operation. If the command is specified with the /NOWAIT qualifier, a message indicating that the request is queued may be displayed on success for long-running operations.

/MODIFIED (Default)
Uses the modification date for selection criteria when using the /BEFORE and /SINCE qualifiers.

/NOTIFY
/NONOTIFY (Default)
Specifies whether a message is sent to the user upon completion of the command operation for each file in the request. The message is sent to all terminals on which the user is logged-in that have BROADCAST enabled.

SHELVE

/SELECT=*(keyword[,...])*

Allows selection of files according to size or shelved state. Choose one of the following keywords:

SIZE=MAXIMUM=n	Selects files that have fewer blocks than the value of n, which defaults to 1,073,741,823. Use with MINIMUM=n to specify a size range for files to be selected.
SIZE=MINIMUM=n	Selects files that have blocks equal to or greater than the value of n, which defaults to 0. Use with MAXIMUM=n to specify a size range for files to be selected.
NOONLINE	Selects only files that are shelved. Use this keyword to copy shelved file data to additional archive classes.
ONLINE (Default)	Selects only files that are online or preshelved. This is the default file selection.
(ONLINE, NOONLINE)	Selects files regardless of their shelved state.

By default, file selection is not based on file size criteria.

/SINCE[=time]

Selects only those files dated after the specified time.

Specify the time as an absolute time, a delta time, or a combination time, or as one of the keywords: TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /SINCE to indicate the time attribute to be used as the basis for selection: /BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

Time must be specified using the OpenVMS formats for absolute and delta times.

/WAIT (Default)
/NOWAIT

Specifies whether to wait for the operation to complete. The default is /WAIT. Files moved to the cache typically take the same amount of time as a similar COPY command. Files shelved directly to nearline/offline storage may take anywhere from tens of seconds to tens of minutes. Multiple files take correspondingly longer.

Example

The following example shows the SHELVE/NOTIFY command:

```
$ SHELVE/NOTIFY JLRM_DATA.DAT
%HSM-S-SHELVED, file $1$DKA0:[BUTLER.DB_FILES]JLRM_DATA.DAT;1 shelved
```

UNPRESHELVE

Converts a formerly shelved or preshelved file to an online file and optionally deletes the cache file and removes the file's HSM cache catalog entry if /NOHOLD is set on the cache.
If the file is subsequently preshelved or shelved, a new copy is made to the HSM subsystem.
The UNPRESHELVE command can be issued on preshelved files only; shelved files cannot be explicitly unpreshelved unless an unshelve is performed first.

This function is automatically invoked if a preshelved file is modified, invalidating its HSM copy of the data.

The UNPRESHELVE command requires READ and WRITE access to the file, or an appropriate file access privilege.

Format

UNPRESHELVE *file_spec[,...]*

Parameters

file_spec[,...]
Specifies one or more files to be unshelved. If two or more files are specified, separate them with commas. Wildcard characters are allowed.

Qualifiers

/BACKUP
Uses the backup date for selection criteria when using the /BEFORE and /SINCE qualifiers.
If a file has no backup date, it is not selected for the operation.

/BEFORE[=time]
Selects only those files dated prior to the specified time. Specify the time as an absolute time, a delta time, or a combination time, or as one of the keywords: TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /BEFORE to indicate the time attribute to be used as the basis for selection: /BACKUP, /CREATED, /EXPIRED, or /MODIFIED.
Time must be specified using the OpenVMS formats for absolute and delta times.

/BY_OWNER[=uic]
Selects only those files whose owner user identification code (UIC) matches the specified owner UIC. The default UIC is that of the current process. If not specified, all UICs are eligible.

/CANCEL
Cancels any outstanding command requests for the files.

/CONFIRM
/NOCONFIRM (Default)
Controls whether a request is issued before each UNSHELVE operation to confirm that the operation should be performed on that file.

The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1 0	ALL	

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/CREATED
Uses the creation date for selection criteria when using the /BEFORE and /SINCE qualifiers.

/EXCLUDE=(file_spec[,...])
Excludes the specified files from the command operation. Wildcard characters are allowed in the file specification. However, you cannot use relative version numbers to exclude a specific version. If you provide only one file specification, you can omit the parentheses.

/EXPIRED
Uses the expiration date for selection criteria when using the /BEFORE and /SINCE qualifiers. The file expiration date is used in conjunction with the volume retention functionality. When volume retention has been enabled for a volume, the expiration date is updated whenever a file is accessed (read or write). Each time a file is accessed, the current time is added to the minimum retention time. If the sum is greater than the current expiration date, a new expiration date is computed. Updating the expiration date depends on the settings of the retention times for the volume. Refer the OpenVMS SET VOLUME/RETENTION command for further details.

If a file has no expiration date, it is not selected for the operation.

/LOG
/NOLOG (Default)
Specifies that a command acknowledgment is displayed. If the command is specified with the /WAIT qualifier or if the shelf handler can process the command immediately, the log output contains the final result of the operation. If the command is specified with the /NOWAIT qualifier, a message indicating that the request is queued may be displayed on success for long-running operations.

/MODIFIED (Default)
Uses the modification date for selection criteria when using the /BEFORE and /SINCE qualifiers.

/NOTIFY
/NONOTIFY (Default)
Specifies whether a message is sent to the user upon completion of the command operation for each file in the request. The message is sent to all terminals on which the user is logged-in that have BROADCAST enabled.

/SELECT=keyword[,...]
Allows selection of files according to size or shelved state. Choose one of the following keywords:

SIZE=MAXIMUM=n   Selects files that have fewer blocks than the value of n, which defaults to 1,073,741,823. Use with MINIMUM=n to specify a range for files to be selected.

SIZE=MINIMUM=n   Selects files that have blocks equal to or greater than the value of n, which defaults to 0. Use with MAXIMUM=n to specify a size range for files to be selected.

By default, file selection is not based on file size criteria.

/SINCE[=time]

Selects only those files dated after the specified time. Specify the time as an absolute time, a delta time, or a combination time, or as one of the following keywords: TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /SINCE to indicate the time attribute to be used as the basis for selection: /BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

Time must be specified using the OpenVMS formats for absolute and delta times.

/WAIT (Default)
/NOWAIT

Specifies whether to wait for the operation to complete. The default is /WAIT. Files moved from the cache typically take the same amount of time as a similar COPY command. Files unshelved from nearline/offline storage may take anywhere from tens of seconds to tens of minutes. Multiple files take correspondingly longer.

Example

The following example shows the UNPRESHELVE/NOTIFY command:

```
$ UNPRESHELVE/NOTIFY JLRM_DATA.DAT
%HSM-S-UNPRESHELVED, file $1$DKA0:[BUTLER.DB_FILES]JLRM_DATA.DAT;1
unpreshelved
```

UNSHELVE

Restores a file's data from the shelf to the online disk and makes the file accessible to user operations.

Modifications to the file header may take place between the shelve and unshelve operations. If this occurs, the current (potentially modified) online file header is in effect when the file is unshelved. If, for example, the access protection is changed, the same user that shelved the file may not be able to unshelve it.

Once a file is unshelved, the user may read, write, extend, or truncate the file as usual.

After a file is unshelved, it is left in the preshelved state. If a subsequent request to shelve the file is received and the file has not been modified since the unshelve operation, it is reshelved without data movement.

The UNSHELVE command requires READ and WRITE access to the file, or an appropriate file access privilege.

Format

UNSHELVE file_spec[,...]

Parameters

file_spec[,...]
Specifies one or more files to be unshelved. If two or more files are specified, separate them with commas. Wildcard characters are allowed.

Qualifiers

/BACKUP
Uses the backup date for selection criteria when using the /BEFORE and /SINCE qualifiers. If a file has no backup date, it is not selected for the operation.

/BEFORE[=time]
Selects only those files dated prior to the specified time. Specify the time as an absolute time, a delta time, or a combination time, or as one of the keywords: TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /BEFORE to indicate the time attribute to be used as the basis for selection: /BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

Time must be specified using the OpenVMS formats for absolute and delta times.

/BY_OWNER[=uic]
Selects only those files whose owner user identification code (UIC) matches the specified owner UIC. The default UIC is that of the current process. If not specified, all UICs are eligible.

/CANCEL
Cancels any outstanding command requests for the files.

/CONFIRM
/NOCONFIRM (Default)
Controls whether a request is issued before each UNSHELVE operation to confirm that the operation should be performed on that file.

The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/CREATED
Uses the creation date for selection criteria when using the /BEFORE and /SINCE qualifiers.

/EXCLUDE=(file_spec[,...])
Excludes the specified files from the command operation. Wildcard characters are allowed in the file specification. However, you cannot use relative version numbers to exclude a specific version. If you provide only one file specification, you can omit the parentheses.

/EXPIRED
Uses the expiration date for selection criteria when using the /BEFORE and /SINCE qualifiers. The file expiration date is used in conjunction with the volume retention functionality. When volume retention has been enabled for a volume, the expiration date is updated whenever a file is accessed (read or write). Each time a file is accessed, the current time is added to the minimum retention time. If the sum is greater than the current expiration date, a new expiration date is computed. Updating the expiration date depends on the settings of the retention times for the volume. Refer the OpenVMS SET VOLUME/RETENTION command for further details.

If a file has no expiration date, it is not selected for the operation.

/LOG
/NOLOG (Default)
Specifies that a command acknowledgment is displayed. If the command is specified with the /WAIT qualifier or if the shelf handler can process the command immediately, the log output contains the final result of the operation. If the command is specified with the /NOWAIT qualifier, a message indicating that the request is queued may be displayed on success for long-running operations.

/MODIFIED (Default)
Uses the modification date for selection criteria when using the /BEFORE and /SINCE qualifiers.

/NOTIFY
/NONOTIFY (Default)
Specifies whether a message is sent to the user upon completion of the command operation for each file in the request. The message is sent to all terminals on which the user is logged-in that have BROADCAST enabled.

/OVERRIDE
Overrides the consistency checking performed by HSM and forces the file(s) to be unshelved. This qualifier requires BYPASS privilege on files with inconsistent HSM metadata.

Following an UNSHELVE/OVERRIDE, the file's data should be carefully checked for accuracy, because HSM detected an inconsistency between the online file state and the contents of the HSM catalog, and the file data may not be correct.

/SELECT=keyword[,...]
Allows selection of files according to size or shelved state. Choose one of the following keywords:

SIZE=MAXIMUM=n   Selects files that have fewer blocks than the value of n, which defaults to 1,073,741,823. Use with MINIMUM=n to specify a size range for files to be selected.

SIZE=MINIMUM=n   Selects files that have blocks equal to or greater than the value of n, which defaults to 0. Use with MAXIMUM=n to specify a size range for files to be selected.

By default, file selection is not based on file size criteria.

/SINCE[=time]
Selects only those files dated after the specified time. Specify the time as an absolute time, a delta time, or a combination time, or as one of the following keywords: TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /SINCE to indicate the time attribute to be used as the basis for selection: /BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

Time must be specified using the OpenVMS formats for absolute and delta times.

/WAIT (Default)
/NOWAIT
Specifies whether to wait for the operation to complete. The default is /WAIT. Files moved from the cache typically take the same amount of time as a similar COPY command. Files unshelved from nearline/offline storage may take anywhere from tens of seconds to tens of minutes. Multiple files take correspondingly longer.

Example

The following example shows the UNSHELVE/NOTIFY command:

```
$ UNSHELVE/NOTIFY JLRM_DATA.DAT
%HSM-S-UNSHELVED, file $1$DKA0:[BUTLER.DB_FILES]JLRM_DATA.DAT;1 unshelved
```

1.2 The Shelf Management Utility

The Shelf Management Utility (SMU) is the component of HSM that gives you control over shelving operations. SMU supports SET and SHOW operations for the following managed entities:

•   Archive

•   Cache

•   Device

•   Facility

•   Policy

•   Schedule

•   Shelf

•   Volume

SMU provides additional commands to control and monitor the HSM environment.

Online help is available for all SMU commands.

1.3 Shelf Management Utility Commands

SMU commands may be entered directly on the DCL command line using the SMU keyword. Alternatively, a set of commands may be entered from an SMU prompt after entering SMU on the command line.

Use of SMU commands requires SYSPRV, TMPMBX, and SYSLCK privileges for all commands. Additional privileges required for specific commands are noted under that command description.

SMU ANALYZE

The SMU ANALYZE command compares the online file metadata for shelved and preshelved files on the specified volume(s) with the information in the catalog, and optionally repairs the catalog to reflect the online information. When a file is found that is of interest, it's HSM metadata (ACE information) is compared against entries in the catalog and any discrepancies are reported. If the /REPAIR qualifier is used, the discrepancy can be repaired. If /CONFIRM is not used, then the default repair action will be applied.

Format

SMU ANALYZE *volume_name[,...]*

Parameters

volume_name[,...]
This specifies the volume name of an online disk volume. Wildcards are not allowed, but logical names are supported. The volume can be a member of a volume set. If it is, all volumes in the set will be analyzed.

Qualifiers

/CACHE={CACHE_DEVICE_LIST}
The /CACHE qualifier specifies that the SMU ANALYZE operation should run only on those files of the specified input volume that were cached to the device specified in /CACHE. Different cache devices can be used at different points of time for a given volume.
For Analyze to run, files that have been cached to devices in the volume set list specified with the /CACHEqualifier, should be present in the device specified as the volume list.
/CACHE supports a comma separated volumeset list. A single volume is treated as a volumeset with one volume.

/CONFIRM
/NOCONFIRM (Default)
When the /REPAIR option is given, /CONFIRM prompts the user to allow repair of each file. A default of "YES" or "NO" is provided for each confirmation, and this varies on the type of repair. The user can confirm each operation with (YES, 1, TRUE) to proceed for the specific repair, (NO, 0, FALSE) to inhibit the specific repair, (ALL) to proceed with the repair and subsequent repairs with the default confirm answer, and (^Z, QUIT) to stop the analysis/repair.
/NOCONFIRM does not prompt the user on repair and applies repairs with a default confirmation answer of "YES", and does not apply repairs with a default confirmation of "NO". The default is /NOCONFIRM. The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Crtl/Z
1	0	ALL

/OUTPUT[=file_specification]
The /OUTPUT qualifier specifies where to write the output of the command.
The default is /OUTPUT=SYS$OUTPUT. The output can optionally be sent to a file.
If /REPAIR/CONFIRM is specified with /OUTPUT=file_spec, the output is also sent to SYS$OUTPUT in order for the system manager perform the confirmation.
/CONFIRM questions are not sent to the output file, but always to SYS$OUTPUT.

By default, the output is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

/REPAIR
/NOREPAIR (Default)

The /REPAIR qualifier repairs the catalog entries and/or HSM metadata for consistency. Repairs are applied when the user specifies "YES" to a repair confirm question, or according to the default confirm answer when /NOCONFIRM or /CONFIRM answer "ALL" is entered. /NORE-PAIR simply scans the files and reports errors, but no updates are made. The default is /NORE-PAIR.

Examples

This example analyses volume 1DKB500 with no repair:

```
$ SMU ANALYZE $1$DKB500:
```

This example analyses volume 1DKB500 and applies the default repair. Note that this means that some errors are not repaired.

```
$ SMU ANALYZE/REPAIR $1$DKB500:
```

This example analyses volume 1DKB500 and prompts the user for each repair. The default repair can be applied by entering <return> to each prompt. This is the only way that non-default repairs can be applied.

```
$ SMU ANALYZE/REPAIR/CONFIRM $1$DKB500:
```

The following examples demonstrate the use of /cache qualifier with SMU ANALYZE.

```
$ SMU ANALYZE  dkb200,dka0 /cache=(dka100,dkb300)


$ smu show cache
Cache device _$1$DUA15: is enabled, Cache flush is held until after
    11-JUN-1999 16:30:52.70, Backup is performed at flush intervals,
    Cached files are held on delete of online file
    Block size:        50000
    Highwater mark:    80%
    Flush interval:    <none>
 Cache device _$1$DUA17: is enabled, Cache flush is held until after
    11-JUN-1999 16:28:28.64, Backup is performed at flush intervals,
    Cached files are held on delete of online file
    Block size:        50000
    Highwater mark:    80%
    Flush interval:    <none>
$ shelve Y.Y;1
$ smu locate y.y;1/full
$1$DUA15:[000000]

Y.Y;1  (21,2,0)
File Shelved:
Y.Y;1  5/0  4-MAY-1999 19:23:50.19
Cache copy: _$1$DUA17:
Y.Y$9291950631;1  5/8 4-MAY-1999 19:23:50.19
Shelved on 12-JUN-1999 13:44:28.83
```

In the above example the file y.y;1 is cached in 1dua17:

In the following example SMU ANALYZE without /CACHE is used if the header information for this file is corrupted.

```
$ smu analyze $1$dua15
%SMU-I-PROCESSING, processing input device $1$DUA15
%SMU-I-STARTSCAN, scanning for shelved files on disk volume _$1$DUA15:
File (19,2,0) "$1$DUA15:[000000]Z.Z;16"
No catalog entry found - file not repairable
File (21,2,0) "$1$DUA15:[000000]Y.Y;1"
Allocation size mismatch - entry not repairable
Current:  0
Catalog:  8
%SMU-I-ENDSCAN, completed scan for shelved files on disk volume _$1$DUA15:
%SMU-I-ERRORS, 2 error(s) detected, 0 error(s) repaired
$ smu analyze $1$dua15/cache=$1$dua15
%SMU-I-PROCESSING, processing input device $1$DUA15
%SMU-I-STARTSCAN, scanning for shelved files on disk volume _$1$DUA15:
 No catalog entry for Cached file...$1$DUA15:[000000]Z.Z;16
%SMU-I-ENDSCAN, completed scan for shelved files on disk volume _$1$DUA15:
%SMU-I-ERRORS, 0 error(s) detected, 0 error(s) repaired
```

Also note that in the above case y.y;1 is not analyzed since it is not cached in 1dua15:

```
$ smu analyze $1$dua15/cache=($1$dua15,$1$dua17)
SMU-I-PROCESSING, processing input device $1$DUA15
%SMU-I-STARTSCAN, scanning for shelved files on disk volume _$1$DUA15:
No catalog entry ...$1$DUA15:[000000]Z.Z;16
File  $1$DUA15:[000000]Y.Y;1  is cached in _$1$DUA17: will be analyzed
File (21,2,0) "$1$DUA15:[000000]Y.Y;1"
Allocation size mismatch - entry not repairable
    Current:  0
    Catalog:  8
%SMU-I-ENDSCAN, completed scan for shelved files on disk volume _$1$DUA15:
%SMU-I-ERRORS, 1 error(s) detected, 0 error(s) repaired
```

In the above example y.y;1 is analyzed since it is present in one of the cache devices specified in the list.

SMU CHECKPOINT

The SMU CHECKPOINT command allows system managers to use the next tape volume for subsequent shelving operations in an archive class, so that the current volume can be stored, possibly in a remote location. Invoking this command executes a DISMOUNT/UNLOAD command on a tape device if the device contains the current shelving volume. The checkpoint operation can be confirmed using an SMU SHOW ARCHIVE command.

Format

SMU CHECKPOINT *archive_id[,...]*

Parameters

archive_id[,...]
A comma-separated list of the identifiers of the archive classes.

Restrictions

The SMU CHECKPOINT command should not be entered during a repack operation, since the repack is controlling the archive class shelving volume. An attempt to do so results in an error on the checkpoint.

Examples

The following example shows the SMU CHECKPOINT command used for HSM Basic mode. Assuming that the current shelving volume label is HS1005 for archive class 2, the command directs future (pre)shelve operations to volume HS1006, and dismounts and unloads the volume HS1005 from any device on which it is loaded.

```
$ SMU SHOW ARCHIVE 2

HSM$ARCHIVE02 has been used
Identifier:     2
Media type:     CompacTape III
Label:          HS1005
Position:       1293
Device refs:    1
Shelf refs:     2

$ SMU CHECKPOINT 2

$ SMU SHOW ARCHIVE 2

HSM$ARCHIVE02 has been used
Identifier:     2
Media type:     CompacTape III
Label:          HS1006
Position:       0
Device refs:    1
Shelf refs:     1
```

The following example shows the SMU CHECKPOINT command as used for HSM Plus mode.

```
$ SMU SHOW ARCHIVE 1

HSM$ARCHIVE01 has been used
Identifier:     1
Media type:     TZ87
```

SMU CHECKPOINT

```
                    Density:        <NONE>
                    Label:          PLS400
                    Position:       963
                    Device refs:    1
                    Shelf refs:     1
                    Current pool:   HSM-POOL
                    Enabled pools:  HSM-POOL


                    $ SMU CHECKPOINT 1

                    $ SMU SHOW ARCHIVE 1


                    HSM$ARCHIVE01 has been used
                    Identifier:     1
                    Media type:     TZ87
                    Density:        <NONE>
                    Label:          PLS500
                    Position:       0
                    Device refs:    1
                    Shelf refs:     1
                    Current pool:   HSM-POOL
                    Enabled pools:  HSM-POOL
```

SMU COPY

The SMU COPY command copies files, including shelved files, from one location to another without unshelving the files, and updates the appropriate HSM catalog to reflect the new location. The input files can be optionally deleted after a successful copy.

The SMU COPY command requires SYSPRV, TMPMBX, SYSLCK, and BYPASS privileges.

Format

SMU COPY source destination

Parameters

source
A full file specification (including disk and directory) of files to be copied.

- Wildcards are allowed

- A file list is not allowed

destination
A disk and directory optional specification for the output location of the files. The original file-names are preserved. If wildcards are used in the destination directory, the semantics of processing are the same as BACKUP, rather than OpenVMS COPY. In particular, if a whole disk is being copied, the output directory specification should be [*...] rather than [000000...].

Restrictions

- The source and destination devices must be difference devices. Attempts to SMU COPY files to the same device will fail. Use the DCL RENAME command to "copy" files on the same device without unshelving files.

- Nodenames are not allowed in the source or destination specifications.

- The source and destination devices must exist.

- You cannot specify a filename or extension in the destination specification, just the device and directory.

- If the catalog server is enabled on the facility, then the SMU COPY command must be entered from the shelf server node. Use the SMU SHOW FACILITY command to determine the current server node before entering SMU COPY.

Qualifiers

/DELETE
/NODELETE
Specifies whether the input file(s) should be deleted after the copy. If so, deleted shelved files are marked in the catalog for later delete.

/LOG
/NOLOG
Specifies if a log of each file copied is made to SYS$OUTPUT.

Examples

The following example shows how to perform a group move of files from one location to another while preserving shelved files across the move. The source files are deleted after the copy.

```
$ SMU COPY/DELETE DISK$USER1:[JONES...]*.*;* DISK$USER10:[JONES...]
```

The following example copies all files from one disk to another, and retains the original files.

```
$ SMU COPY $1$DKA100:[000000...]*.*;* $12$DKA400:[*...]
```

SMU EXIT

The SMU EXIT command exits the SMU utility. Alternatively, Ctrl/Z or the QUIT command can be used to exit.

Format

SMU EXIT

Example

The following example shows the SMU EXIT command:

```
SMU> EXIT
$
```

SMU HELP

The SMU HELP command displays information about an SMU command or topic. In response to the "Topic?" prompt, you can perform the following:

• Enter the name of the command or topic for which you need help.

• Enter HINTS if you are not sure of the name of the command or topic for which you need help.

• Enter a question mark (?) to redisplay the most recently requested text.

• Press the Return key one or more times to exit from Help.

You can abbreviate any topic name, although ambiguous abbreviations result in all matches being displayed. You also can enter HELP SMU from the DCL command line.

Format

SMU HELP

Example

The following example shows the SMU HELP command:

```
$ SMU HELP SHOW CACHE

SHOW

CACHE

    The SHOW CACHE subcommand displays the configuration associated with the
    cache on the specified volumes.

    Note:
    The SMU SHOW CACHE command requires SYSPRV privilege.

    Format

    SMU SHOW CACHE  [volume_name,...]

    Additional information available:

    Additional information available:

    Parameters Qualifiers
    /OUTPUT

SMU SHOW CACHE Subtopic?
```

SMU LOCATE

The SMU LOCATE command finds information on shelved files and can be used when the normal unshelve command does not work. Usually, the file to be located cannot be found due to one of the following reasons:

• disk crash

• deleted file

• corrupted file header

It summarizes the information at the end of the output as follows:

```
$ SMU LOCATE
.
.
.
Total of 16766 entries found
Total of 10522 files found
```

Entries refer to the catalog entries and files refer to the unique filenames. Hence there may be a difference in these numbers. A Single file can have multiple catalog entries.

SMU LOCATE accepts standard RMS file specification conventions. You can specify either Wildcard characters or, when known, the file identifier (FID). When specifying a FID, any file specification entered as a parameter is ignored.

When entering file specifications, these apply to the file at the time of shelving. If the file has been renamed since the time of shelving, the online filename will not match the name in the catalog, and will not be located. In these situations, you may wish to search by FID instead.

If you use this command and do not provide a file specification, it displays the entire contents of the catalog.

Format

SMU LOCATE [file_spec[,...]]

Parameters

[file_spec[,...]]

Specifies one or more files to locate. If two or more files are specified, separate them with commas. Wildcard characters are allowed.

The file specifications (including wildcards) apply to the file names as they are stored in the catalog at the time of shelving, which is not necessarily the same as the current online file name.

If you do not provide a file specification, the default *:[000000...]*.*;* is used. Any part of a file specification limits the Wildcard specification from *:[000000...]*.*;*. The concept of default device and directory do not apply.

Restrictions

• NODE specifications are ignored because this information is not stored in the HSM catalog.

• Version specifications for latest versions or related versions do not work. For example, [mydir]*.*; or [mydir]*.*;-1 do not work.

Qualifiers

/ARCHIVE=*archive_id[,...]*
Displays catalog entries of the specified archive_id(s).

/BRIEF (Default)
Displays the catalog file name and file identifier (FID) of the specified files.

/CACHE=*device_name[,...]*
Displays catalog entries of the specified device name(s).

/CATALOG=*file_spec[,...]*
Displays catalog entries of the specified catalog file name(s).

/DUMP
Displays all fields of the catalog entries.

/FID=*file_identifier*
Locates a file by file identifier instead of file specification. The /FID qualifier overrides any file specification on the command line. The specified FID may find a match on more than one file if the files are located on different devices.

/FULL
Displays a complete list of information about the specified file. Once the file is located, it can be restored manually using a BACKUP command.

/OUTPUT[=filespec]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

/VOLUME=volume_label [,...]
Displays catalog entries of the specified tape volume label(s).

Examples

The following example shows how to display the contents of the entire HSM catalog using the SMU LOCATE command:

```
$ SMU LOCATE

$1$DKA0:[000000]
CF5.DAT;1         (6542,14636,0)
CF6.DAT;1         (6542,14637,0)
FURROW.DAT;1      (5989,24877,0)
FOOL.DAT;1        (7293,49830,0)

$1$DKA0:[HSM]
LAURA.TXT;1       (6386,55397,0)

$1$DKA100:[BAILEY.CODE.EXE]
BIG.DAT;1         (503,99,0)
F10.DAT;1         (265,56,0)
F11.DAT;1         (267,76,0)
F12.DAT;1         (269,41,0)
F15.DAT;1         (276,72,0)

$1$DKA100:[SAMPLE]
X.C;1             (1435,38,0)

$1$DKA200:[BUCKLEY]
LOGIN.COM;1       (2316,1,0)
```

```
MYFILE.TXT;1      (18117,25594,0)
X.TXT;1           (18051,5,0)
X.X;1 (18116,25591,0)

$1$DKA200:[JENSEN.HSM.CLASS]
SHP_REQUEST.LIS;2  (18600,1,0)

$1$DKA200:[JENSEN.HSM]
X.X;4                      (18792,1,0)

$1$DKA200:[JENSEN]
TESTFILE.TXT;1            (12551,9,0)
X.X;3                    (18539,1,0)
X.X;7                    (18119,25600,0)

$1$DKA200:[WELLS.HSM.WORK]
LOGIN.COM;83             (5038,5,0)
LOGIN.COM;84             (13147,1,0)
UNSHELVE_FILE.TMP;1      (108,270,0)
UNSHELVE_FILE.TMP;1      (102,150,0)
UNSHELVE_FILE.TMP;2      (173,42,0)
UNSHELVE_FILE.TMP;3      (241,44,0)
```

The following example shows how use SMU LOCATE to locate and recover a deleted file from the shelf copy:

```
$ DIRECTORY SMU_SRC.MMS
%DIRECT-W-NOFILES, no files found

$ SMU LOCATE SMU_SRC.MMS/FULL

$1$DKA200:[WELLS.HSM.WORK.TEMP]

SMU_SRC.MMS;1            (2538,39,0)
<online file not found>
Shelf copy:
Volume: HS0001 Saveset: 2DDB74A67.BCK    Position:  4116
14/15    19-MAY-1994 14:11:53.16
Media type: CompacTape III,
Loader
Shelved on 19-MAY-1994 14:11:53.16

$ MOUNT/FOREIGN $1$MUA0: HS0001
%MOUNT-I-MOUNTED, HS0001 mounted on _$1$MUA0:
$ BACKUP $1$MUA0:2DDB74A67.BCK/SAVE_SET SMU_SRC.MMS
$ DIRECTORY SMU_SRC.MMS

Directory $1$DKA200:[WELLS.HSM.WORK.TEMP]

SMU_SRC.MMS

Total of 1 file.
```

The following examples show how SMU LOCATE interprets file specifications with respect to the Wildcard default.

1.

```
$ SMU LOCATE X.TMP
```

Is interpreted as:

```
$ SMU LOCATE *:[000000...]X.TMP;*
```

2.

```
$ SMU LOCATE DISK1:X.TMP;5
```

Is interpreted as:

```
$ SMU LOCATE DISK1:[000000...]X.TMP;5
```

3.

```
$ SMU LOCATE [DIR1]X
```

Is interpreted as:

```
$ SMU LOCATE *:[DIR1]X.*;*
```

SMU RANK

The SMU RANK command displays an ordered list of files that would be shelved if the specified policy were to run on the specified volume. Use this command to analyze the impact of specifying various policy attributes, the amount of shelving for each policy run, or detect files that should not be shelved in advance. You can apply the RANK command to both preventative and reactive policies. The RANK command does not actually shelve any files.

Format

SMU RANK volume_name policy_name

Parameters

volume_name
Specifies the online disk volume on which the policy would be applied. You can specify only one volume, and no wildcards are allowed.

policy_name
Specifies the preventative or reactive policy to run on the volume. You can specify only one policy, and no wildcards are allowed.

Qualifiers

/OUTPUT[=filespec]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

/UIC=*[uic]*
Selects only those files belonging to the specified owner user identification code (UIC).
You must specify a valid UIC qualifier value, enclosed in brackets, as described in the VMS DCL Concepts Manual. Use this qualifier to emulate a policy triggered by an exceeded quota event.

Examples

```
The following examples show usage of the SMU RANK command.
The first example shows the /UIC qualifier:

$ SMU RANK SYS$DISK HSM$DEFAULT_OCCUPANCY/UIC=[SMITH]

Volume capacity:          649040 blocks
Current utilization:      396380 blocks
Volume lowwater mark:     324520 blocks
Blocks to be reclaimed:   71860

Executing primary policy definition
DISK$USER1:[SMITH.V12]TEST.EXE;1
  date:  4-JAN-1996      size: 13281

DISK$USER1:[SMITH]LSTARV032.A;1
  date: 11-JUL-1995      size: 3564

DISK$USER1:[JONES.TMS.LIB]TEST.OLB;1

DISK$USER1:[SMITH.CODE.LIB]PROD_V2.OLB;1
  date:  8-MAR-1996   size: 16218
```

```
DISK$USER1:[SMITH.CHECKOUT]TMSA012.B;1
   date: 26-JAN-1996      size: 7020
   date: 26-JAN-1996  size: 7020


DISK$USER1:[JONES.LST]LST$MAIN_DEBUG.EXE;1
   date:  9-JAN-1996  size: 3306


DISK$USER1:[SMITH]TMSA012.C;1
   date: 16-MAR-1996  size: 10386


Total of 8 files ranked which will recover 80205 blocks
```

The following example shows the SMU RANK command with no qualifiers:

```
$ SMU RANK SYS$DISK HSM$DEFAULT_OCCUPANCY


Policy HSM$DEFAULT_OCCUPANCY is enabled for shelving
     Policy History:
         Created:           9-JUN-1994 11:01:56.85
         Revised:           9-JUN-1994 11:01:56.85
Selection Criteria:     State: Enabled
     Action:            Shelving
     File Event:        Modification date
     Elapsed time:      180 00:00:00
     Before time:       <none>
     Since time:        <none>
     Low Water Mark:    80 %
     Primary Policy:    Space Time Working Set (STWS)
     Secondary Policy:  Least Recently Used (LRU)
Verification:
     Mail notification: <none>
     Output file:       <none>


Quota capacity:        10000 blocks
Current utilization:   5745 blocks
Quota lowwater mark:   5000 blocks
Blocks to be reclaimed: 745


Executing primary policy definition
DISK$USER2:[SMITH]AUDIT.C960214-390;1
     date: 11-MAR-1996      size: 20568


Total of 1 files ranked which will recover 20568 blocks


Quota lowwater mark can be reached
```

SMU REPACK

The SMU REPACK command copies valid shelved file data from one shelf volume to another, while eliminating deleted or obsolete data. It can also be used to recover lost or destroyed shelf volumes. The appropriate catalog(s) are updated to reflect the file data's new shelf location. Use SMU REPACK in one of the following ways:

- To repack volumes in the same archive class to eliminate obsolete data and recycle the original volumes, specify the archive class in the archive_id parameter, and omit both the /TO_ARCHIVE and /FROM_ARCHIVE qualifiers.

- To repack volumes from one archive class to a new archive class, specify the original archive class in the archive_id parameter, and the /TO_ARCHIVE qualifier to specify the new archive class.

- To recover lost shelving volumes using data from another archive class, specify the archive class to recover in the archive_id parameter, and use the /FROM_ARCHIVE to specify the class from which to retrieve the data.

In each case, you may restrict the repack to a set of input volumes using the /VOLUME qualifier. If you do not specify volumes using the /VOLUME qualifier, all volumes in the archive class are repacked.

HSM does not repack obsolete files. Obsolete files are determined by the SHELF attributes previously set. For example, if the SHELF /SAVE_TIME was previously set to 60 days, HSM does not repack any files for which it has been longer than 60 days since the online file was deleted. Similarly, if the SHELF attribute was set to /UPDATES=5, HSM will not repack any file updates that are not among the latest 5 file updates.
If /UPDATES=0 was previously set, it specifies that all file updates or file revisions, will be retained during repack. For further clarification on obsolete files refer to the SMU SET SHELF command and its /UPDATES qualifier.

SMU REPACK requires a disk staging area of at least 100,000 blocks in order to consolidate savesets. You may define a system-wide logical name of HSM$REPACK to point to a device and directory containing this amount of space. If this logical name is not defined, the staging area will be HSM$MANAGER instead. You should ensure that sufficient staging space is available prior to starting the repack. The staging area is cleaned up following the repack.

Repack also requires the use of two tape drives, compatible with the archive class(es) specified in the repack command. One drive must be compatible with the archive_id parameter, and the second must be compatible with any /TO_ARCHIVE or /FROM_ARCHIVE specified, or with the archive_id parameter if neither are specified.

The repack operation starts writing savesets to either the current shelving volume for the output archive class, or to a new shelving volume. A new volume is needed only for the case where the current shelving volume itself is eligible to be repacked, either explicitly or implicitly.

The repack function is performed on the shelf server node, but the command may be entered from any node.

Format

SMU REPACK *archive_identifier*

Parameters

archive_identifier
This specifies the identifier of the archive class to repack. Only one archive class can be repacked at a time.

Restrictions

This command requires BYPASS privilege. The /FROM_ARCHIVE and /TO_ARCHIVE qualifiers are mutually exclusive. If the /FROM_ARCHIVE qualifier is specified, the /THRESHOLD qualifier is ignored.

Qualifiers

/CANCEL
Cancels the current repack operation.

/LIST[=*file_specification*]
/NOLIST
List all files repacked in the specified file, or to the default HSM$LOG:HSM$REPACK.LIS if no file specification is supplied. The supplied file specification must not exceed 140 characters.

/FROM_ARCHIVE=archive_id
You can repack an archive class using the data from a different (but duplicate) archive class. Use this option to restore lost or destroyed shelf volumes.

/REPORT
If REPORT option is specified, Repack will only perform the analysis phase of a repack and not actual repacking. This feature would be extremely useful for a system manager to:

• analyze repacking requirements/benefits

• select the most useful threshold values

• and schedule repacks at convenient times

If used with the /SAVE option, the resultant candidates file will be saved and can be used in subsequent repack/s if the system manager wants the entire repack, as analyzed, to proceed.

/RESTART
Since repacks can take several hours/days to complete, it would be useful to allow the continuation of a repack that had been interrupted for any reason. The /RESTART qualifier would utilize the current candidates file and restart the repack from where it left off, without a further analysis or repacking files/volumes that had already been repacked.

/SAVE
Repack deletes the candidates file when it completes normally and in case of error (or on /CANCEL). With a /SAVE qualifier, the candidates file would be retained, and a subsequent repack could continue the repack from where it left off with a REPACK/RESTART. In addition, the candidates file could be retained from a REPACK/REPORT/SAVE command, which performs just the analysis phase. Subsequently the data moving phase could be initiated by a REPACK/RESTART.

/THRESHOLD[=percent]
/NOTHRESHOLD
Defines a threshold of deleted and obsolete data for consideration on whether to repack a particular volume or volume set. The default is a threshold of 50%, meaning that a volume (set) will only be repacked if its percentage of obsolete data (determined by the number of obsolete files) is 50% or more of the total number of files on the tapes.

The /NOTHRESHOLD qualifier (or /THRESHOLD=0) repacks all associated volumes in the archive class. A threshold of 100% repacks only volumes that contain no valid data.

/TO_ARCHIVE=archive_id
Defines a different archive class, possibly containing different media types, as the output of the repack. Use this qualifier to copy data from one archive class to another, or to upgrade to new tape technology.

/VOLUME[=volume_name[,...]]
Specifies specific volumes in an archive class to be repacked. A volume list is supported but wildcards are not allowed. If a specified volume is a member of a volume set, the entire volume set is eligible for packing. The volume list can contain up to 9 volumes.

Examples

In this example, perform a repack of volumes containing files shelved to archive class 1. Select from all volumes in the archive class, and repack only those in which the percentage of records belonging to obsolete files exceeds the default threshold of 50%. New volumes are allocated to the archive class and repacked volumes are released from the archive class automatically.

```
$ SMU REPACK 1
```

In this example, perform a repack of volumes containing files shelved to archive class 2. Select from all volumes in the archive class, and repack only those in which the percentage of obsolete files exceeds 80%. New volumes are allocated to the archive class and repacked volumes are released from the archive class automatically. List all files which are moved to new volumes in HSM$LOG:HSM$REPACK.LIS.

```
$ SMU REPACK 2/THRESHOLD=80/LIST
```

In this example, perform a repack of volumes containing files shelved to archive class 11. Select from volumes in the volume set which contains volume AFA200, and repack all volumes in the volume set, regardless of the percentage of records that belong to obsolete files. New volumes are allocated to the archive class and repacked volumes are released from the archive class automatically.

```
$ SMU REPACK 11/VOLUME=AFA200/NOTHRESHOLD
```

In this example perform a repack of volumes containing files shelved to archive class 21 onto volumes compatible with those in archive class 22. Repack all volumes in the archive class, regardless of the percentage of records which belong to obsolete files. New volumes are allocated to archive class 22 while repacked volumes are released from the archive class 21 automatically. List all files which are moved to new volumes in REPACK_21.LOG in the current directory.

```
$ SMU REPACK 21/TO_ARCHIVE=22/LIST=REPACK_21.LOG/NOTHRESHOLD
```

In this example, replace the non-obsolete shelved file data on volumes in archive class 16 which are members of the volume set which contains volume HSM001, using shelved file data on volumes in archive class 32. New volumes are allocated to the destination archive class; no volumes are released from the archive class.

```
$ SMU REPACK 16/FROM_ARCHIVE=32/VOLUME=HSM001
```

SMU SET ARCHIVE

The SMU SET ARCHIVE command defines and modifies information about an archive class. You must use this command to tell HSM Basic mode what archive classes are available and to associate archive classes with media type definitions for HSM Plus mode.

Format

SMU SET ARCHIVE *archive_id[,...]*

Parameters

archive_id[,...]
Specifies the archive classes to be set.

Qualifiers

/ADD_POOL=(*pool_name*[,...]) (Plus mode only)
Adds a volume pool to the list of pools for the archive class. The pool_name must be assigned in MDMS. This qualifier is valid only for HSM Plus mode.

/CONFIRM
/NOCONFIRM (Default)
Controls whether a question is asked before each SET ARCHIVE operation to confirm that the operation should be performed on that archive class. The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/DELETE
Deletes an archive class. This qualifier is valid only if no files have been shelved to this archive class.

/DENSITY=*density* (Plus mode only)
If a value is assigned to the DENS_n value in TAPESTART.COM for the media type to be used for this archive class, then you must use this qualifier and specify the exact same string as is specified in TAPESTART.COM. This qualifier is valid only for HSM Plus mode.

Once an archive class has been used, you cannot modify the density.

/LABEL=*volume_label* (Basic mode only)
Explicitly sets the desired volume label for the HSM Basic mode archive class. Use this command only if there has been a system failure, or if HSM cannot determine the correct volume label. This command provides an emergency reset for recovery purposes only. The next shelve operation for the archive class is performed on the specified volume. The volume label must conform to the HSM Basic mode volume label convention of HSxnnn.

Compaq recommends you use the SMU CHECKPOINT command instead of SET ARCHIVE /LABEL for removal of shelving volumes under normal circumstances. When you reset the volume label with SET ARCHIVE /LABEL, the shelving tape position is reset to zero.

/LOG
/NOLOG (Default)
Specifies that a command acknowledgment is displayed. If the command is specified with the /WAIT qualifier or if the shelf handler can process the command immediately, the log output contains the final result of the operation. If the command is specified with the /NOWAIT qualifier, a message indicating that the request is queued may be displayed on success for long-running operations.

/MEDIA_TYPE=*media_type* (Plus mode only)
Required qualifier for HSM Plus mode that identifies the media type defined in TAPE-START.COM to use for this archive class. The media type must exactly match a defined media type in TAPESTART.COM. This qualifier is valid only for HSM Plus mode.

Once an archive class has been used, you cannot modify the media type.

/REMOVE_POOL=*pool_name* (Plus mode only)
Removes a volume pool from the list of pools for the archive class. This qualifier is valid only for HSM Plus mode.

/SAVESET_SIZE=Saveset_size in MB
Specifies the maximum SAVESET_SIZE that will be used in a shelving operation. Multiple files upto the maximum SAVESET_SIZE specified or 1000 files will be combined to make a single saveset to improve performance.

———————————————— Note ————————————————

Note that increasing the SAVESET_SIZE will also increase the unshelving time.
The default maximum SAVESET_SIZE is 40 MB.

Examples

The following example shows the SMU SET ARCHIVE command for HSM Basic mode:

```
$ SMU SHOW ARCHIVE 1

%SMU-W-ARCHID_NF, archive class id   1 not found
%RMS-E-RNF, record not found

$ SMU SET ARCHIVE 1

$ SMU SHOW ARCHIVE 1

HSM$ARCHIVE01 has not been used
Identifier:     1
Media type:     Unknown Type
Label:          HS0001
Position:       0
Device refs:    0
Shelf refs:     0
SAVESET_SIZE:40 MB
```

The following example shows the SMU SET ARCHIVE command for HSM Plus mode:

```
$ SMU SHOW ARCHIVE 2

%SMU-W-ARCHID_NF, archive class id 2 not found
%RMS-E-RNF, record not found

$ SMU SET ARCHIVE 2 /MEDIA_TYPE=TZ87

$ SMU SHOW ARCHIVE 2

HSM$ARCHIVE02 has not been used

        Identifier:        2
        Media type:        TZ87
        Density:           <NONE>
        Label:             <NONE>
        Position:          0
        Device refs:       0
        Shelf refs:        0
        Current pool:      <NONE>
        Enabled pools:     <NONE>
```

SMU SET CACHE

The SMU SET CACHE command creates or modifies an existing HSM cache volume or a magneto-optical volume. Any device that appears as a system-mounted FILES-11 disk volume can be used as a cache volume, including magneto-optical devices.

You can use cache volumes for one of two purposes:

- As a temporary online staging area to speed shelving operations. A cache used for this purpose is set up with a limited block size, and a regular flush interval. Shelving operations are initially directed to the cache and complete in a similar amount of time as a normal file copy. At a later time, the cache is flushed to the archive classes defined for nearline or offline storage, and files in the cache are deleted.

- As an alternative shelf, using magneto-optical devices or excess online disk devices. A cache used for this purposes usually uses the entire device for caching, but does not flush the files to nearline or offline storage. Rather, additional copies are made to the nearline or offline archive classes at shelving time, using the /BACKUP qualifier.

- HSM optionally periodically flushes the cache to the shelf archive classes. The interval at which the flush occurs is controlled by the /INTERVAL and /AFTER qualifiers.

By default, caching is disabled.

Format

SMU SET CACHE device_name[,...]

Parameters

device_name[,...]
Specifies the online system-mounted devices that are to be used as shelf cache. If two or more devices are specified, separate them with commas. Wildcard characters are only allowed for updates to existing cache devices.

Qualifiers

/AFTER[*time*]
Requests that the cache flush operation be held until after a specific time. If no time value is specified, an immediate cache flush begins. Use this qualifier without a value to trigger an immediate cache flush at any time.

Specify the time as either an absolute time, a delta time, or a combination time. For more information on specifying time values, see the OpenVMS DCL Concepts Manual.

/BACKUP
/NOBACKUP (Default)
Controls whether copies to the shelf archive classes are made when the file is moved to the cache at shelving time (/BACKUP), or when the cache is flushed at a later time (/NOBACKUP). The default is /NOBACKUP, which provides fast shelving and unshelving, but only provides one copy of the shelved data until a cache flush is performed.

The /BACKUP qualifier creates the shelf copies concurrently with the cache copy, resulting in slow shelving but fast unshelving. The shelve operation is not completed until all copies are made. Use this option when a cache device is used as a permanent repository rather than a staging area.

/BLOCK_SIZE[=BLOCK_SIZE]

The maximum number of blocks HSM can use for caching on the volume. The default is 50,000 blocks. If any shelve operation would exceed the block size of the cache, the file is shelved directly to the shelf archive classes instead.

If the /BLOCK_SIZE is set to zero the entire disk may be used for the cache.

/CONFIRM (Default)
/NOCONFIRM

Controls whether a request is issued before each SET CACHE operation to confirm that the operation should be performed on that disk volume. The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/DELETE

Removes the cache entry from the database and causes an immediate flush of any files in the cache to the shelf archive classes.

/DISABLE

Disables the devices for use as an online shelf cache. However, no cache flush is triggered when a device is disabled.

/ENABLE (Default)

Enables the devices for use as an online shelf cache.

/HIGHWATER_MARK=percentage

Specifies a high water mark usage capacity for the cache, at which point cache flushing is initi-ated. Files can continue to be shelved to the cache above the high water mark as long as the /BLOCK_SIZE value is not exceeded. The default for the /HIGHWATER_MARK qualifier for the cache is 80 percent of the block size.

If you wish to disable cache flushing based upon capacity, set the high water mark to 100 per-cent.

/HOLD (Default)
/NOHOLD

Specified whether the cache file is deleted when the online file is deleted or modified. /HOLD is the default and keeps the file in the cache when the online file is deleted or modified. /NOHOLD allows the file to be deleted from cache when the online file is deleted or modified. This reduces cache space in permanent caches and avoids unnecessary flushes of deleted or modified files.
If you use the /NOHOLD option, HSM cannot recover deleted or modified files from cache.

/INTERVAL[=*delta_time*]
/NOINTERVAL

Requests that the cache flush operation be performed at regular intervals. If no interval qualifier or value is specified, the default interval is six hours.

If /NOINTERVAL is specified, the cache is not flushed at regular intervals.
If a /HIGHWATER_MARK value of less than 100 percent is specified, the cache is flushed based on usage only.

If the high water mark is set to 100 percent and /NOINTERVAL is specified, the cache is never flushed. Use this option when using the cache as an alternative shelf.

Delta time is expressed as dddd-hh:mm:ss.cc. The value used cannot be less than one minute.

/LOG
/NOLOG (Default)
Displays the device specification of each cache device modified as the command executes.

Examples

The following examples show the SMU SET CACHE command.

The first command sets up an online disk volume as a staging area, with a maximum usage of 100,000 blocks, and a flush interval of one day to begin at 4:00 am. By default, the cache is enabled, and a high water mark of 80 percent applies.

```
$ SMU SET CACHE _$15$DKA100: /BLOCK=100000/INTERVAL=1-
$ /AFTER=04:00:00
$ SMU SHOW CACHE _$15$DKA100:

Cache device _$15$DKA100: is enabled, Cache flush is held until
after 15-JUN-1995 04:00:00.00, Backup is performed at flush
intervals, Cached files are held on delete of online file
Block size:      100000
Highwater mark:  80%
Flush interval:  1 00:00:00.00
```

The second example sets up a magneto-optical volume as an alternative shelf. Shelf archive copies are made at shelving time, the entire volume may be used for caching, and there is no flushing.

```
$ SMU SET CACHE _$1$JKA0: /BLOCK=0/BACKUP/NOINTERVAL -
$ /HIGHWATER_MARK=100
$ SMU SHOW CACHE _$1$JKA0:

Cache device _$1$JKA0: is enabled, Cache flush is held until
     after 14-JUN-1995 09:53:42.55, Backup is performed at
     shelving time, Cached files are held on delete of online
     file    Block size:   0    Highwater mark:  100%
     Flush interval:  <none>
```

SMU SET DEVICE

The SMU SET DEVICE command specifies the nearline or offline storage devices that HSM can use to perform copies to and from the shelf archive classes. Devices specified in SET DEVICE must be tape devices, and must not be allocated or mounted by any user while HSM is using them. Devices can include tape magazine loaders, or large tape jukeboxes for HSM Plus mode. HSM uses OpenVMS BACKUP on foreign-mounted volumes for all shelf copy operations.

The devices can be either shared with other users, or exclusively dedicated to HSM. When a device is shared, HSM relinquishes control of the device after a short period of inactivity after the last shelving operation and no pending operations for the device.

Each device supports one or more archive classes, which must be associated with the device by using this command. Devices can be associated with any archive class with a compatible media type. For HSM Basic mode, the media type for an archive class is established implicitly when the first device is associated with it, and assumes the media type of that device. For HSM Plus mode, the media type and density are assigned explicitly to the archive classes which are associated with the device. Once a media type is established, a device with an incompatible media type cannot be associated with the archive class, unless both of the following are true:

- The archive class has not been used (no shelf copies have ever been made)

- No other device is associated with the archive class   (device reference count is zero)

You can use the SMU SHOW ARCHIVE command to verify these conditions.

In addition, devices associated with an archive class must all be magazine loaders, or not be magazine loaders, at any one time.

Each device can be enabled for shelving, unshelving, or both operations. Assigning specific operations for a device can result in more optimal operations, fewer tape mounts and operator interaction, at the expense of hardware resources.

When specified for unshelving only, the association of device with archive class additionally includes media types that can read (but not write) the device. For example, a TK70 device (media CompacTape II) can be specified for unshelving an archive class written by a TK50 device (media CompacTape I), but not vice versa.

Refer the HSM Guide to Operations for a complete discussion of magazine loaders and compatible media types for HSM Basic mode.

When you set a device and do not use either the /SHARE or the /DEDICATE qualifiers, HSM defaults the device to be shared with other applications (/SHARE=ALL). If you want HSM to dedicate use of the device for shelving or unshelving operations, you must specify the /DEDICATE qualifier.

Compaq recommends you use the SMU SHOW DEVICE command after you input an SMU SET DEVICE command to confirm your device definitions.

Format

SMU SET DEVICE device_name[,...]

Parameters

device_name[,...]

Specifies the nearline or offline devices that are to be used. If two or more devices are specified, separate them with commas. Wildcard characters are only allowed for updates to existing shelf devices.

If specifying a remote device in Plus mode, a node name or a logical that maps to a node name must precede the device name.

Restrictions

In HSM Plus mode, for any devices that are not visible across the VMScluster (for example, SCSI devices that are not TMSCP served), SMU SET DEVICE must be entered on the node from which the devices are visible.

Qualifiers

/ARCHIVE_ID=(*archive_id[,...]*)
/NOARCHIVE_ID
Defines the identifiers for archive classes that are supported by this device. Up to 36 archive class identifiers may be listed. If only one archive class identifier is provided, you can omit the parentheses. The archive classes must already be defined prior to entering this qualifier.

The /NOARCHIVE_ID qualifier means there are no archive classes defined for the device.

/CONFIRM
/NOCONFIRM (Default)
Controls whether a request is issued before each SET DEVICE operation to confirm that the operation should be performed on that device. The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/DEDICATE=keyword
Allows you to dedicate a nearline or offline device exclusively to HSM. A device can be selected to service shelve, unshelve, or all operations. The possible keywords are as follows:

ALL	Dedicates the device for shelve, (Default) preshelve and unshelve operations. This is the default if you do not specify either /DEDICATE or /SHARE.
SHELVE	Dedicates the device exclusively for shelve and preshelve operations.
UNSHELVE	Dedicates the device exclusively for unshelve operations.

The /DEDICATE and /SHARE qualifiers are mutually exclusive.
The /DEDICATE qualifier cannot be used with the /REMOTE qualifier.

/DEFAULT
Updates the default device record HSM$DEFAULT_DEVICE.

/DELETE
Removes the storage device entry from the database. Pending requests for the device are requeued to other devices. If a volume is mounted on the device, it will take about one minute for that volume to be dismounted after you issue this directive.

/DISABLE
Disables the devices for use by HSM.

/ENABLE (Default)

Enables the devices for use by HSM.

/LOG
/NOLOG (Default)

Displays the device specification of each device modified as the command executes.

/REMOTE (Plus Mode only)

Required to tell HSM the device is remote (not directly connected to the VMScluster). The device specification must include the node name or the node name must be included in a logical name assignment for the device. The device must be identified through MDMS with the same exact specification as is used here.

The /DEDICATE qualifier cannot be used with the /REMOTE qualifier. You cannot dedicate remote devices for HSM use.

/ROBOT_NAME=*robot_name* (Basic mode only)
/NOROBOT_NAME (default)

In Basic mode, if the device is a robot-controlled loader (for example, a TZ877 loader), you must specify a robot name for the device to be treated as a loader.

The robot name must be specified for the loader to be robotically controlled. If /NOROBOT_NAME (the default) is specified, any loaders will be treated as sequentially loadable stackers. Only non-loader standalone tapes should be specified with /NOROBOT_NAME.

This qualifier is not supported in Plus mode.

/SHARE=*keyword*

Allows the system administrator to share a nearline or offline device between HSM and other users. A device can be selected to share shelve, unshelve, or all operations with system users. Sharing devices with HSM allows the system administrator to allow multiuser access to the device. When enabled, the shelf handler relinquishes control of the device after the series of operations is completed.

The possible keywords are as follows:

ALL (Default)	Shares the device on shelve, preshelve, and unshelve operations with other system users.
SHELVE	Shares the device on shelve and preshelve operations with other system users.
UNSHELVE	Shares the device on unshelve operations with other system users.

The /DEDICATE and /SHARE qualifiers are mutually exclusive.

Examples

The following example sets the device 11MUA0:, a magazine loader, for shared use with archive classes HSM$ARCHIVE01 and HSM$ARCHIVE02 for HSM Basic mode. The device is connected to an HSJ controller with the robot name equal to the HSJ command disk name:

```
$ SMU SET DEVICE/ARCHIVE_ID=(1,2)/LOG/SHARE=ALL $11$MUA0:-
/ROBOT_NAME=$1$DUA204:
%SMU-I-DEVICE_CREATED, device _$11$MUA0: created
$ SMU SHOW DEVICE

HSM drive _$11$MUA0: is enabled.
     Shared access:  < shelve, unshelve >
     Drive status:   Configured
     Media type:     CompacTape III, Loader
```

```
        Robot name:      _$1$DUA204:
        Enabled archives:     HSM$ARCHIVE01   id:   1
                              HSM$ARCHIVE02   id:   2
```

The following Plus mode example sets the device NODE1$MKB300 for dedicated shelving and unshelving, using archive classes 4 and 5:

```
$ SMU SET DEVICE/ARCHIVE_ID=(4,5)
/DEDICATE=ALL NODE1$MKB300:
$ SMU SHOW DEVICE NODE1$MKB300:

HSM drive _NODE1$MKB300: is enabled.
Dedicated access:   <shelve, unshelve>
Drive status:   Configured
Enabled archives:    HSM$ARCHIVE04        id:    4
                     HSM$ARCHIVE05        id:    5
```

The following Plus mode example sets the remote device 1MUA23 on a remote node for shared shelving and unshelving, using archive classes 2 and 3.

```
$ SMU SET DEVICE/ARCHIVE_ID=(2,3)/REMOTE YOURNODE::$1$MUA23:
$ SMU SHOW DEVICE YOURNODE::$1$MUA23:

HSM remote drive YOURNODE::_$1$MUA23: is enabled.
Shared access:   < shelve, unshelve >
Drive status:   Configured
Enabled archives:  HSM$ARCHIVE02   id: 2
                   HSM$ARCHIVE03   id: 3
```

SMU SET FACILITY

The SMU SET FACILITY command controls HSM operations on a VMScluster-wide basis, allows specification of designated shelf servers, controls event logging, and allows you to convert from HSM Basic mode to HSM Plus mode without reinstalling the HSM software.

Format

SMU SET FACILITY

Qualifiers

/CATALOG_SERVER
/NOCATALOG_SERVER (Default)
Determines whether all cache operations and catalog updates are performed by the shelf server node. /CATALOG_SERVER restricts all cache operations and catalog updates to the current shelf server node. /NOCATALOG_SERVER (default) allows cache operations and catalog updates to be performed by the requesting client node. This does not affect tape operations which are always performed on the shelf server node.

/DISABLE=*keyword*
Disables HSM from performing specified operations on the VMScluster. The command applies to all volumes on all shelves on all nodes. This qualifier also disables in- progress cache flushing.

ALL   Disables the facility for preshelve, shelve, unshelve and cache flush operations.
SHELVE   Disables the facility for preshelve, shelve, and cache flush operations.
UNSHELVE   Disables the facility for unshelve operations.

/ENABLE=*keyword*
Enables HSM to perform specified shelving operations. If neither /ENABLE nor /DISABLE are specified, HSM defaults to /ENABLE=ALL. The possible keywords are as follows:

ALL   Enables the facility for preshelve, shelve, unshelve and cache flush operations.
SHELVE   Enables the facility for preshelve, shelve and cache flush operations.
UNSHELVE   Enables the facility for unshelve operations.

/EVENT_LOGGING=*keyword*
Enables and disables HSM event logging. The possible keywords are as follows:
[NO]ALL   Enables/disables the facility for all types of logging.
[NO]AUDIT   Enables/disables audit logging.
[NO]ERROR   Enables/disables error logging.
[NO]EXCEPTION Enables/disables exception logging.
By default, all logging is enabled.

/NOLOG (Default)
Displays the facility that was modified as the command executes.

/MODE=mode_type
Tells HSM the mode in which to operate. Valid keywords for this qualifier are:
Basic   Operate HSM in Basic mode, which provides limited device support.

Plus   Operate HSM in Plus mode, which provides enhanced device support
        through the Media and Device Management Services for Open
        VMS (MDMS) software.

The initial default value for the mode depends on the mode in which HSM is installed. Once you run in HSM Plus mode, you cannot go back to HSM Basic mode. For information on converting from HSM Basic mode to HSM Plus mode, see HSM for OpenVMS Guide to Operations.

─────────────────**Note**─────────────────

Changing the HSM mode through this qualifier does not affect HSM operations until you shut down and restart the shelf handler.

──

/REENABLE

Reenables all operations for the facility. If the shelf handler is failing too often, HSM may disable the facility for shelving, unshelving, disk full, or quota error conditions. This command can be used to reenable the facility once the error condition is corrected.

/RESET_LOGS

Closes the current audit and error logs, then starts writing to a new version. The closed logs can be subsequently reviewed, shelved or deleted.

/SERVER=(*server_name[,...]*)
/NOSERVER

Specifies which nodes can function as shelf servers.

Nodes are entered as a comma-separated list. Up to ten nodes can be entered as potential servers. Shelf server nodes must have access to all nearline/offline tape devices in Basic mode.

If /NOSERVER is entered, all nodes in the VMScluster are eligible to be a shelf server.

Example

The following example enables HSM for all error logging, and designates nodes SYS001 and SYS004 as shelf servers:

```
$ SMU SET FACILITY/EVENT_LOGGING=ALL/SERVER=(SYS001,SYS004)


$ SMU SHOW FACILITY


HSM for OpenVMS is enabled for Shelving and Unshelving
Facility History:
Created:    22-MAY-1994 10:36:34.96
Revised:    22-MAY-1994 13:49:37.50
Designated servers:     SYS001
                        SYS004
Current server:         SYS001
Catalog server:         Disabled
Event logging:          Audit
                        Error
                        Exception
HSM mode:               Basic
Remaining license:      500 gigabytes
```

SMU SET POLICY

The SMU SET POLICY command defines a preventative or reactive policy that can be executed to maintain a desired capacity usage on online disk volumes.

Format

SMU SET POLICY policy_name[,...]

Parameters

policy_name[,...]
Specifies one or more policy names. If two or more policy names are specified, separate them with commas. Wildcard characters are allowed.

Policy names are limited to 31 alphanumeric characters, including the hyphen and underscore.

Qualifiers

/BACKUP
Uses the backup date for selection criteria when using the /BEFORE and /SINCE qualifiers and the STWS and LRU policy algorithms. If a file has no backup date, it is not selected for the oper-ation.

The /BACKUP, /CREATED, /EXPIRED, and /MODIFIED qualifiers are mutually exclusive. The default is /EXPIRED if none of the above are entered. If you specify one of these qualifiers without the /BEFORE, /ELAPSED, or /SINCE qualifiers, /BEFORE, /ELAPSED, and /SINCE values are unaffected.

If a file has no backup date, it is not selected for shelving by the predefined algorithms.

/BEFORE[=time] /NOBEFORE
Selects only those files dated prior to the specified time. Specify the time as an absolute time, a combination time, or as one of the following keywords: TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /BEFORE to indicate the time attribute to be used as the basis for selection:

/BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

Time must be specified using the OpenVMS formats for absolute and delta times.

The values specified by the /BEFORE qualifier are translated to absolute values that do not change between policy runs. To specify a relative before time, use the /ELAPSED qualifier instead. The /BEFORE qualifier is mutually exclusive of the /ELAPSED qualifier.

The /NOBEFORE qualifier clears any previously issued SET POLICY/BEFORE values.

/CONFIRM
/NOCONFIRM (Default)
Controls whether a request is issued before each SET POLICY operation to confirm that the operation should be performed on that policy.

The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/CREATED
Uses the creation date for selection criteria when using the /BEFORE and /SINCE qualifiers and the STWS and LRU policy algorithms.

The /BACKUP, /CREATED, /EXPIRED, and /MODIFIED qualifiers are mutually exclusive. The default is /EXPIRED if none of the above are entered. If you specify one of these qualifiers without the /BEFORE, /ELAPSED, or /SINCE qualifiers, /BEFORE, /ELAPSED, and /SINCE values are unaffected.

/DEFAULT
Sets or modifies the system policy defaults. When a new volume definition is created, all default attributes are set from this default volume definition.

The /DEFAULT qualifier cannot be used with a parameter value.

/DELETE
Deletes the entry from the policy database.

/DISABLE
The policy is disabled from execution until it has been reactivated by the /ENABLE qualifier.

/ELAPSED=delta_time
/NOELAPSED
Selects only those files that are equal to or older than the specified delta time. The time is expressed as a relative value and applied as such at each policy run.

Delta time is an offset (a time interval) from the current date and time to a time in the past. The general format for a delta time is as follows:

```
"[dddd-][hh:mm:ss.cc]"
```

The fields are as follows:

dddd	Number of days	an integer in the range 0 to 9999
hh	Number of hours	an integer in the range 0 to 23
mm	Number of minutes	an integer in the range 0 to 59
ss	Number of seconds	an integer in the range 0 to 59
cc	Number of hundredths of seconds	in the range 0-99

The following table shows some examples of delta time specifications:

Time, Specification	Result
"30-"	30 days in the past (the dash is required)
"7-:25"	7 days and 25 minutes in the past
"90-12:15"	90 days, 12 hours, and 15 minutes in the past

The /ELAPSED qualifier is mutually exclusive of the /SINCE and /BEFORE qualifiers.
The /NOELAPSED qualifier clears any previously issued SET POLICY/ELAPSED values.

/ENABLE (Default)
The policy is enabled for execution. The policy remains enabled until it is explicitly disabled.

/EXPIRED (Default)
Uses the effective date of last access for selection criteria when using the /BEFORE, /SINCE and /ELAPSED qualifiers, and the STWS and LRU policy algorithms. This qualifier uses the file's expiration date and the volume's retention time to determine the date of last access according to the following formula:

```
date_of_last_access = expiration_date - maximum_volume_retention
```

While specifying date and time values in the associated /BEFORE, /SINCE and /ELAPSED qualifiers, you should specify the date of last access rather than simply the expiration date, which is likely to be in the future.

If volume retention is not enabled on the volume, HSM will select no files for shelving when the policy is run. Therefore, to use file selection based on expiration date (the default), you must first enable volume retention on the volume (see HSM for OpenVMS Guide to Operations).
HSM will automatically initialize expiration dates on all files on the volume to the current date plus the maximum retention time when the policy is first run.

The /BACKUP, /CREATED, /EXPIRED, and /MODIFIED qualifiers are mutually exclusive. The default is /EXPIRED if none of the above is entered. If you specify one of these qualifiers without the /BEFORE, /ELAPSED, or /SINCE qualifiers, /BEFORE, /ELAPSED, and /SINCE values are unaffected.

/LOG
/NOLOG (Default)
Displays a message for each schedule definition as the command executes.

/LOWWATER_MARK=[*percentage*]
The /LOWWATER_MARK qualifier establishes a threshold where policy execution terminates. It is set to the desired percentage of volume capacity that HSM attempts to reach while executing a policy.
Possible percentages range from zero to 100 percent. The shelving policy continues to shelve dormant files until the low water mark is reached.
For instance, if the low water mark is set to 20 percent, then HSM shelves dormant files until the disk usage is 20 percent or less. The default low water mark is 80 percent.

/MAIL=destination
/NOMAIL (Default)
Sets notification upon completion of the operation through user mail. The destination can be a specific user, such as SOCCR::SMITH, or a distribution list contained in a command procedure, such as @POLICY.DIS.

The mail header indicates success or failure. The message body contains a brief summary of shelving operations that were executed.

/MODIFIED
Uses the modification date for selection criteria when using the /BEFORE and /SINCE qualifiers and the STWS and LRU policy algorithms.

The /BACKUP, /CREATED, /EXPIRED, and /MODIFIED qualifiers are mutually exclusive. The default is /EXPIRED if none of the above are entered. If you specify one of these qualifiers without the /BEFORE, /ELAPSED, or /SINCE qualifiers, the /BEFORE, /ELAPSED, and /SINCE values are unaffected.

/OUTPUT[=*file_spec*]
/NOOUTPUT (Default)
Records all shelving activities caused by the execution of the volume policy definition.

The /OUTPUT qualifier controls where the output record of the volume policy execution is sent. By default, no output file is created. No Wildcard characters are allowed.
If you enter the /OUTPUT qualifier with a partial file specification (for example, /OUT-PUT=[JONES]), the policy_ name parameter is used as the file name with a default file extension of .LOG. The output is suppressed if you enter the /NOOUTPUT qualifier.

/PRESHELVE
/NOPRESHELVE
If /PRESHELVE is specified, the LRU and STWS algorithms preshelve files instead of shelving them. The /PRESHELVE qualifier is applicable only to periodically scheduled policies and should not be applied to volume occupancy full, high water mark exceeded or exceeded disk quota policies, as preshelving does not make disk space available.

/PRIMARY_POLICY=*keyword*
/NOPRIMARY_POLICY
The /PRIMARY_POLICY qualifier sets the primary policy for selecting dormant files to be shelved. The primary policy is executed until the low water mark is reached or until no further candidates are found. If the low water mark is not reached, then the secondary policy is executed to select additional candidates. Typically, the secondary policy is set to a different algorithm than the primary. This algorithm is then executed until the low water mark is reached.

Setting the /NOPRIMARY_POLICY qualifier effectively disables policy execution. For example, this can be used to disable any action on volume occupancy full or disk quota exceeded events.

The possible policy keywords are as follows:

STWS   Space-Time Working Set-Selects files based on the time since the
                last reference and the size of the file. Large files are selected with a
                higher priority than small files.

LRU   Least Recently Used-Selects files with the greatest time since
                the last reference.

SCRIPT=filename A filename containing DCL shelving commands. This file is
                then used to select files for shelving, preshelving or unshelving.
                Note that scripts are run to completion and are not terminated
                when the low water mark has been reached.

When you use a script, HSM ignores the file selection qualifiers /BACKUP, /CREATED, /MODIFIED, or /EXPIRED, /BEFORE, /ELAPSED, or /SINCE.

SMU does not check for the existence of the script file until the policy execution time is reached.

If the specified date field has no value (for example, no backup or expiration date), the STWS and LRU algorithms do not select the file for shelving.

/SECONDARY_POLICY=*keyword*
/NOSECONDARY_POLICY
Secondary policy is used whenever the primary policy fails to reach the low water mark for the volume. It should be set to a different policy algorithm than the primary so different file selection criteria are used.

If no secondary policy is specified, the secondary policy from the default periodic policy is used.

The keywords for the /SECONDARY_POLICY qualifier are the same as those used for the /PRIMARY_POLICY qualifier.

/SINCE=time
/NOSINCE

Selects only those files dated after the specified time. Specify the time as an absolute time, as a combination of absolute and delta times, or as one of the following keywords: TODAY (default), TOMORROW, or YESTERDAY.

Specify one of the following qualifiers with /SINCE to indicate the time attribute to be used as the basis for selection: /BACKUP, /CREATED, /EXPIRED, or /MODIFIED.

Time must be specified using the OpenVMS formats for absolute and delta times.

The /SINCE qualifier is mutually exclusive of the /ELAPSED qualifier.

The /NOSINCE qualifier clears any previously issued SET POLICY/SINCE values.

The /BACKUP, /CREATED, /EXPIRED, and /MODIFIED qualifiers are mutually exclusive. The default is /EXPIRED if none of the above are entered. If you specify one of these qualifiers without the /BEFORE, /ELAPSED, or /SINCE qualifiers, /BEFORE, /ELAPSED, and /SINCE values are unaffected.

Example

The following example changes the default occupancy policy to shelve files that have not been accessed for read or write for 100 days. The shelving algorithms to be used are STWS as the primary policy and a user-defined script as the secondary policy, with a low water mark goal of 70 percent. At completion of the policy, mail confirmation is sent to the SYSTEM account. The example also illustrates that the attributes can be specified in multiple commands, as well as in a single command.

```
$ SMU SET POLICY HSM$DEFAULT_OCCUPANCY - _
$ /ELAPSED=100-0 -
$ /MAIL=SYSTEM -
$ /LOWWATER_MARK=70 -
$ /EXPIRED


$ SMU SET POLICY HSM$OCCUPANCY_POLICY -
$ /PRIMARY_POLICY=STWS -
$ /SECONDARY_POLICY=SCRIPT=DISK$USER1:[SMITH]SECPOL.COM -


$ SMU SHOW POLICY HSM$DEFAULT_OCCUPANCY
Policy HSM$DEFAULT_OCCUPANCY is enabled for shelving
Policy History:
  Created:    22-MAY-1994 10:36:36.45
  Revised:    28-MAY-1994 11:26:21.09
Selection Criteria:
  State: Enabled
  Action:     Shelving
  File Event:   Expiration date
  Elapsed time:  100 00:00:00
  Before time:   <none>
  Since time:    <none>
  Low Water Mark:  70 %
  Primary Policy:  Space Time Working Set(STWS)
  Secondary Policy:    SCRIPT
      DISK$SLOPER1:[SMITH]SECPOL.COM;
Verification:
  Mail notification:
      SYSTEM
  Output file:  <none>
```

SMU SET SCHEDULE

The SMU SET SCHEDULE command is used to schedule preventative policy execution for a volume. The policy can be scheduled to execute immediately or at periodic intervals.

Format

SMU SET SCHEDULE volume_name[,...], policy_name

Parameters

volume_name[,...]
The name of one or more online volumes on which the shelving policy is to be executed.

If two or more volumes are specified, separate them with commas.

policy_name
The name of an existing policy definition.

Qualifiers

/ALL
Used in conjunction with wildcard volume names to select all matching volumes found on the system. If /ALL is not specified, Wildcard matching applies only to volumes defined with SET VOLUME in the SMU database.

/AFTER[=time]
Requests that the shelving policy execution be held until after a specific time. If no time value is specified, execution begins immediately.

Specify the time as either an absolute time or as a combination of absolute and delta times. For more information on specifying time values, see the OpenVMS DCL Concepts Manual.

/CONFIRM
/NOCONFIRM (Default)
Controls whether a request is issued before each schedule operation to confirm that the operation should be performed. The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the   /CONFIRM qualifier.

/DELETE
Deletes the entry from the scheduling database.

/INTERVAL=*delta_time*
Requests that the shelving policy be executed at regular intervals. This qualifier specifies the minimum time between shelving policy executions for the online volume. Delta time is expressed as dddd-hh:mm:ss.cc. If no interval value is specified, the default interval is one day.

If the /AFTER qualifier is specified with the /INTERVAL qualifier, the first shelving policy execution begins at or after the /AFTER time. All subsequent policy executions occur at the specified time.

Specify the time as either an absolute time or as a combination of absolute and delta times. For more information on specifying time values, see the OpenVMS DCL Concepts Manual.

The policy can be executed only if the policy definition has been enabled.

/ENTRY=*number*
When a policy is scheduled for execution, an entry number is associated with it. Use the entry number when modifying an existing policy schedule event. Use SHOW SCHEDULE to determine the entry number.

/LOG
/NOLOG (Default)
Displays the policy specification of each policy modified as the command executes.

/OUTPUT[=*filespec*]
/NOOUTPUT (Default)
The /OUTPUT qualifier controls where the output record of the set schedule activity is sent. By default, no output file is created. No Wildcard characters are allowed.

/REQUEUE=server_name
In conjunction with the /ENTRY qualifier, the /REQUEUE qualifier requeues the policy for execution on a different shelf server node.

/SERVER=node_name
Specify the node name of the HSM shelf server on which to execute the policy. This does not have to be the current shelf server, but any eligible shelf server. If you do not specify a server node name, the default server becomes the first entry listed under Designated Servers in the SHOW FACILITY command display.

Example

The following example shows the SMU SET SCHEDULE command. In this example, a preventative policy DAILY_OCCUPANCY is run on a daily basis on volumes 1DKA100: and 1DKA200:, starting at 2:00 am, on shelf server node SYS001.

```
$ SMU SET SCHEDULE $1$DKA100:, $1$DKA200: DAILY_OCCUPANCY -
$ /INTERVAL=1-0/AFTER=02:00:00/SERVER=SYS001


$ SMU SHOW SCHEDULE/FULL

Volume             Policy               Entry      Status
 _$1$DKA100:       DAILY_OCCUPANCY      517        PENDING
Server node:       SYS001
Scheduled after:   28-MAY-1994 02:00:00.00
Scheduled interval: 1 00:00:00.00
Output file        <none>


 Volume            Policy               Entry      Status
_$1$DKA200:        DAILY_OCCUPANCY      517        PENDING
Server node:       SYS001
Scheduled after:   28-MAY-1994 02:00:00.00
Scheduled interval: 1 00:00:00.00
Output file     <none>
```

SMU SET SHELF

The SMU SET SHELF command creates a new shelf configuration or modifies an existing shelf configuration. A shelf describes the set of attributes associated with a set of online volumes, including the number of shelf data copies and the archive classes to be used. HSM operations also can be enabled and disabled on a per-shelf basis, affecting all volumes associated with the shelf.

HSM provides predefined default shelf definitions that are used when no shelf definitions are associated with a volume.

If the shelf definition already exists, it is modified with the new definition. When a new shelf is created, all default attributes are set from the default shelf definition. The default shelf definition can be modified by using the /DEFAULT qualifier.

Online disk volumes are associated with the shelf using the SMU SET VOLUME command.

Format

SMU SET SHELF shelf_name[,...]

Parameters

shelf_name
One or more shelf names. A shelf name can be a user-defined name, or the default shelf name HSM$DEFAULT_SHELF.

Qualifiers

/ARCHIVE_ID=(archive_id[,...])
/NOARCHIVE_ID
Identifies archive class identifiers to be used by this shelf. Archive classes must be defined using SMU SET ARCHIVE before they can be identified for use with the shelf. HSM transfers the file's data to each archive class in the list. This can be used to create multiple copies of the shelved file's data content.

This archive list specifies the archive classes to be written during shelving operations. The restore archive list specifies the archive classes to be read during unshelving operations. When a shelf is first created, the restore archive list is initialized to the archive list specified by this qualifier. Thereafter, the two lists are maintained separately.

Up to ten archive classes may be specified in this list.

/NOARCHIVE_ID removes all existing archive class references.

/CANCEL
Cancels a split-merge operation for the specified catalog.

/CATALOG=file_spec

Specifies the file specification of the catalog file to be used for this shelf. A full specification can be supplied, otherwise default elements are taken from the logical name HSM$CATALOG. A logical name may also be supplied.

/CONFIRM
/NOCONFIRM (Default)

Controls whether a request is issued before each SET SHELF operation to confirm that the operation should be performed on that shelf. The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/DEFAULT

Sets or modifies the system shelf defaults. When a new shelf definition is created, all default attributes are set from this default shelf definition.

The /DEFAULT qualifier cannot be used with a parameter value.

/DELETE

Deletes the entry from the shelf database.

/DISABLE=keyword

Disables shelving operations on all volumes associated with the shelf. The shelf can be configured to perform individual or all shelving operations. The possible keywords are as follows:

ALL	Disables the shelf for shelve, preshelve, and unshelve operations.
SHELVE	Disables the shelf for shelve and preshelve operations.
UNSHELVE	Disables the shelf for unshelve operations.

/ENABLE[=keyword]

Enables operations on volumes associated with the shelf. The shelf can be configured to perform only individual or all shelving operations. By default, the shelf is enabled for all shelve, preshelve, and unshelve operations. The possible keywords are as follows:

ALL (Default)	Enables the shelf for shelve, preshelve, and unshelve operations (Default).
SHELVE	Enables the shelf for shelve and preshelve operations.
UNSHELVE	Enables the shelf for unshelve operations.

/LOG
/NOLOG (Default)

Displays the shelf specification of each shelf modified as the command executes.

/RESTORE_ARCHIVE=(*archive_id*[,...])
/NORESTORE_ARCHIVE

Identifies which archive classes are used by HSM on a restore operation. Archive classes must be defined using SMU SET ARCHIVE before they can be identified for use with the shelf. The order of this list is significant. On an UNSHELVE operation the first archive class in restore list is used to attempt to unshelve the file. If the restore attempt in unsuccessful, the next archive class in the restore list is attempted, and so on. Up to 36 archive classes may be specified in this

list. This list should normally include the current archive list, plus any archive classes that have ever been defined for this shelf.

If you don't specify a restore archive ID when the shelf is created, the save archive class specified by the /ARCHIVE_ ID command is used as the restore archive. Thereafter, the two lists must be maintained separately.

/NORESTORE_ARCHIVE
removes all restore archive class references.

/SAVE_TIME[=*delta_time*]
NOSAVE_TIME
Specifies that the shelf file data and catalog entries are saved in the HSM subsystem for the specified delta_ time after the online file is deleted. If no delta_time is specified, a default value of 30 days is applied. With /NOSAVE_TIME, no delay is applied.

While repacking obsolete files are determined based on the value of SAVE_TIME.

When a delete is attempted on a cache file if cache is set as /NOHOLD, the catalog entry is always deleted irrespective of SAVE_TIME. Similarly, if the cache is set as /HOLD, the catalog entry is not deleted irrespective of SAVE_TIME.

During a preshelve operation, if /HOLD is set on the Cache and /SAVE_TIME is used

If /HOLD is set:

and /SAVETIME is used:	The entry is not deleted
and /NOSAVE is used:	The entry is not deleted.

If /NOHOLD is set:

and /SAVETIME is used:	The entry is deleted
and /NOSAVE is used:	The entry is deleted.

/VERIFY
/NOVERIFY (Default)
Specifies whether shelving and unshelving operations to tape volumes are performed using BACKUP/VERIFY. The /VERIFY option slows down shelving operations, but provides increased reliability for shelving.

/UPDATES=n
Specifies the number of updates of a shelved file that should be saved on shelf media and in the catalog. For example, for /UPDATES=2, a file that has been:
shelved /unshelved/modified/shelved 10 times will retain the latest two updates on shelf media and in the catalog.
Use /UPDATES=0 to specify that all updates should be retained. Note that this has nothing to do with the OpenVMS version of the file, but rather files that are updated in place.

Example

The following example creates the shelf named CRITICAL_SHELF for use with archive classes 1 and 2, and associates a separate catalog with the shelf.

```
$ SMU SET SHELF CRITICAL_SHELF -
_$ /ARCHIVE_ID=(1,2) -
_$ /CATALOG=DISK$USER1:[HSM.CATALOG]HSM$CAT1.SYS
$ SMU SHOW SHELF CRITICAL_SHELF

Shelf CRITICAL_SHELF is enabled for Shelving and Unshelving
Catalog File:   DISK$USER1:[HSM.CATALOG]HSM$CAT1.SYS
Shelf history:
     Created:    15-JUN-1995 12:32:24.70
     Revised:    15-JUN-1995 12:32:24.70
```

```
Backup Verification:  Off
Save Time     <none>
Updates Saved:  All
Archive Classes:
   Archive list:  HSM$ARCHIVE01 id: 1
                  HSM$ARCHIVE02 id: 2
   Restore list:  HSM$ARCHIVE01 id: 1
                  HSM$ARCHIVE02 id: 2
```

SMU SET VOLUME

The SMU SET VOLUME command defines shelving attributes for a specific online disk volume. This command controls HSM operations on the volume, associates the volume with a shelf, defines operations on certain types of files, and defines the reactive policies for the volume.

If an online disk volume does not have a specific entry in the SMU database, the attributes defined in the default volume HSM$DEFAULT_VOLUME are applied to it.

Specific HSM operations can be enabled or disabled on a per-volume basis using this command. For an operation to be performed on the volume, it must be enabled on the volume, the associated shelf, and the facility.

Each volume must be associated with exactly one shelf. By default, volumes are associated with the default shelf HSM$DEFAULT_SHELF.

The SET VOLUME command also defines the reactive shelving policy for the online volume. This policy is executed by HSM when the device's high water mark has been reached, the volume maximum occupancy has been reached (device full), or a process disk quota exceeded error. Files are then selected by using the criteria defined by this policy.

When a new volume definition is created, all attributes not entered in the command line are set from the default volume definition HSM$DEFAULT_VOLUME. The default volume definition itself may be modified using the SMU SET VOLUME /DEFAULT command.

If the volume definition already exists, it is modified with the new attributes entered on the command line.

Format

SMU SET VOLUME volume_name[,...]

Parameters

volume_name[,...]
Sets the attributes for the specified online volume or volumes. Either the logical name for the disk device or the physical device name can be used. If two or more volumes are specified, separate them with commas.

Wildcard characters are allowed for updates to volumes that exist in the database, unless used with the /ALL qualifier. Wildcard applies only to the physical device

Qualifiers

/CANCEL
Cancels a split-merge operation for the specified shelf.

/ALL

Used in conjunction with wildcard volume names to match with all online disks on the system. If /ALL is not specified, the wildcard only matches with the volumes already defined in the SMU database.

/CONFIRM
/NOCONFIRM (Default)

Controls whether a request is issued before each SET VOLUME operation to confirm that the operation should be performed on that volume. The following responses are valid:

YES	NO	QUIT
TRUE	FALSE	Ctrl/Z
1	0	ALL

Refer the OpenVMS DCL Concepts Manual for more information on the /CONFIRM qualifier.

/CONTIGUOUS
/NOCONTIGUOUS (Default)

Controls the eligibility of files marked contiguous on the volume to be shelved. The default is /NOCONTIGUOUS, meaning that contiguous files are never shelved. If /CONTIGUOUS is specified and contiguous files are shelved, then they are always restored contiguously. If a file cannot be restored contiguously, an error occurs. This qualifier does not affect preshelving.

/DEFAULT

Sets or modifies the system volume defaults. When a new volume definition is created, all default attributes are set from this default volume definition.
This qualifier cannot be used with a volume_name parameter value.

/DELETE

Deletes the entry from the volume database. HSM attributes for the specified online disk volume reverts to those defined in the default volume record HSM$DEFAULT_VOLUME. The volume must be first set to use the shelf specified by the default volume before a delete is allowed.

/DISABLE [=keyword]

The volume is disabled from specified HSM operations until it is reactivated by the /ENABLE qualifier. The volume can be configured to disable individual or all shelving operations.

By default, the volume is enabled for preshelving, shelving and unshelving operations, and disabled for high water mark detection, occupancy full and exceeded quota events.

The possible keywords are as follows:

ALL	Disables the volume for all HSM operations.
HIGHWATER_MARK	Disables the volume for handling high water mark conditions.
OCCUPANCY	Disables the volume for handling volume occupancy full conditions.
QUOTA	Disables the volume for handling disk quota exceeded conditions.
UNSHELVE	Disables the volume for UNSHELVE operations.

/ENABLE[=*keyword*]

Enables HSM operations on the volume. The volume can be configured to perform individual or all shelving operations. By default, the volume is enabled for preshelving, shelving and unshelving operations, and disabled for high water mark detection, occupancy full and exceeded quota events.

The possible keywords are as follows:

HIGHWATER_MARK	Enables the volume for handling high water mark conditions.
OCCUPANCY	Enables the volume for handling volume occupancy full conditions.
QUOTA	Enables the volume for handling disk quota exceeded conditions.
SHELVE	Enable the volume for SHELVE and PRESHELVE operations.
UNSHELVE	Enables the volume for UNSHELVE operations.
ALL	Enables the volume for all HSM operations.

/HIGHWATER_MARK=percent

The /HIGHWATER_MARK qualifier establishes a threshold where reactive occupancy policy execution is triggered. It is set to a usage percentage of the volume capacity. Possible percentages range from 0 to 100 percent. HSM periodically checks the device capacity and compares it to the high water mark. If it has been exceeded, and high water mark operations are enabled, a volume occupancy full event is triggered, and the volume's occupancy policy is executed.

If no high water mark processing is desired, specify the high water mark as 100 percent, or disable high water mark operations.

/LOG
/NOLOG (Default)

Displays the volume specification of each volume modified as the command executes.

/OCCUPANCY[=*policy_name*]
/NOOCCUPANCY

This policy is executed whenever the online device has insufficient allocatable space or the volume high water mark has been exceeded. HSM then executes this occupancy policy.

Policy execution is terminated when enough space has been freed to satisfy the request, or no candidates were found.

• If no occupancy full policy name is specified, HSM applies a predefined default occupancy policy definition (HSM$DEFAULT_OCCUPANCY).

• If /NOOCCUPANCY is specified, then no policy is run on volume occupancy full and high water mark conditions.

/PLACEMENT (Default)
/NOPLACEMENT

Defines the eligibility of files marked with placement attributes to be shelved.

The default is /PLACEMENT, meaning that placed files can be shelved. Files that have been shelved are not guaranteed to be restored with identical placement as before. This qualifier does not affect preshelving.

/QUOTA[=policy_name]
/NOQUOTA

This policy is executed whenever a disk quota exceeded event is encountered. When a disk quota exceeded event is encountered, HSM then executes the volume's quota policy.

If no quota policy name is specified, HSM applies a predefined default quota policy definition (HSM$DEFAULT_QUOTA).

If /NOQUOTA is specified, then no policy is run on disk quota exceeded conditions.

/SHELF_NAME=shelf_name

The shelf to associate the volume with. If no shelf qualifier is entered, the default shelf HSM$DEFAULT_SHELF is used. The shelf must exist prior to associating a volume with it.

Example

The following example shows the SMU SET VOLUME command. In this example, volumes
1DKA100: and 1DKA200: are assigned to the default shelf. All operations are enabled for
the volume, and user-defined reactive policies are set up. The high water mark is set to 95 per-
cent.

```
$ SMU SET VOLUME $1$DKA100:,$1$DKA200: -
$ /ENABLE=ALL /HIGHWATER_MARK=95 -
$ /OCCUPANCY_POLICY = CRITICAL_OCC_POL -
$ /QUOTA_POLICY = CRITICAL_QUOT_POL

$ SMU SHOW VOLUME $1$DKA100:, $1$DKA200 /FULL

Volume _$1$DKA100: on Shelf HSM$DEFAULT_SHELF, Shelving is enabled,
Unshelving is enabled, Highwater mark detection is enabled, Occupancy full
detection is enabled, Disk quota exceeded detection is enabled
Created:   15-JUN-1995 12:37:07.50
Revised:   15-JUN-1995 12:37:07.50
Ineligible files:   <CONTIGUOUS>
High Water Mark: 95%
OCCUPANCY Policy:   CRITICAL_OCC_POL
QUOTA Policy:   CRITICAL_QUOT_POL

Volume _$1$DKA200: on Shelf HSM$DEFAULT_SHELF, Shelving is enabled,
Unshelving is enabled, Highwater mark detection is enabled, Occupancy full
detection is enabled, Disk quota exceeded detection is enabled
Created:   15-JUN-1995 12:37:07.64
Revised:   15-JUN-1995 12:37:07.64
Ineligible files:   <CONTIGUOUS>
High Water Mark: 95%
OCCUPANCY Policy:   CRITICAL_OCC_POL
QUOTA Policy:   CRITICAL_QUOT_POL
```

SMU SHOW ARCHIVE

The SMU SHOW ARCHIVE command displays information associated with archive classes. The displayed information includes:

- The archive class name

- An indication whether the archive class has been used - it is flagged as used after the first shelving operation on the archive class

- The archive class identifier from 1 to 36 for HSM Basic mode or 1 to 9999 for HSM Plus mode - used in archive commands

- For HSM Basic mode, the media type used to write the archive class, and an indication whether a magazine loader is used

- For HSM Plus mode, the media type used to write the archive class, as defined in TAPE-START.COM

- For HSM Plus mode, the density for the media type, as defined in TAPESTART.COM

- The tape volume label of the current shelving volume

- The tape position of the next file to be shelved on the current shelving volume

- For HSM Plus mode, the pools associated with the archive class and the current pool being used

- The number of devices associated with this archive class (device refs)

- The number of shelves associated with this archive class (shelf refs)

Format

SMU SHOW ARCHIVE *archive_id[,...]*

Parameters

archive_id[,...]
Specifies the archive classes to be displayed. If two or more archive identifiers are specified, separate them with commas. If no archive identifiers are specified, HSM lists all defined archive classes.

Qualifiers

/OUTPUT[=*filespec*]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

Examples

The following example shows the SMU SHOW ARCHIVE command for Basic mode on a system where only two archive classes are defined:

```
$ SMU SHOW ARCHIVE
HSM$ARCHIVE01 has been used
Identifier:     1
Media type:     CompacTape III, Loader
Label:          HS0004
```

```
Position:        1350
Device refs:     1
Shelf refs:      1


HSM$ARCHIVE02 has not been used
Identifier:      2
Media type:      CompacTape III,
Loader Label:    HS1001
Position:        0
Shelf refs:      0
SAVESET_SIZE: 40 MB
```

The following example shows the SMU SHOW ARCHIVE command for a specific archive class for Plus mode:

```
$ SMU SHOW ARCHIVE 1


HSM$ARCHIVE01 has been used
Identifier:        1
Media type:        TK85K
Density:           COMP
Label:             ACW401
Position:          21
Device refs:       2
Shelf refs:        3
Current pool:      HSM-POOL
Enabled pools:     HSM-POOL
```

SMU SHOW CACHE

The SMU SHOW CACHE command displays the configuration associated with an online cache disk volume or magneto- optical device. The displayed information includes:

- The cache volume name and an indication whether it is currently enabled

- The time set in the SMU SET CACHE command for cache flush to occur; this is not necessarily the next cache flush time

- An indication whether copies to the shelf archive classes are made at shelving time or at cache flush time

- The maximum block size available for caching (a 0 means the entire volume may be used)

- The high water mark percentage of the block size, which if exceeded causes a cache flush

- The cache flush interval

Format

SMU SHOW CACHE volume_name[,...]

Parameters

volume_name[,...]
Specifies the online system mounted volumes that are specified as shelf cache devices.
If no volumes are entered, all cache volumes are displayed.

If two or more volumes are specified, separate them with commas. Wildcard characters are allowed.

Qualifiers

/OUTPUT[=file_spec]
/NOOUTPUT (Default)
Controls where to write the output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

If you enter the /OUTPUT qualifier with a partial file specification (for example, /OUTPUT=[JONES]), HSM$CACHE is the default file name and .LIS is the default file extension. The output is suppressed if you enter the /NOOUTPUT qualifier.

Example

The following example shows the SMU SHOW CACHE command display.

```
$ SMU SHOW CACHE _$15$DKA100:

Cache device _$15$DKA100: is enabled, Cache flush is held until
    after 15-JUN-1995 04:00:00.00, Backup is performed at flush
    intervals, Cached files are held on delete of online file
    Block size:  100000
    Highwater mark: 80%
    Flush interval: 1 00:00:00.00
```

SMU SHOW DEVICE

The SMU SHOW DEVICE command displays the information associated with the specified nearline or offline device. The displayed information includes:

- The device name

- An indication of whether the device is currently enabled for HSM use

- Shared or dedicated access indication

- The operations that are supported by the device

- An indication of whether the device is correctly configured and usable by HSM

- If the information displayed is Not configured, this means one of the following things:

    – The media type defined for the SMU SET DEVICE command does not match any of the media types defined in TAPESTART.COM (Plus mode).

    – The device does not match the DRIVES_n specification in TAPESTART.COM for the identified media type (Plus mode).

    – MDMS is not running, so HSM cannot verify the information provided (Plus mode).

    – The robot name is not specified, or the specified robot name does not exist or is not accessible (Basic mode).

    – The default device is being displayed.

- The media type the device supports in Basic mode

- The robot name controlling a loader device in Basic mode, or <none> for a non-loader device

- The archive classes supported by the device

Format

SMU SHOW DEVICE *device_name*[,...]

Parameters

device_name[,...]
Specifies the nearline/offline devices to be displayed. If two or more devices are specified, separate them with commas. Wildcard characters are allowed. If no device name is specified, information about all devices is displayed.

Qualifiers

/OUTPUT[=*filespec*]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

SMU SHOW DEVICE

Examples

The following example shows the SMU SHOW DEVICE display for Basic mode:

```
$ SMU SHOW DEVICE _$10$MIA5:

HSM drive _$10$MIA5: is enabled.
Shared access:   <   shelve, unshelve >
Drive status:       Configured
Media type:         CompacTape III, Loader
Robot name:         _$1$DUA406:
Enabled archives:   HSM$ARCHIVE01  id: 1
                    HSM$ARCHIVE02  id: 2
```

The following example shows the SMU SHOW DEVICE display for Plus mode:

```
$ SMU SHOW DEVICE _NODE2$MKA500:
HSM drive _NODE2$MKA500: is enabled.
Shared access:         <shelve, unshelve>
Drive status:       Configured
Enabled archives:   HSM$ARCHIVE01    id: 1
                    HSM$ARCHIVE03    id: 3
```

SMU SHOW FACILITY

The SMU SHOW FACILITY command displays information about the HSM facility, whose attributes have VMScluster-wide impact on all shelves, volumes and nodes. The displayed information includes:

- Operations that are enabled across the HSM facility

- The list of designated shelf servers

- The current shelf server node

- An indication of whether cache operations and all catalog updates are performed by the shelf server node

- The state of individual types of event logging

- The HSM operations mode (Plus or Basic)

- The amount of shelving storage capacity remaining; if you have acquired the unlimited license, this shows as "unlimited".

Format

SMU SHOW FACILITY

Qualifiers

/OUTPUT[=filespec]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

If you enter the /OUTPUT qualifier with a partial file specification
(for example, /OUTPUT=[JONES]), HSM$FACILITY is the default file name and .LIS is the default file extension. The output is suppressed if you enter the /NOOUTPUT qualifier.

Example

The following example shows the SMU SHOW FACILITY command display.

```
$ SMU SHOW FACILITY

HSM for OpenVMS is enabled for Shelving and Unshelving
    Facilityhistory:
        Created:            22-MAY-199410:36:34.96
        Revised:            15-FEB-199512:27:51.87
    Designated servers:  SYS001
                         SYS002
    Currentserver:       SYS001
    Catalogserver:       Disabled
    Eventlogging:        Audit
                         Error
                         Exception
    HSMmode:             Plus
    Remaining license:   500 gigabytes
```

SMU SHOW POLICY

The SMU SHOW POLICY command displays a shelving policy definition. The displayed information includes:

- The name of the policy

- An indication of whether the policy is currently enabled

- The action to be taken by the policy: either shelving or preshelving

- The creation and modification dates of the record (/FULL only)

- The date used for selecting files for shelving: either the Backup, Creation, Modification, or Expiration dates (/FULL only)

- The period of relative elapsed time at policy execution that files will not be selected for shelving, applied to the specified date field (/FULL only)

- A before or since absolute time that files will not be selected for shelving, applied to the specified date field (/FULL only)

- The low water mark capacity goal that the policy attempts to reach before completing execution (/FULL only)

- The policy algorithms used for primary and secondary policy, or the locations of script files (/FULL only)

- Account to which mail is delivered on policy completion (/FULL only)

- File to which policy information is logged (/FULL only)

Format

SMU SHOW POLICY [policy_name[,...]]

Parameters

[policy_name[,...]]
Specifies one or more policy names. If two or more policy names are specified, separate them with commas. Wildcard characters are allowed.

If no policy_name is specified, all policy definitions are displayed.

Qualifiers

/BRIEF (Default)
Displays one line of information for each specified policy.

/DEFAULT
Shows the default policy record HSM$DEFAULT_POLICY. When a new policy definition is created, all default attributes are set from this default policy definition.

The /DEFAULT qualifier cannot be used with a parameter value.

/FULL
Displays complete information about each specified policy.

/OUTPUT[=*filespec*]
/NOOUTPUT

Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

If you enter the /OUTPUT qualifier with a partial file specification (for example, /OUTPUT=[JONES]), HSM$POLICY is the default file name and .LIS is the default file extension. The output is suppressed if you enter the /NOOUTPUT qualifier.

Examples

The following examples show the SMU SHOW POLICY display.

```
$ SMU SHOW POLICY


Policy HSM$DEFAULT_OCCUPANCY is enabled for shelving
Policy HSM$DEFAULT_POLICY is enabled for shelving
Policy HSM$DEFAULT_QUOTA is enabled for shelving


$ SMU SHOW POLICY/FULL HSM$DEFAULT_QUOTA


Policy HSM$DEFAULT_QUOTA is enabled for shelving
    Policy History:
    Created:          22-MAY-1994 10:36:36.47
    Revised:          22-MAY-1994 10:36:36.47
Selection Criteria:
    State:            Enabled
    Action:           Shelving
    File Event:       Expiration date
    Elapsed time:     18000 00:00
    Before time:      <none>
    Since time:       <none>
    Low Water Mark:   80%
    Primary Policy:   Space Time Working Set (STWS)
    Secondary Policy: Least Recently Used (LRU)
Verification:
    Mail notification:  <none>
    Output file:        <none>
```

SMU SHOW REQUESTS

The SMU SHOW REQUESTS command displays the number of HSM operations in progress, and optionally dumps information about the requests to an activity log. The log is located at HSM$LOG:HSM$SHP_ACTIVITY.LOG.

The SMU SHOW REQUESTS command will only display the requests on the current node you are using. To show the requests on all nodes in the cluster, use the OpenVMS SYSMAN command as shown in the example below.

Format

SMU SHOW REQUESTS

Qualifiers

/BRIEF (Default)
Writes a line to the display device to indicate the number of requests in progress.

/FULL
Writes a line to the display device to indicate the number of requests in progress. In addition, if there is at least one active request, the requests are dumped to the file HSM$LOG:HSM$SHP_ACTIVITY.LOG.

/OUTPUT[=filespec]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

────────────────────────── Note ──────────────────────────

This qualifier affects only the one line display of the number of requests in progress. The activity log is always placed in a new version of HSM$LOG:HSM$SHP_ACTIVITY.LOG.

──

Example

The following example shows the SMU SHOW REQUESTS command:

```
$ SMU SHOW REQUESTS/FULL
%HSM-S-DMPACTREQS, shelving facility active with 3 requests
%HSM-I-DMPFILE, active requests dumped to file
HSM$LOG:HSM$SHP_ACTIVITY.LOG
```

The following example shows how to use the OpenVMS SYSMAN command to show the requests on all nodes in the cluster.

```
$ MCR SYSMAN    SYSMAN> SET ENVIRONMENT/CLUSTER
%SYSMAN-I-ENV, current command environment:
Clusterwide on local cluster
Username PETER will be used on nonlocal nodes

SYSMAN> DO SMU SHOW REQUESTS
%SYSMAN-I-OUTPUT, command execution on node HERSHY
%HSM-S-DMPACTREQS, shelving facility active with 1 requests
%SYSMAN-I-OUTPUT, command execution on node MINT
%HSM-S-DMPACTREQS, shelving facility active with 1 requests
%SYSMAN-I-OUTPUT, command execution on node CHOCO
%HSM-S-DMPACTREQS, shelving facility active with 4 requests
```

SMU SHOW SCHEDULE

The SMU SHOW SCHEDULE command displays information about existing preventative policy schedules. The displayed information includes:

- The volume name for which the policy is scheduled - each volume is listed separately

- The policy name

- The entry number, which can be used in subsequent modifications to the schedule entry

- The status of the schedule - the status values are the same as those for OpenVMS batch queue entries

- The server node on which the policy is scheduled (/FULL only)

- The scheduled time of the policy execution (/FULL only)

- The scheduling interval (/FULL only)

- The output file containing the policy execution information (/FULL only)

The SMU SHOW SCHEDULE command may be entered with no parameters to show all HSM schedules or to show a particular entry using /ENTRY. For all other cases, at least one volume name must be entered.

Format

SMU SHOW SCHEDULE [volume_name[,...] [policy_name]]

Parameters

volume_name[,...]
The name of the online volume(s) on which the scheduling information is to be displayed. If no volume names and policy names are entered, the schedule for all volumes is displayed, unless the /ENTRY qualifier is specified.

If two or more volumes are specified, separate them with commas. Wildcard characters are not allowed.

[policy_name]
The name of an existing policy definition. If no policy name is entered, the schedules for all policies are displayed.

Qualifiers

/BRIEF (Default)
Displays a one-line summary for each scheduled entry.

/ENTRY=*entry_number*
Displays a specific scheduled entry only, and should be entered with no parameters on the command line.

/FULL
Displays complete information for each scheduled entry.

/OUTPUT[=*filespec*]
/NOOUTPUT

SMU SHOW SCHEDULE

Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

/SERVER=*server_name*
Displays only those entries scheduled on a specific server node.

Examples

The following examples show the SMU SHOW SCHEDULE command:

```
$ SMU SHOW SCHEDULE _$1$DKA100:, _$1$DKA200:

Volume            Policy                  Entry       status
------            ------                  -----       ------
_$1$DKA100:       HSM$DEFAULT_OCCUPANCY   517         PENDING

Volume            Policy                  Entry       status
------            ------                  -----       ------
_$1$DKA200:       HSM$DEFAULT_OCCUPANCY   518         PENDING

$ SMU SHOW SCHEDULE/ENTRY=518/FULL

Volume                Policy                  Entry       status
------                ------                  -----       ------
_$1$DKA200:           HSM$DEFAULT_OCCUPANCY   518         PENDING
   Server node:          SLIPPER
   Scheduled after:      28-MAY-1994 02:00:00.00
   Scheduled interval:   1 00:00:00.00
   Output file           <none>
```

SMU SHOW SHELF

The SMU SHOW SHELF command displays information about a shelf object. The displayed information includes:

- The shelf name and enabled operations

- The name of the catalog supporting this shelf

- The creation and modification date of the shelf record

- An indication whether verification operations are to be performed on BACKUP operations

- The amount of time to wait before a REPACK operation removes shelf data after a file is deleted

- The number of in-place updates that can be performed on a file before a REPACK operation removes shelf data for the file

- The archive classes defined for the shelf - both the archive classes used for shelving, and those used for unshelving

Format

SMU SHOW SHELF shelf_name[,...]

Parameters

shelf_name[,...]
The name of the shelf. Wildcard characters are allowed.
If no shelf name is specified, all shelves are displayed.

Qualifiers

/OUTPUT[=filespec]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

If you enter the /OUTPUT qualifier with a partial file specification
(for example, /OUTPUT=[JONES]), HSM$SHELF is the default file name and .LIS is the default file extension. The output is suppressed if you enter the /NOOUTPUT qualifier.

Example

The following example shows the SMU SHOW SHELF command display.

```
$ SMU SHOW SHELF HSM$DEFAULT_SHELF

Shelf HSM$DEFAULT_SHELF is enabled for Shelving and Unshelving
    Catalog File: $1$DKA0:[HSM$SERVER.CATALOG]HSM$CATALOG.SYS
    Shelf history:
        Created:            8-JUN-1996 12:39:30.86
        Revised:           14-JUN-1996 13:17:58.87
    Backup Verification:    Off
    Save Time              <none>
    Updates Saved:         All
Archive Classes:
    Archive list:       HSM$ARCHIVE01  id: 1
                        HSM$ARCHIVE02  id: 2
```

SMU SHOW SHELF

```
Restorelist:      HSM$ARCHIVE01  id: 1
                  HSM$ARCHIVE02  id: 2
```

SMU SHOW SHELF

SMU SHOW VERSION

The SMU SHOW VERSION command displays the version information about the various HSM components. The displayed information includes:

• The HSM component name

• The version and interval base level of the component

• The date on which the component was built

In a properly configured system, all version attributes should be the same for all components.

Format

SMU SHOW VERSION

Qualifiers

/OUTPUT[=filespec]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

If you enter the /OUTPUT qualifier with a partial file specification (for example, /OUT-PUT=[JONES]), HSM$VERSION is the default file name and .LIS is the default file extension. The output is suppressed if you enter the /NOOUTPUT qualifier.

Example

The following example shows the SMU SHOW VERSION command display.

```
$ SMU SHOW VERSION

HSM Shelf Handler version      - V2.1 (BL24), Jan 20 1997
HSM Shelving Driver version    - V2.1 (BL24),Jan 20 1997
HSM Policy Execution version   - V2.1 (BL24), Jan 20 1997
HSM Shelf Management version   - V2.1 (BL24), Jan 20 1997
```

SMU SHOW VOLUME

The SMU SHOW VOLUME command displays the shelving attributes of an online disk volume. The displayed information includes:

- The volume name

- The shelf with which the volume is associated

- Operations that are enabled on the volume

- Creation and revision date of the volume record (/FULL only)

- Specific files types ineligible for shelving (contiguous and placement)

- The high water mark capacity for the volume (/FULL only)

- The name of the reactive policy to be executed when a volume (/FULL only) occupancy full or high water mark exceeded event occurs (/FULL only)

- The name of the reactive policy to be executed when an exceeded disk quota event occurs (/FULL only)

Format

SMU SHOW VOLUME volume_name[,...]

Parameters

volume_name[,...]
Shows the event policy for the online volume or volumes. Specify the logical volume name. If two or more volumes are specified, separate them with commas. Wildcard characters are allowed.

If no volume_name is specified, all volumes are displayed.

Qualifiers

/BRIEF (Default)
Displays brief information about the specified volume.

/DEFAULT
Shows the system volume defaults. When a new volume definition is created, all default attributes are set from this default volume definition.

The /DEFAULT qualifier cannot be used with a parameter value.

/FULL
Displays a complete list of information about the volume.

/OUTPUT[=*filespec*]
/NOOUTPUT
Controls where to write output of the command. By default, the display is written to the current SYS$OUTPUT device. No Wildcard characters are allowed.

If you enter the /OUTPUT qualifier with a partial file specification
(for example, /OUTPUT=[JONES]), HSM$VOLUME is the default file name and .LIS is the default file extension. The output is suppressed if you enter the /NOOUTPUT qualifier.

Examples

The following examples show the SMU SHOW VOLUME command display.

```
$ SMU SHOW VOLUME

Volume HSM$DEFAULT_VOLUME on Shelf HSM$DEFAULT_SHELF, Shelving is enabled,
Unshelving is enabled, Highwater mark detection is disabled,Occupancy full
detection is disabled, Disk quota exceeded detection is disabled

Volume _$1$DKA100: on Shelf HSM$DEFAULT_SHELF, Shelving is enabled,
Unshelving is enabled, Highwater mark detection is enabled, Occupancy full
detection is enabled, Disk quota exceeded detection is enabled

Volume _$1$DKA200: on Shelf HSM$DEFAULT_SHELF, Shelving is enabled,
Unshelving is enabled, Highwater mark detection is enabled, Occupancy full
detection is enabled, Disk quota exceeded detection is enabled

$ SMU SHOW VOLUME /DEFAULT /FULL

Volume HSM$DEFAULT_VOLUME on Shelf HSM$DEFAULT_SHELF, Shelving is enabled,
Unshelving is enabled, Highwater mark detection is disabled, Occupancy full

detection is disabled, Disk quota exceeded detection is disabled
Created:    8-JUN-1995 12:39:33.07
Revised:    8-JUN-1995 12:39:33.07
Ineligible files:    <CONTIGUOUS>
High Water Mark: 90%
OCCUPANCY Policy:    HSM$DEFAULT_OCCUPANCY
QUOTA Policy:     HSM$DEFAULT_QUOTA
```

SMU SHUTDOWN

The SMU SHUTDOWN command disables and shuts down HSM in an orderly fashion. SMU SHUTDOWN and SMU SHUTDOWN/NOW take effect on all nodes in the VMScluster, whereas SMU SHUTDOWN /FORCE affects only the issuing node.

This command is typically executed during SYSTEM shutdown (SMU SHUTDOWN/FORCE). It should be placed in the appropriate command files for the system. The other two variants are used to shut down the HSM subsystem across the VMScluster, for perhaps an HSM upgrade or some other reason.

SMU SHUTDOWN waits for all pending requests to complete, whereas SMU SHUTDOWN/ NOW and SMU SHUTDOWN/FORCE shut down immediately; any pending requests are recovered when HSM is restarted.

In any variant of SMU SHUTDOWN, there may be a delay of up to five minutes if a BACKUP or tape positioning operation is in progress.

The SMU SHUTDOWN command requires SYSPRV, TMPMBX, and WORLD privileges.

Format

SMU SHUTDOWN

Qualifiers

/FORCE

Shut down HSM immediately on the requesting node only. HSM will continue to run on other nodes in the VMScluster. Pending requests are not processed but will be recovered when HSM starts up later.

/NOW

Shut down HSM immediately across the VMScluster. Pending requests are not processed but will be recovered when HSM starts up later.

Example

The following example shows the SMU SHUTDOWN command as should be applied in the system shutdown command procedure, to shut HSM down on one node:

```
$ SMU SHUTDOWN/FORCE
```

SMU SPAWN

The SMU SPAWN command creates a subprocess to execute DCL commands without leaving the SMU session.

SPAWN returns you to the DCL level in a subprocess. You can then enter DCL commands. To terminate the subprocess and resume the SMU session, log out of the subprocess.

Alternatively, you can enter a single DCL command line as a parameter to the spawn command.

Format

SMU SPAWN

Examples

The following examples show the SMU SPAWN command:

```
$ SMU
SMU> SPAWN SET PROCESS/NOAUTO_UNSHELVE
SMU>
```

alternatively, you could use the following commands:

```
S SMU
SMU> SPAWN
$ SET PROCESS/NOAUTO_UNSHELVE
$ LOGOUT
SMU>
```

SMU STARTUP

The SMU STARTUP command starts up HSM.

This command is typically executed during SYSTEM startup. It should be placed in the appropriate command files for the system.

The SMU STARTUP command requires the following privileges:

BYPASS	CMKRNL	DETACH
DIAGNOSE	EXQUOTA	LOG_IO
NETMBX	OPER	PHY_IO
PRMMBX	SHARE	SYSLCK
SYSNAM	SYSPRV	TMPMBX
VOLPRO	WORLD	

Format

SMU STARTUP

Examples

The following example shows the SMU STARTUP command:

```
$ SMU STARTUP
%SMU-S-SHP_STARTED, shelf handler process started 22E0193B
%SMU-S-PEP_STARTED, policy execution process started 22E011BC
```

Part II

MDMS Commands

This part contains information about the MDMS STORAGE Commands.

2

MDMS DCL Commands

MDMS provides DCL commands that control media and device management.

The media and device management commands described in this chapter encompass:

- the command syntax

- the command qualifiers

- the purpose of each qualifier

MDMS ALLOCATE DRIVE

The MDMS ALLOCATE DRIVE command selects and allocates a drive based on user-specified selection criteria.
The selected drive name is assigned to the optional process logical name, which may be used in subsequent commands by that process.

Equivalent STORAGE Command: STORAGE SELECT

Format

MDMS ALLOCATE DRIVE [drive_name]

Parameters

drive_name
The name of a specific drive to allocate, which must already have been created with a CREATE DRIVE command. The maximum length of the drive name is 31 characters.
This parameter is optional. Drives can also be allocated on the basis of other selection criteria

Description

The MDMS ALLOCATE DRIVE command selects and allocates a drive based on one of the following:

• a specified drive

• a specified volume

• a specified media type and optionally location, node or group

• a specified jukebox

The selected local OpenVMS device name and the drive name are assigned to the optional logical name in a search list. Both MDMS and non-MDMS DCL commands may be issued using the logical name. The logical name remains assigned until:

• it is deassigned,

• the allocating process terminates,

• or the MDMS DEALLOCATE DRIVE command specifying the logical name is issued.

The MDMS ALLOCATE DRIVE command allocates the selected drive to the current process. After the MDMS ALLOCATE DRIVE command is issued, the name of the selected drive is displayed on the terminal screen. The DCL SHOW LOGICAL command also displays the Open-VMS local device name and the drive name.
If the volume specified currently resides in a jukebox, the drive selected will be from the same jukebox if the drives in the jukebox support the media type of the volume.

Privileges

The request requires MDMS_ALLOCATE_ALL or MDMS_ALLOCATE_OWN.

MDMS_ALLOCATE_OWN requires the specification of an owned volume for selection.
All other selections including the drive name parameter, require MDMS_ALLOCATE_ALL.

MDMS_ASSIST is also required unless /NOASSIST is specified.

Restrictions

The drive_name parameter cannot be used with the /MEDIA_TYPE, /JUKEBOX, /LOCATION, /NODE, /GROUP, or /VOLUME qualifiers.

The /JUKEBOX qualifier cannot be used with /GROUP, /LOCATION, /NODE, /VOLUME, or the drive_name parameter.

The /MEDIA_TYPE qualifier cannot be used with /VOLUME or the drive_name parameter.

The VOLUME qualifier cannot be used with /GROUP, /LOCATION, /MEDIA_TYPE, /NODE, /JUKEBOX or the drive_name parameter.

The /GROUP, /JUKEBOX, /LOCATION and /NODE qualifiers are mutually exclusive. If one is specified, then /MEDIA_TYPE must also be specified (except for /JUKEBOX).

The /[NO]PREFERRED qualifier is ignored if /VOLUME is not supplied.

Qualifiers

/ASSIST (D)
/NOASSIST
The default /ASSIST qualifier outputs an operator request to allocate a drive, if there is a problem allocating a drive immediately. If the operator responds positively to the operator message, the request is retried, otherwise the request fails. The /NOASSIST qualifier performs the operation without operator assistance, and uses the /RETRY and /INTERVAL qualifiers to perform retries. If all retries are exhausted the command fails.

This qualifier requires the right MDMS_ASSIST

/DEFINE=logical_name
Specifies the logical name to be assigned for the drive. The logical name is a process logical name. The maximum length of the logical name is 31 characters. The logical name is assigned to an equivalence string containing the drive name and allocated VMS device name in a search list - as such, both MDMS and non-MDMS commands (e.g. MOUNT) can be issued on the logical name

/GROUP=group_name
When used with /MEDIA_TYPE, this qualifier specifies the name of the group (of nodes supporting the drive) from which to select and allocate the drive. Only one group may be specified.

This qualifier requires the right MDMS_ALLOCATE_ALL.

/INTERVAL=delta_time
Specifies the interval between retries when no drives are available. If not specified, the default interval is one minute.

/JUKEBOX=jukebox_name
Specifies the name of the jukebox from which the drive will be selected for allocation. The maximum length of the jukebox name is 31 characters. If /MEDIA_TYPE is also specified, the drive must be in the jukebox and support the specified media type

This qualifier requires the right MDMS_ALLOCATE_ALL.

/LOCATION=location
When used with /MEDIA_TYPE, this qualifier specifies the location from which to select and allocate the drive. Only one location may be specified.

This qualifier requires the right MDMS_ALLOCATE_ALL.

/MEDIA_TYPE=media_type

Specifies the distinct media type that the drive must support. This media type must match one defined for a drive with the MDMS CREATE DRIVE or MDMS SET DRIVE commands.

This qualifier requires the right MDMS_ALLOCATE_ALL

/NODE=node_name

When used with /MEDIA_TYPE, this qualifier specifies the name of the node from which to select and allocate the drive. Only one node may be specified.

This qualifier requires the right MDMS_ALLOCATE_ALL

/PREFERRED
/NOPREFERRED (D)

The /PREFERRED qualifier tries to allocate the preferred drive for a volume, when /VOLUME is entered; this is the last drive that the volume was loaded in, if that drive is available. The default /NOPREFERRED forces a round-robin selection.

/REPLY=symbol

Specifies the name of the symbol to receive the operator's reply when operator intervention is needed. The symbol will contain the operator reply to the DCL REPLY/TO or DCL REPLY/ABORT commands. The maximum length of a symbol name is 31 characters. This qualifier is only applicable when /ASSIST is specified.

/RETRY_LIMIT=number
/NORETRY_LIMIT

Specifies if MDMS should retry the operation if no drive is available and /ASSIST is not specified. The default is /RETRY_LIMIT=0 which means that no retries are performed. /NORETRY_LIMIT means that there is no limit on the number of retries. Retries are performed at the delta time specified by /INTERVAL. If all retries are exhausted the operation fails.

/VOLUME=volume_id

Specifies if the volume ID of the volume for which an appropriate drive will be selected, can support the volume's media type and placement. The maximum length of the volume ID is 6 characters.

/WRITE (D)
/NOWRITE

Specifies that the drive is to be allocated only for read-only operations. This potentially makes a larger pool of drives available for allocation for certain media types.

Examples

```
$ MDMS ALLOCATE DRIVE $1$MUA5 /DEFINE=MYDRIVE
```

This command allocates the drive 1MUA5 and assigns the drive name to the MYDRIVE logical name. Note that the drive name is the same as the VMS device name in this case.

```
$ MDMS ALLOCATE DRIVE JUKE_2_DRIVE_1 /ASSIST /REPLY=ALLOC_REPLY
```

This command allocates drive JUKE_2_DRIVE_1, and requests operator assistance if the allocation fails, and stores the operator's reply message in symbol ALLOC_REPLY.

```
$ MDMS ALLOCATE DRIVE /VOLUME=LAB003 /NOWRITE /NOPREFERRED
```

This command allocates a drive that supports volume LAB003 for read-only operations, and requests a round-robin drive selection rather than use the preferred drive.

```
$ MDMS ALLOCATE DRIVE /JUKEBOX=TESTJUKE /DEFINE=MYDRIVE
```

This command allocates one of the drives in jukebox TESTJUKE and assigns the drive name to the MYDRIVE logical name.

```
$ MDMS ALLOCATE DRIVE /MEDIA_TYPE=TK85K /NODE=CRUMBS -
/INTERVAL=00:00:10 /NORETRY_LIMIT
```

This command allocates a drive that supports the TK85K media type on node CRUMBS, and specifies a retry interval of 10 seconds if a drive is not immediately available with no limit on retries.

MDMS ALLOCATE VOLUME

The MDMS ALLOCATE VOLUME command allocates available free volumes to the requesting user or a specified user.

Equivalent STORAGE Command: STORAGE ALLOCATE

Format

MDMS ALLOCATE VOLUME [volume_id]

Parameters

volume_id

Specifies the volume to allocate. The maximum length of the volume_id is 6 characters. This parameter is optional, and volumes can be allocated on the basis of /BIND, /JUKEBOX, /LIKE_VOLUME, /LOCATION, /MEDIA_TYPE or /POOL instead.

Description

The MDMS ALLOCATE VOLUME command allocates available free volumes to the username of the requesting process. The newly allocated volume(s) can also be appended to the end of a volume set. A volume set is defined to be one or more allocated volumes.

When the volume_id parameter is used, that specific volume will be assigned if it is in the Free state. If the volume_id parameter is not used, the volume will be selected based on one or more of the following selection criteria.

- Bind volume

- Jukebox

- Like volume

- Location

- Pool

- Media type

Privileges

The request requires MDMS_ALLOCATE_ALL or MDMS_ALLOCATE_POOL.

MDMS_ALLOCATE_POOL requires the volume to be allocated from a named pool to which the calling user is authorized. All other allocations, including allocation from the scratch (unnamed) pool and the specification of /USER_NAME, require MDMS_ALLOCATE_ALL.

The /BIND qualifier requires MDMS_BIND_ALL if the /USER_NAME qualifier is specified, or MDMS_BIND_OWN.

The /BLOCK_FACTOR, /DESCRIPTION, /FORMAT, /RECLENGTH, /[NO]SCRATCH_DATE and /[NO]TRANSITION_TIME qualifiers require MDMS_SET_ALL if the /USER_NAME qualifier is specified, or MDMS_SET_OWN or MDMS_SET_POOL.

Restrictions

- The volume_id parameter cannot be used with the /BIND, /JUKEBOX, /LIKE_VOLUME, /LOCATION, /MEDIA_TYPE, /POOL, or /QUANTITY qualifiers.

- /BIND cannot be used with the /JUKEBOX, /LIKE_VOLUME, /LOCATION, /POOL, /MEDIA_TYPE or /QUANTITY qualifier.

- /LIKE_VOLUME qualifier cannot be used with the /BIND, /JUKEBOX, /LOCATION, /MEDIA_TYPE, or /POOL qualifiers.

Qualifiers

/BIND=volume_id
Specifies that the new allocated volume or volume set be appended to the volume set marked by the volume_id. The volume_id specifies selection criteria for allocating the new volume(s). The maximum length of the volume_id is 6 characters.
When the /BIND qualifier is used, the following attributes must match.

- Media Type

- Pool

- Placement (in same jukebox, magazine, or location)

- The BIND volume must be allocated

This qualifier requires the right MDMS_BIND_*

/BLOCK_FACTOR=number
Modifies the block factor attribute of the allocated volume records. Applies only to volume records with a format of EBCDIC. If not specified, the block factor attribute is not changed.

This qualifier requires the right MDMS_SET_*

/DEFINE=logical_name
Specifies a logical name to be assigned for the volume allocated. The logical name is a process logical name. If the /QUANTITY qualifier is used, the returned volume will be the first volume in the volume set. The maximum length of the logical name is 31 characters.

/DESCRIPTION="text"
Modifies comments about the object in the volume record. If the text contains spaces, it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters.
To clear the existing description, specify "". If not specified, the volume description is not changed. This qualifier requires the right MDMS_SET_*

/FORMAT=keyword
Modifies the format field in the volume record.
If not specified, the format attribute is not changed.
Valid values are:

- ASCII

- BACKUP

- EBCDIC

- NONE

- RMUBACKUP

This qualifier requires the right MDMS_SET_*

/JUKEBOX=jukebox_name

Allocates a volume that resides in the specified jukebox.

/LIKE_VOLUME=volume_id

Indicates that the allocated volume has attribute values identical to those specified. The following attributes define a "like volume":

• Media type

• Pool

• Placement (in the same jukebox, magazine, or location)

/LOCATION=location

Specifies the location from which to allocate volume(s). If not entered, other selection criteria are used to allocate the volume(s).

/MEDIA_TYPE=media_type

Specifies that the volume(s) are allocated with the specified media type. If not specified, other selection criteria are used to allocate the volume(s).

/POOL=pool_name

Specifies the pool from which the volume(s) will be selected. The maximum length of the pool name is 31 characters.

/QUANTITY=number

Specifies the number of volumes to allocate. Use this qualifier to allocate more than one volume. The default value is 1. If you enter a number greater than 1, the allocated volumes are bound together in one volume set. If you use the /BIND qualifier, these allocated volumes are bound to the end of the set specified in the /BIND qualifier.

/RECLENGTH=number

Modifies the volume's record length attribute. If not specified, the record length attribute is not changed.

This qualifier requires the right MDMS_SET_*

/SCRATCH_DATE=date
/NOSCRATCH_DATE

Modifies the scratch date in the volume record. The scratch date is the date that the volume is placed in the TRANSITION state (or FREE state if the volume has no transition duration). If /NOSCRATCH_DATE is specified, the volume will never be automatically deallocated. If not specified, the volume's scratch date is not changed.

This qualifier requires the right MDMS_SET_*

/TRANSITION_TIME=delta_time
/NOTRANSITION_TIME

Modifies the amount of time, as a delta time, that will be applied to the current scratch date to form the length of time the volume(s) will remain in the TRANSITION state before going into the FREE state. Use the standard OpenVMS delta time format to specify a delta time for the duration. If /NOTRANSITION_TIME is specified, the volume goes directly into the FREE state on deallocation. If not specified, the transition time in the volume record is not changed.

This qualifier requires the right MDMS_SET_*

/USER_NAME=username

Specifies the user for whom the volume is being allocated. The username must exist on the system where the command is entered. The maximum length of the username is 31 characters.

This qualifier requires the right MDMS_ALLOCATE_ALL

Examples

```
$ MDMS ALLOCATE VOLUME /QUANTITY=3 /MEDIA_TYPE=TK85K
```

This command allocates three TK85K volumes to the current user. The volumes are bound in a new volume set.

```
$ MDMS ALLOCATE VOLUME /MEDIA=TK85K /LOCATION=CXO
```

This command allocates one TK85K volume at location CXO to the current user.

```
$ MDMS ALLOCATE VOLUME /BIND=TEST01
```

This command allocates one volume with the same attributes as TEST01 to the current user. The new volume is bound to the end of the volume set containing TEST01.

```
$ MDMS ALLOCATE VOLUME USER30 /DESCRIPTION="MAY REPORTS"
```

This command allocates volume USER30 to the current user and modifies the volumes description to "MAY REPORTS".

```
$ MDMS ALLOCATE VOLUME /LIKE_VOLUME=AGW500 /USER_NAME=SYSTEM
```

This command allocates a volume with similar attributes to volume AGW500, for user SYSTEM

MDMS BIND VOLUME

The MDMS BIND VOLUME command binds a volume to another volume or volume set or binds a volume set to another volume set.

Equivalent STORAGE Command: STORAGE APPEND

Format

MDMS BIND VOLUME [volume_id]

Parameters

volume_id
Specifies the volume ID of the volume to bind.
If an existing volume set is to be bound to another volume or volume set, then the volume ID of the first member of the volume set to bind should be specified. The maximum length of a volume ID is 6 characters. If the volume_id parameter is omitted, a volume with similar characteristics to those in the set will be allocated and bound to the end of the volume set.

Description

The MDMS BIND VOLUME command binds a volume to another volume or volume set or binds a volume set to another volume set. When binding to a volume or volume set, all involved volumes must be allocated and be of the same media type.

While binding a volume set to another volume or volume set, the volume_id parameter must be the first member of the volume set.
To append to the end of a volume set, use the /TO_SET qualifier. Volumes in the volume set must already be allocated to the same user (username and UIC). When a new volume is bound to a volume set the scratch dates of all volumes in the set will be set to the scratch date of the newly bound volume.

Privileges

The request requires MDMS_BIND_ALL or MDMS_BIND_OWN.

If the /USER_NAME qualifier is not specified, MDMS_BIND_OWN allows the user to bind volumes which are allocated to that user. Binding on behalf of another user with the /USER_NAME qualifier requires MDMS_BIND_ALL.

Restrictions

None

Qualifiers

/TO_SET=volume_id
Specifies the volume ID of a volume or volume set member. The volume (set) specified in the volume_id parameter is appended to the end of the volume set containing this volume. The maximum length of the volume ID is 6 characters.
If the volume_id parameter is not provided, then a similar volume to the volume specified in the /TO_SET qualifier is allocated and bound to the end of that volume set.

/USER_NAME=username

Specifies the user for whom the volume is being bound. The username must exist on the system where the command is entered. The maximum length of the username is 31 characters.

This qualifier requires the right MDMS_BIND_ALL

Examples

```
$ MDMS BIND VOLUME VOL001/TO_SET=VOL006
```

Volume set 1 contains VOL001, VOL002 and VOL003. Volume set 2 contains VOL004, VOL005 and VOL006. This command binds the volume set containing VOL001 to the volume set containing VOL006. The created volume set will contain volumes VOL004, VOL005, VOL006, VOL001, VOL002, VOL003.
Volumes in both volume sets must have compatible attributes.

```
$ MDMS BIND VOLUME VOL002 /TO_SET=VOL005 /USER_NAME=SYSTEM
```

Volume VOL002 is a single volume and VOL005 is part of a volume set that contains VOL004, VOL005 and VOL006. This command binds the volume VOL002 to the volume set containing VOL005. The created volume set will contain volumes VOL004, VOL005, VOL006, VOL002. All the volumes involved are allocated to user SYSTEM.

MDMS CANCEL REQUEST

The MDMS CANCEL REQUEST command cancels a previously issued request. The request may have been issued either synchronously or asynchronously.

The following types of request can be cancelled using this command:

- ALLOCATE DRIVE

- ALLOCATE VOLUME

- INITIALIZE VOLUME

- INVENTORY JUKEBOX

- LOAD DRIVE

- LOAD VOLUME

- MOVE MAGAZINE

- MOVE VOLUME

- UNLOAD DRIVE

- UNLOAD VOLUME

- Any operation involving OPCOM

Equivalent STORAGE Command: None.

Format

MDMS CANCEL REQUEST request_id [,…]

Parameters

request_id
Specifies the request ID(s) of the request(s) to cancel. If the request ID is not known, the user can issue a SHOW REQUESTS command, which displays the request ID of all outstanding requests.

Description

The MDMS CANCEL REQUEST command cancels the specified outstanding request(s).

Privileges

The request requires MDMS_CANCEL_ALL, MDMS_CANCEL_OWN or MDMS_CANCEL_POOL.

If you are canceling your own request, MDMS_CANCEL_OWN or MDMS_CANCEL_POOL is required. If you are canceling any other request, MDMS_CANCEL_ALL is required.

Restrictions

None

Qualifiers

None

Example

$ MDMS CANCEL REQUEST 812

This command cancels the request with ID 812.

MDMS CREATE DRIVE

The MDMS CREATE DRIVE command creates a new drive definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS CREATE DRIVE drive_name

Parameters

drive_name
Specifies the name of the drive. The maximum length of the drive name is 31 characters. On CREATE, the OpenVMS device name must also be specified with the /DEVICE qualifier if it is different from the drive name. The drive name must be unique in the MDMS domain. You should not specify a node in the drive name; rather you should specify either a list of nodes or groups that have access to the drive in the /NODES or /GROUPS qualifiers.

Description

The MDMS CREATE DRIVE command creates a new drive definition in the MDMS configuration database.

While creating a new object record, MDMS supplies default values on attributes that are not specified. Alternatively, they can be inherited from a specified drive using the /INHERIT qualifier.

Privileges

The request requires MDMS_CREATE_ALL.

The /STATE qualifier also requires MDMS_SET_PROTECTED since this attribute is normally managed by MDMS. You should not modify this attribute unless you are trying to recover from an abnormal situation.

Restrictions

The /NODES and /GROUPS qualifiers are mutually exclusive. The MDMS server will refuse this command if both qualifiers are used in the affirmative forms.

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If none of them is specified, attributes are added to the list attributes by default.

Qualifiers

/ACCESS=keyword (ALL)
This qualifier defines the type of access to the drive, which can be one of the following keywords:

• ALL – supports local node/cluster access and remote (RDF) access - default

• LOCAL – supports local node/cluster access only

• REMOTE – supports remote (RDF) access only

/ADD

The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default while specifying list attributes.

/AUTOMATIC_REPLY(D)
/NOAUTOMATIC_REPLY

Specifies that MDMS automatically replies to all OPCOM messages that can be polled for completion on requests for this particular drive.

/DESCRIPTION="text"

Comments about the drive. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the description, specify "".

/DEVICE=vms_device_name

Specifies the OpenVMS device name of the drive. This qualifier is required if the OpenVMS device name is different from the drive name. Do not include a node specification (NODE::drive) in the drive name - instead, use the /NODES or /GROUPS qualifier.

/DISABLED

Places the drive in the disabled state. This prevents the drive from being selected and allocated for use. This takes effect immediately. However, if the drive is already in use, operations on that drive will continue until the drive is deallocated.

/DRIVE_NUMBER=number

This qualifier defines the drive number for robot commands if the drive is in a jukebox. The default is zero. This qualifier must be specified for multi-drive MRD-controlled jukeboxes.

/ENABLED (D)

Places the drive in the enabled state. This allows the drive to be selected and allocated for use. This takes effect immediately. This is the default.

/GROUPS=(group_name[,...])
/NOGROUPS

Specifies the names of groups of nodes that share common access to this device. Usually, only one group is specified. If neither /NODES or /GROUPS is specified on CREATE, the node from which the command was issued is used as the node name

/INHERIT=drive_name

This qualifier allows you to specify an existing drive record from which the new object record inherits attribute values. MDMS supplies default values if you specify none. All attributes may be inherited with the exception of the following:

- Drive name

- Device name

- State

/JUKEBOX=jukebox_name

If the drive is in a jukebox, this qualifier specifies the jukebox name.

/MEDIA_TYPE=(media_type[,…])
/NOMEDIA_TYPE

Specifies one or more distinct media types that the drive can support for read-write access. The /REMOVE or /REPLACE qualifiers can remove or replace items in the listing, rather than adding them by default. The /NOMEDIA_TYPES qualifier removes all media types. When a drive is created with no media types, the default media type from the domain is used.

/NODES=(node_name[,…])
/NONODES
Specifies one or more distinct nodes that have direct access to the drive. The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. The /NONODE qualifier removes all nodes. If neither /NODES or /GROUPS are specified on CREATE, the node from which the command was issued is used as the node name

/READONLY=(media_type[,…])
/NOREADONLY
Specifies one or more distinct media types that the drive can support for read-only access. The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. The /NOREADONLY qualifier removes all read-only media types.

/REMOVE
The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes from them.

/REPLACE
The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

/SHARED
/NOSHARED (D)
The /SHARED qualifier defines that the drive may be used by non-MDMS clients and that the drive is only partially managed. The default, /NOSHARED, indicates that all access to the drive is through MDMS.

/STACKER
/NOSTACKER (D)
The /STACKER qualifier indicates that the drive is to be treated as a stacker gravity loader. The default /NOSTACKER indicates that the drive is to be treated as a standalone drive, or a roboti-cally-controlled jukebox, as appropriate.

/STATE=state
The /STATE qualifier sets the current drive state. This is normally set by MDMS. The valid key-words are:

- Empty:

- Full

- Loading

- Unloading

This qualifier requires the right MDMS_SET_PROTECTED.

Examples

```
$ MDMS CREATE DRIVE $1$MUA5:
```

This command creates a local drive called 1MUA5 with default parameters supplied by MDMS. In this example, the drive name is equivalent to the OpenVMS device name and the cur-rent node is used as the drives node name.

```
$ MDMS CREATE DRIVE DRIVE_1 /DEVICE=$1$MUA5: /NODE=FARLFT
```

This command creates a local drive called DRIVE_1 for 1MUA5 on node FARLFT.

```
$ MDMS CREATE DRIVE JUKE_1_DRIVE_1 /MEDIA_TYPES=(TK85K, -
TK88K) /DEVICE=$1$MKA500 /GROUPS=COOKIE /SHARE /JUKEOX=JUKE_1 -
/DRIVE_NUMBER=1 /ACCESS=ALL
```

This command creates a drive with drive name JUKE_1_DRIVE_1 and OpenVMS device name

$ 1MKA500 in group COOKIE, for local and remote access, shared by non-MDMS users, and supporting media types TK85K and TK88K. The drive is part of jukebox JUKE_1 with drive number 1.

```
$ MDMS CREATE DRIVE FRED /ACCESS=REMOTE
```

This command creates a drive object record named FRED for remote access. MDMS supplies all default attribute values.

```
$ MDMS CREATE DRIVE SPARKY_5 /DEVICE=$1$MUA5 /NODE=SPARKY -
/DISABLE  /MEDIA_TYPES=TK85K /ACCESS=ALL
```

This command defines drive SPARKY_5 , device 1MUA5 on node SPARKY, that supports media type TK85K, supports both local and remote access, and is located on remote node SPARKY. The drive is not available for immediate use.

MDMS CREATE GROUP

The MDMS CREATE GROUP command creates a definition of a group of nodes in the MDMS domain.

Equivalent STORAGE Command: None

Format

MDMS CREATE GROUP group_name

Parameters

group_name
Specifies the name of the group. A group includes nodes that share a common storage device or some other relationship. There is no limit to the number of groups you may specify, and any node may appear in any number of groups. Groups may or may not be equivalent to clusters in your environment. Groups may be used instead of nodes in drive and jukebox definitions, and also as authorized or default users in pool definitions.

Description

The MDMS CREATE GROUP command creates a new group definition in the MDMS configuration database.

When creating a new object record, the user can specify attribute values or allows for MDMS default value assignments. Alternatively, values can be inherited from a specified group using the /INHERIT qualifier.

Privileges

The request requires MDMS_CREATE_ALL.

Restrictions

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If none are specified, attributes are added to list attributes by default.

Qualifiers

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default while specifying list attributes.

/DESCRIPTION="text"
Comments about the group. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the description, specify "".

/INHERIT=group_name
This qualifier allows you to specify an existing group record to inherit attribute values. All attributes may be inherited except for group name.

/NODES=(node_name[,...])
/NONODES
Specifies one or more distinct nodes that are members of the group.
The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list,

rather than adding them by default. The /NONODES qualifier removes all nodes. While specify-
ing nodes, the node names are the MDMS node names, which should have an equivalent node
object (not the DECnet-Plus (Phase V) or TCP/IP fullnames).

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and
removes specified attributes from them.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and
replaces the existing attributes list with the specified attributes list. By default, list attributes are
added to the existing list.

Examples

```
$ MDMS CREATE GROUP HOSER /NODES=(TOOKUS, GREAT, NORTH)
```

This command creates a group named HOSER and includes the nodes TOOKUS, GREAT, and
NORTH.

```
$ MDMS CREATE GROUP MOUNTIE /INHERIT=HOSER /NODES=LABATT /ADD
```

This command creates a new group that includes the nodes in the group HOSER and adds node
LABATT to the node list. You would use this command if the group HOSER includes all nodes
in an OpenVMS Cluster, and you want to manage a device shared between that cluster and node
LABATT (which could be a member of a different OpenVMS Cluster system)

MDMS CREATE JUKEBOX

The MDMS CREATE JUKEBOX command creates a new jukebox definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS CREATE JUKEBOX jukebox_name

Parameters

jukebox_name
Specifies the name of the jukebox, which can be up to 31 characters in length. The jukebox name must be unique in the MDMS domain.

Description

The MDMS CREATE JUKEBOX command creates a new jukebox definition in the MDMS configuration database. MDMS supplies attribute values when creating a new object record. Alternatively, they can be inherited from a specified jukebox using the /INHERIT qualifier.

An MDMS jukebox may be controlled by the MRD subsystem if it accepts direct SCSI robotic operations. Each MRD-controlled jukebox contains a set of slots, drives and robotics configured with a single robotic device name, regardless of whether the jukebox is:

– a loader

– a single-tower library or

– a multi-tower library

A robot name must be associated with each MRD-controlled jukebox. For a multi-tower configuration, a topology field may optionally be associated with the jukebox if the jukebox supports direct magazine moves.

Certain other types of jukeboxes, specifically silos manufactured by StorageTek, require the DCSC subsystem for control. With this model, each MDMS jukebox object maps to a Library Storage Module (LSM) containing a carousel of cells, drives and robotics.

One or more LSMs are contained within an Automated Cartridge System (ACS) and one or more ACS's are managed by a UNIX-based system called a library. For each DCSC-controlled jukebox, the library, ACS ID and LSM ID must be specified.

In addition, each LSM contains one or more Cartridge Access Points (CAPS) that are used to move volumes into and out of the jukebox (LSM). Each CAP may contain a different number of cells, so the CAP size should be specified for each CAP for optimal performance. A value of 40 is used if CAP size is not defined for a particular CAP.

Privileges

The request requires MDMS_CREATE_ALL.

The /STATE qualifier also requires MDMS_SET_PROTECTED since this attribute is normally managed by MDMS. Users should not modify this attribute unless they are trying to recover from an abnormal situation.

Restrictions

The /NODES and /GROUPS qualifiers are mutually exclusive. The MDMS server will refuse this command if both qualifiers are used in the affirmative forms.

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If no qualifier is specified, attributes are added to list attributes by default.

Qualifiers

/ACCESS=keyword (ALL)
This qualifier defines the type of access to the jukebox, which can be one of the following keywords:

- ALL – supports local node/access and remote access - default

- LOCAL – supports local node/cluster access only

- REMOTE – supports remote access only

/ACS=acs_id
This qualifier specifies the Automated Cartridge System (ACS) Identifier for the jukebox. The default value is zero. Each MDMS jukebox maps to one Library Storage Module (LSM), and requires specification of the library, ACS and LSM identifiers. Valid for DCSC-controlled jukeboxes only.

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default when specifying list attributes.

/AUTOMATIC_REPLY(D)
/NOAUTOMATIC_REPLY
Specifies that MDMS automatically replies to all OPCOM messages that can be polled for completion on requests for this particular jukebox.

CAP_SIZE=(number[,…])
For DCSC jukeboxes equipped with Cartridge Access Points (CAPS), this attribute specifies the number of cells for each CAP. The first number is the size for CAP 0, the next for CAP 1 etc. If a size is not specified for a CAP, a default value of 40 is used. Specifying the CAP size optimizes the movement of volumes to and from the jukebox by filling the CAP to capacity for each move operation. When specifying CAP sizes, the specified numbers always replace any previous sizes in the database. Valid for DCSC-controlled jukeboxes only.

/CONTROL=keyword
This qualifier specifies the robot control facility used to control the jukebox's robot. The valid keywords are:

- MRD (D) – The robot is controlled with the MRD facility

- DCSC – The jukebox is a silo controlled by the DCSC facility - for StorageTek ® Silos only

/DESCRIPTION="text"
Defines comments about the object in the record. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the existing description, specify "".

/DISABLED
Places the jukebox in the disabled state. This prevents all drives in the jukebox from being selected and allocated for use. This takes effect immediately. However, any drives in use will continue to be used until they are deselected.

/ENABLED (D)

Places the drive in the enabled state. This allows drives in the jukebox to be selected and allocated for use. This takes effect immediately. This is the default.

/GROUPS=(group_name[,...])
/NOGROUPS

Specifies the names of groups of nodes that share common access to this device. Normally, only one group is specified. The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. The /NOGROUPS qualifier removes all groups. If neither /NODES nor /GROUPS is specified on CREATE, the node from which the request was issued is used as the node name.

/INHERIT=jukebox_name

This qualifier allows you to specify an existing jukebox record to inherit attributes. MDMS supplies values for attributes you do not specify on creation. All attributes may be inherited except for the following:

• Jukebox name

• Robot name

• State

/LIBRARY=library_id

This qualifier specifies the library identifier for a silo. Valid values are 1, 2, 3, 4, and the default is 1 when the jukebox is controlled by DCSC and 0 (not applicable) when controlled by MRD. Each MDMS jukebox maps to one Library Storage Module (LSM), and requires specification of the library, ACS and LSM identifiers.

/LSM=lsm_id

This qualifier specifies the Library Storage Module (LSM) Identifier for the jukebox. The default value is zero. Each MDMS jukebox maps to one LSM, and requires specification of the library, ACS and LSM identifiers. Valid only for DCSC-controlled jukeboxes.

/LOCATION=location_name
/NOLOCATION

This qualifier specifies the location of the jukebox, which is used when moving volumes into and out of the jukebox. If not specified, or /NOLOCATION is specified, the default onsite location from the domain record is used as the jukebox location.

/NODES=(node_name[,…])
/NONODES

Specifies one or more nodes that can directly access the jukebox.
The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. The /NONODES qualifier removes all nodes.
If neither /NODES nor /GROUPS is specified on CREATE, the node from which the request was issued is used as the node name.

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes from them.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

/ROBOT=robot_name
/NOROBOT
The /ROBOT qualifier defines the OpenVMS device name of the robot. Required for, and applicable to MRD-controlled jukeboxes only. Do not specify a node name in the robot name.

/SHARED
/NOSHARED (D)
The /SHARED qualifier defines that the jukebox may be used by non-MDMS clients and that the jukebox is only partially managed. The default, /NOSHARED, indicates that all access to the jukebox is through MDMS.

/SLOT_COUNT=number
The /SLOTS qualifier specifies the total number of slots in the entire jukebox. For any jukebox, either the slot count or topology must be specified. Valid for MRD-controlled jukeboxes only.

/STATE=keyword
The /STATE qualifier specifies the usage state of the jukebox. This is normally set up by MDMS. The keyword values are:

- **Available** - The jukebox is available for use

- **In_use** - The jukebox is in use

This qualifier requires the right MDMS_SET_PROTECTED.

/TOPOLOGY=(TOWERS=(number[,...]), FACES=(number[,...]), -
LEVELS=(number[,...]), SLOTS=(number[,...]))
Specifies topology of jukebox, when a TL820-class jukebox is being used as a magazine. Valid for MRD-controlled jukeboxes only.
The topology specification allows OPCOM messages to move magazines to be specified with TOWER, FACE, LEVEL rather than slot range. The specification of topology is optional.
For each tower in the configuration, a corresponding entry must also be placed in FACES LEVELS and SLOTS that reflects the configuration of that tower.
The tower numbers start at zero and additional towers must be the next number in sequence (i.e. 0,1,2 etc.). Other specifications are absolute counts of the entity being specified for each tower (i.e. the total number of faces, levels and slots in each tower).
For example, for a three-tower jukebox, each tower having 8 faces, the first tower having two levels and the other two towers having three levels, and support of 11-slot bin-packs, the topology specification would be:

/TOPOLOGY=(TOWERS=(0,1,2), /FACES=(8,8,8), LEVELS=(2,3,3), SLOTS=(11,11,11)

/USAGE=[NO]MAGAZINE
The /USAGE=MAGAZINE qualifier specifies that the jukebox is configured for magazines, and that the movement of volumes may be performed using magazines. The /USAGE=NOMAGAZINE qualifier does not support magazine use. The default is NOMAGAZINE. You must specify /USAGE=MAGAZINE when defining the /TOPOLOGY attribute. Note that you can use the jukebox for non-magazine moves even when the usage is magazine, but the reverse is not true. Valid for MRD-controlled jukeboxes only.

Examples

```
$ MDMS CREATE JUKEBOX JUKE_1 /SLOT_COUNT=7 /ROBOT=$1$DUA512: -
/USAGE=MAGAZINE
```

This command creates a jukebox JUKE_1 with a slot range of 0-6 and controlled by robot 1DUA512: and supports magazines. The control type is MRD by default, and the current node is used as the node name supporting the jukebox.

```
$ MDMS CREATE JUKEBOX JUKE_2 /SLOT_COUNT=140) -
   /ROBOT=$1$DUA600 /USAGE=NOMAGAZINE /GROUPS=COOKIE
```

This command creates a jukebox JUKE_2 with a slot range of 0-139 and controlled by robot 1DUA600 in group COOKIE. The control type is MRD by default.

```
$ MDMS CREATE JUKEBOX JUKE_3 /CONTROL=DCSC /LIBRARY=1 /ACS=0 /LSM=0, -
CAP_SIZE=(20,30)
```

This command creates a jukebox JUKE_3 with a library number of 1, ACS ID of 0 and LSM ID of 0. In addition there are two CAPS with sizes of 20 for CAP 0, and 30 for CAP 1. The control type is DCSC meaning this is a silo, does not support magazines, and other default attribute values are supplied by MDMS.

```
$ MDMS CREATE JUKEBOX JUKE_4 /CONTROL=MRD /ROBOT=$1$DUA510: -
/TOPOLOGY=(TOWERS=(0,1),FACES=(8,8),LEVELS=(3,2),SLOTS=(11,11))
```

This command creates a multi-tower jukebox, controlled by MRD with robot name 1DUA510: Its topology is: TOWER 0 with 8 faces, 3 levels and 11 slots; TOWER 1with 8 faces, 2 levels and 11 slots.

MDMS CREATE LOCATION

The MDMS CREATE LOCATION command creates a new location definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS CREATE LOCATION location

Parameters

location
Specifies the name of the location. The maximum length of the location is 31 characters.

Description

The MDMS CREATE LOCATION command creates a new location definition in the MDMS configuration database. MDMS supplies attribute values you do not define on creation. Alternatively, they can be inherited from a named location object using the /INHERIT qualifier.

Privileges

The request requires MDMS_CREATE_ALL.

Restrictions

None

Qualifiers

/DESCRIPTION="text"
Defines comments about the object in the record. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the existing description, specify "".

/INHERIT=location
This qualifier allows you to specify an existing location record to inherit default attributes. The default is that MDMS supplies the default values. All attributes may be inherited except for location name.

/LOCATION=location
/NOLOCATION (D)
The /LOCATION qualifier allows you to specify a higher level location, thus creating a location hierarchy. If there is no higher location, specify /NOLOCATION.
Use a location hierarchy to allow selection of volumes or drives in compatible locations. One location is compatible with another if it has a common location in the hierarchy.

/SPACES=(range[,…])
/NOSPACES
The /SPACES qualifier defines individual spaces for volumes or magazines at the location. Spaces are alphanumeric strings of up to 8 characters. The spaces can be specified as a range - only a single range is supported. When specifying a range, the first and last spaces in the range must have the same number of characters (as in the example), and there is a limit of 1000 spaces per location. The /NOSPACES qualifier removes all spaces.

MDMS CREATE LOCATION

Examples

```
$ MDMS CREATE LOCATION SHELF_40 /SPACES=(40:S001-40:S100)
```

This command creates a shelf location for volumes with 100 spaces, named 40:S001 to 40:S100.

```
$ MDMS CREATE LOCATION VAULT_1
```

This command creates a location named VAULT_1 with no spaces

MDMS CREATE MAGAZINE

The MDMS CREATE MAGAZINE command creates a new magazine definition in the MDMS configuration database.

Equivalent STORAGE Command: STORAGE ADD MAGAZINE

Format

MDMS CREATE MAGAZINE magazine_name

Parameters

magazine_name
Specifies the name of the magazine. The maximum length of the magazine name is 31 characters.

Description

The MDMS CREATE MAGAZINE command creates a new magazine definition in the MDMS configuration database. Magazines are used for two reasons:

- For compatibility with previous versions of MDMS, where loader-type jukeboxes could only be supported using magazines

- To support a set of volumes in a physical magazine whose placement is the same for all volumes in the magazine. In other words, if a volume is in a magazine, it is moved with all the other volumes in the magazine

———————————— **Note** ————————————

It is important to note that there is no need to use magazines for loader-type jukeboxes. Users may instead choose to treat volumes separately and move them into and out of jukeboxes individually.

—————————————————————————————————————

Privileges

The request requires MDMS_CREATE_ALL.

Several protected qualifiers also require MDMS_SET_PROTECTED since these attributes are normally managed by MDMS. You should not modify these attributes unless you are trying to recover from an abnormal situation.

The /JUKEBOX, /PLACEMENT, /POSITION and /START_SLOT are qualifiers that also require MDMS_SET_PROTECTED.

Restrictions

None

Qualifiers

/DESCRIPTION="text"
Defines comments about the object in the record. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the existing description, specify "".

/INHERIT=magazine_name

This qualifier allows you to specify an existing magazine record to inherit default attributes. The default is that MDMS supplies values you do not specify. All attributes may be inherited except for the following:

• Magazine name

• Jukebox name

• Placement

• Position

• Start Slot

/JUKEBOX=jukebox_name

The name of the jukebox from which the magazine will be selected. The maximum length of the jukebox name is 31 characters.

This qualifier requires the right MDMS_SET_PROTECTED.

/OFFSITE=([LOCATION=location][,[NO]DATE[=date]])
/NOOFFSITE(D)

This qualifier specifies the date that the magazine is to be taken offsite and the offsite location. The location field is required when using the /OFFSITE qualifier if no location has been previously specified. The LOCATION keyword cannot be negated and if specified must point to a valid location object. Specify a VMS absolute or delta time in the date field. The NODATE keyword may be used to remove the date. This has the effect of disabling the schedule for the magazine, while retaining the location. To clear the offsite date and location, specify /NOOFFSITE.

/ONSITE=([LOCATION=location][,[NO]DATE[=date]])
/NOONSITE(D)

This qualifier specifies the date that the magazine is to be brought back onsite and the onsite location. The location field is required when using the /ONSITE qualifier if no location has been previously specified. The LOCATION keyword cannot be negated and if specified must point to a valid location object. Specify a VMS absolute or delta time in the date field. The NODATE keyword may be used to remove the date. This has the effect of disabling the schedule for the magazine, while retaining the location. To clear the onsite date and location, specify /NOONSITE.

/PLACEMENT=keyword

This qualifier defines the current placement of the magazine. This is normally managed by MDMS. The following options are available:

• JUKEBOX

• OFFSITE

• ONSITE

• MOVING

This qualifier requires the right MDMS_SET_PROTECTED.

/POSITION=(tower,face,level)

The /POSITION qualifier specifies that the magazine is being created in a jukebox, and specifying the jukebox position that the magazine is being created.
The *'tower, face* and *level'* specification, represents the relative number of the tower, face and level, starting from 0. So for the absolute jukebox slot of zero, the corresponding position is (0,0,0). The next position in the jukebox would be (0,0,1) and so on, according to the topology defined for the jukebox.

This qualifier requires the right MDMS_SET_PROTECTED.

/SLOT_COUNT=number

The /SLOT_COUNT qualifier specifies the number of slots in a magazine to store volumes.

/SPACES=(range)
/NOSPACES

This qualifier specifies the space(s) in a location in which the magazine is stored when not in a jukebox. Spaces are alphanumeric strings of up to 8 characters. The /NOSPACES qualifier removes all spaces.

/START_SLOT=number

This qualifier specifies the starting jukebox slot when the magazine is placed in a jukebox. This is normally set up by MDMS.

This qualifier requires the right MDMS_SET_PROTECTED.

Example

```
$ MDMS CREATE MAGAZINE MYMAG01 /SLOT_COUNT=7 -
     /ONSITE=(LOCATION=SHELF1) /SPACE=2
```

This command creates a magazine called MYMAG01 with 7 slots, which is stored in location space 2 in location shelf 1 when not in a jukebox.

```
$ MDMS CREATE MAGAZINE MAG002 /SLOT_COUNT=32 /SPACES=(SA001-SA032)-
     /ONSITE=(LOCATION=HEADQUARTERS, DATE=01-JAN-2001) -
     /OFFSITE=(LOCATION=DPS, DATE=01-JAN-2000) /JUKEBOX=JUKE_1
```

This command creates a magazine MAG002, with 32 slots, which is stored in onsite location HEADQUARTERS in spaces SA001-SA032, due to be moved offsite on 01-Jan-2001 to location DPS, and back onsite on 01-Jan-2001. When in a jukebox, the magazine resides in jukebox JUKE_1

```
$ MDMS CREATE MAGAZINE MAG003 /SLOT_COUNT=32 /SPACES=SPC001 -
/JUKE=JUKE_1 /POSITION=(0,1,2)
```

This command creates a magazine MAG003, with 32 slots, which is stored in space SPC001. When in a jukebox, the magazine resides in jukebox JUKE_1 in the position:
tower 0, face 1, level 2
Note that jukebox and position should not normally be specified - rather, these are set up when moving the magazine into the jukebox with a MOVE MAGAZINE command.

MDMS CREATE MEDIA_TYPE

The MDMS CREATE MEDIA_TYPE command creates a new media type definition in the MDMS configuration database. Equivalent STORAGE Command: None

Format

MDMS CREATE MEDIA_TYPE media_type

Parameters

media_type
Specifies the name of the media type. The maximum length of the media type name is 31 characters.

Description

The MDMS CREATE MEDIA_TYPE command creates a new media type definition in the MDMS configuration database. A media type definition consists of a required density, and optional compaction length and capacity, if applicable.

Privileges

The request requires MDMS_CREATE_ALL.

Restrictions

None

Qualifiers

/CAPACITY=number
The /CAPACITY qualifier specifies the capacity in megabytes of the tape. This is used by some MDMS clients to estimate end-of-tape conditions. By default, capacity is set to zero.

/COMPACTION (D)
/NOCOMPACTION
The /COMPACTION qualifier specifies that the media type should use compaction when writing to tape. This is the default. If you do not wish to use compaction, then specify /NOCOMPACTION.

/DENSITY=density
Specifies a density string between 1 and 31 characters in length that the media type supports. The density qualifier is used by certain MDMS applications for 9-track tapes. Valid values currently supported are:

- 800

- 1600

- 6250

If future devices support a density specification, the command allows you to enter a valid string for density. Note that the COMP keyword for compaction should be specified in the /COMPACTION attribute, not density.

/DESCRIPTION="text"
Defines comments about the media type. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description is can range from 0 to 255 characters. Specify to clear the description.

/INHERIT=media_type
This qualifier allows you to specify an existing media type record to inherit default attributes. The default is that MDMS supplies values you do not specify on creation. All attributes may be inherited except media type name.

/LENGTH=length
The /LENGTH qualifier specifies the length of a 9-track magnetic tape, and is expressed in feet. By default, length is set to zero.

Examples

```
$ MDMS CREATE MEDIA_TYPE TK85K_COMP /DENSITY=TK85 /COMPACTION
```

This command creates a new media type called TK85K_COMP which supports the TK85 density with compaction.

```
$ MDMS CREATE MEDIA_TYPE TAPE_800 /DENSITY=800 /LENGTH=2400
```

This command creates a new media type called TAPE_800, a 9-track media type with 800 bpi density and a length of 2400 feet.

```
$ MDMS CREATE MEDIA_TYPE TAPE_1600 /INHERIT=TAPE_800 /DENSITY=1600
```

This command creates a new media type called TAPE_1600, a 9-track media type with 1600 bpi density and a length of 2400 feet. (inherited from media type TAPE_800).

MDMS CREATE NODE

The MDMS CREATE NODE command creates a new node definition in the MDMS node configuration database.

Equivalent STORAGE Command: None

Format

MDMS CREATE NODE node_name

Parameters

node_name
Specifies the name of the node. The maximum length of the node name is 31 characters - do not append colons to the node name. The node name should be the DECnet (Phase IV) node name (i.e. SYS$NODE) if DECnet (Phase IV) is supported on the node - otherwise it should be a unique name chosen by the MDMS administrator. If DECnet-Plus (Phase V) and/or TCP/IP are supported, the appropriate full names should be stored as attributes of the node. Do not use the node name to specify the full names.

Description

The MDMS CREATE NODE command creates a new node definition in the MDMS configuration database. A node record must exist for each node that can act as a client to the database server. In addition, a node record must exist for each node capable of being a database server.

When creating a new object record, default attributes are supplied by MDMS. Alternatively, they can be inherited from a specified node using the /INHERIT qualifier.

Privileges

The request requires MDMS_CREATE_ALL.

Restrictions

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If no qualifier is specified, attributes are added to list attributes by default.

Qualifiers

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes.This is the default while specifying list attributes.

/DATABASE_SERVER (D)
/NODATABASE_SERVER
The /DATABASE_SERVER qualifier means the node can be a database server, supporting failover operations. To be a database server, the node must have direct access to the MDMS database files.

In addition, this node name should be added to the definition of the logical name MDMS$DATABASE_SERVERS in SYS$STARTUP:MDMS$SYSTARTUP.COM on all nodes in the domain

/DECNET_PLUS_FULLNAME=node_fullname

This qualifier allows you to specify the DECnet-Plus (Phase V) full name for a node. This full name may be up to 255 characters. If this node has a DECnet-Plus name defined by logical name "SYS$NODE_FULLNAME" then the DECNET_PLUS_FULLNAME has to be defined for this node and has to exactly match the DECnet-Plus (Phase V) name.

The DECNET_PLUS_FULLNAME has to be defined for this node to be fully enabled even though the DECnet transport has been disabled. The full name can be specified in upper or lower case.

/DESCRIPTION="text"

Defines comments about the node. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. Specify "" to clear the description.

/DISABLED

Places the node in the disabled state. This prevents the node from participating in the MDMS domain as either a server or a client. This takes effect immediately.

/ENABLED (D)

Places the node in the enabled state. This allows the node to participate in MDMS operations. This takes effect immediately. This is the default.

/INHERIT=node_name

This qualifier allows you to specify an existing node record to inherit attributes. The default is that MDMS supplies attribute values you do not supply on creation. All attributes may be inherited except for:

- Node name

- DECnet fullname

- TCPIP fullname

/LOCATION=location
/NOLOCATION

This qualifier specifies the location of the node, which is used when allocating volumes and drives. If not specified, or /NOLOCATION is specified, the default onsite location from the domain record is used as the node location.

/OPCOM=(class[,…])
/NOOPCOM

The /OPCOM qualifier adds the specified classes used for notifying operators. All OPCOM for devices on the node are sent to all specified classes on the node. The /REMOVE or /REPLACE qualifiers can be used to remove or replace classes in the list, rather than adding them by default. Specify /NOOPCOM to disable OPCOM notification. By default, the node acquires OPCOM classes from the domain record. The following classes are valid:

CARDS	NETWORK	OPER6	OPER12
CENTRAL	OPER1	OPER7	PRINTER
CLUSTER	OPER2	OPER8	SECURITY
DEVICES	OPER3	OPER9	TAPES
DISKS	OPER4	OPER10	
LICENSE	OPER5	OPER11	

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes from them.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

/TCPIP_FULLNAME=node_fullname[:low_port-high_port]

This qualifier allows you to specify the TCP/IP full name for a node. The full name may be up to 255 characters.

If this node has a TCP/IP name defined by logical name "*INET_HOST" the TCPIP_FULLNAME has to be defined and has to exactly match the full IP name as "<INET_HOST>.<INET_DOMAIN>".

For INET_DOMAIN see logical name "*INET_DOMAIN".

The TCPIP_FULLNAME has to be defined in order for this node to be fully enabled even though the TCPIP transport has been enabled. The fullname can be specified in upper or lower case.

The low_port and high_port numbers specify the range of TCP/IP port numbers used by the server to listen for incoming requests. The default is 2501-2510. If this conflicts with other applications, a new range above 1023 can be specified. The range should contain at least 10 port numbers for the MDMS server to select one at a time.

Note that the MDMS GUI requires TCP/IP running on all GUI nodes, and on the MDMS server nodes to which the GUI may connect.

/TRANSPORT=(keyword[,…])

Specifies the network transports to be used, as a prioritized ordered list.

The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. Enter one or more of:

- DECNET - listen to incoming requests from other MDMS servers on DECnet (Phase IV) or DECnet-Plus (Phase V)

- TCPIP - listen to incoming requests from other MDMS servers on TCP/IP

Setting a new transport will automatically start the listener for this transport on the database server node. Likewise, removing a transport will take place within 10 seconds on the database server node. For client nodes, transport changes will take place the next time network connections time out (usually within 10 minutes). If the change needs to take place immediately, the client node server process must be restarted.

The node name and/or the node full names have to be set accordingly for a transport to work correctly

Examples

```
1. MDMS CREATE NODE TABLES /LOCATION=COMPUTER_LAB_1 -
/TRANSPORT=(DECNET,TCPIP) /OPCOM=(CENTRAL,TAPES) -
/TCPIP_FULLNAME=TABLES.CXO.DEC.COM
```

This command creates a new node definition named "TABLES" with a location, transport protocols and OPCOM classes. The node supports DECnet (node name TABLES) and TCP/IP with a fullname of TABLES.CXO.DEC.COM.

```
2. MDMS CREATE NODE CHAIRS /INHERIT=TABLES -
   /DECNET_PLUS_FULLNAME=DEC:CHAIRS.CXO.DEC.COM -
   /TCPIP_FULLNAME=CHAIRS.CXO.DEC.COM:3000-3050
```

This command creates a new node named CHAIRS, which inherits location, OPCOM classes and transport definitions from node TABLES, with specified DECnet-Plus and TCPIP full names. The TCP/IP connections may be received over ports 3000 - 3050.

MDMS CREATE POOL

The MDMS CREATE POOL command creates a new pool definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS CREATE POOL pool_name

Parameters

pool_name
Specifies the name of the pool. The maximum length of the pool name is 31 characters.

Description

The MDMS CREATE POOL command creates a new pool definition in the MDMS pool configuration database. A pool definition consists of a list of authorized users, and users for whom the pool is the default pool. If a user is listed in either list, he/she is authorized for the pool.

Privileges

The request requires MDMS_CREATE_ALL.

Restrictions

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If no qualifier is specified, attributes are added to list attributes by default.

Qualifiers

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default while specifying list attributes.

/AUTHORIZED_USERS=(node/group_name::username[,...])
/NOAUTHORIZED_USERS
Specifies one or more distinct users to the pool specified by node or group name and user name. Only authorized or default users can allocate volumes belonging to the pool.
The /REMOVE or /REPLACE qualifiers can be used to remove or replace users in the list, rather than adding them by default.

/DEFAULT_USERS=(node/group_name::username[,...])
/NODEFAULT_USERS
Specifies one or more distinct users to the pool as the users default pool. Only authorized or default users can allocate volumes belonging to the pool. The /REMOVE or /REPLACE qualifiers can be used to remove or replace users in the list, rather than adding them by default.
A particular node/group::user combination can only be defined with the /DEFAULT qualifier for one pool.

/DESCRIPTION="text"
Defines comments about the pool. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. Specify "" to clear the description.

/INHERIT=pool_name

This qualifier allows you to specify an existing pool record to inherit attributes. The default is that MDMS supplies values you do not supply on creation. All attributes except pool name may be inherited.

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes from them.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

Examples

```
$ MDMS CREATE POOL TEST_POOL/AUTHORIZE=COOKIE::ABS
```

This command creates a pool called TEST_POOL with one authorized user.

```
$ MDMS CREATE POOL JIMS_POOL /DEFAULT=(OREO::JIM, CRUMBS::JIM,
DSORDS::JIM) /ADD
```

This command adds default users to pool JIMS_POOL. The names before the double colons are a mixture of node names and group names.

MDMS CREATE VOLUME

The MDMS CREATE VOLUME command creates a new volume definition in the MDMS volume database.

Equivalent STORAGE Command: STORAGE ADD VOLUME

Format

MDMS CREATE VOLUME [volume_id]

Parameters

volume_id
Specifies the volume ID of the volume to be added. The volume ID is the external label for the volume. The maximum length of the volume ID is 6 characters. Alternatively, a volume range, separated by a dash, may be specified. A volume range is a numeric range for up to the last three characters of the volume ID. Example ranges are (ABC001-ABC250), (ABC120-ABC125).

There is a limit of 1000 volumes in a valid range.

Either a volume ID or a volume range must be entered in the command, unless the /VISION qualifier is used to automatically determine volume identifiers in a jukebox.

Description

The MDMS CREATE VOLUME command creates a new volume definition in the MDMS volume database. The external label will be used to track the volume in the database. The external label must match the on-tape internal volume label when the volume is initialized.

Privileges

The request requires MDMS_CREATE_ALL or MDMS_CREATE_POOL.

If the user is creating a volume in a named pool to which he is authorized, MDMS_CREATE_POOL is sufficient. The /POOL qualifier must be specified. Otherwise the request requires MDMS_CREATE_ALL.

Several of the qualifiers are designated protected, and require the right MDMS_SET_PROTECTED.
These fields are normally set up by MDMS, and modification is not recommended since you could put the database into an inconsistent state.

Restrictions

The /VISION qualifier is incompatible with the volume_id parameter.
The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If no qualifier is specified, attributes are added to list attributes by default.

Qualifiers

/ACCOUNT="text"
Defines the account name of the volume. The account name may be up to 31 characters. If it contains spaces, it must be enclosed in quotation marks. Specify " " to clear the account name.

This attribute is protected by MDMS_SET_PROTECTED.

/ADD

The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default when specifying list attributes.

/ALLOCATED_DATE=date
/NOALLOCATED_DATE

Specifies the date the volume was allocated. Normally this is set by MDMS. Specify a VMS absolute date and time. Specify /NOALLOCATED_DATE to clear the allocated date.

This qualifier requires the right MDMS_SET_PROTECTED.

/AVAILABLE

The /AVAILABLE qualifier moves a volume from the UNAVAILABLE state to the state it was previously in prior to the UNAVAILABLE state. The volume may then be moved into the TRANSITION or FREE state if the scratch date and/or transition time have expired.

/BLOCK_FACTOR=number

Specifies the block factor the volume. The default is a block factor of zero.

/BRAND="text"

The media manufacturer. The maximum length of the brand name is 31 characters. If it contains spaces it must be contained in quotation marks. Specify "" to clear the description.

/CLEANED_DATE=date
/NOCLEANED_DATE (D)

This qualifier specifies the date the volume was last cleaned and is entered as a VMS absolute time. Specify /NOCLEANED_DATE to clear the cleaned date.

/CREATION_DATE=date
/NOCREATION_DATE (D)

The date the volume is created. This attribute is set by MDMS, but may be overridden if necessary.

This qualifier requires the right MDMS_SET_PROTECTED.

/DEALLOCATED_DATE=date
/NODEALLOCATED_DATE

This qualifier specifies the actual deallocation date for the volume. Specify a VMS absolute time. This date is normally set by MDMS.

This qualifier requires the right MDMS_SET_PROTECTED.

/DESCRIPTION="text"

Comments about the volume. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. Specify "" to clear the description.

This qualifier requires the right MDMS_SET_PROTECTED.

/DRIVE=drive_name
/NODRIVE

Specifies the drive that the volume currently resides in or last resided in. This is normally set up by MDMS. To clear the drive, specify /NODRIVE.

This qualifier requires the right MDMS_SET_PROTECTED.

/FORMAT=keyword

Specifies the format of the tape. Possible values are:

• ASCII

• BACKUP (D)

- EBCDIC

- NONE

- RMUBACKUP

/FREED_DATE=date
/NOFREED_DATE
Specifies the date the volume was last freed (in the FREE state) or is due to be freed. Specify a VMS absolute date and time. This is normally set up by MDMS. To clear the freed date, specify /NOFREED_DATE.

This qualifier requires the right MDMS_SET_PROTECTED.

/INHERIT=volume_id
This qualifier allows you to specify an existing volume record to inherit default attributes. The default is that MDMS supplies values you do not supply on creation. All attributes may be inherited with the exception of the following protected fields:

- Account

- Allocated date

- Accessed date

- Available state

- Creation date

- Deallocated date

- Drive name

- Freed data

- Initialized date

- Job name

- Jukebox name

- Magazine name

- Owner

- Placement

- Slot

- State

- User Name

- Next and previous volumes (cannot be set)

/INITALIZED_DATE=date
/NOINITIALIZED_DATE
Specifies the date the volume was last initialized. Specify a VMS absolute date and time. This is normally set up by MDMS. To clear the initialized date,
specify /NOINITIALIZED_DATE.

This qualifier requires the right MDMS_SET_PROTECTED.

/IO_ERROR_COUNT=number
This qualifier allows you to set the number of I/O errors on the volume. The default value is zero.

/JOB_NAME="text"

This qualifier allows you to specify the last job that accessed the volume. The job name can be from 0 to 31 characters. If it contains spaces, it must enclosed in quotation marks. Specify "" to clear the job name.

This qualifier requires the right MDMS_SET_PROTECTED.

/JUKEBOX=jukebox_name
/NOJUKEBOX

This qualifier allows you to specify that the volume is currently residing or last resided in the specified jukebox. The maximum length of a jukebox name is 31 characters. This is normally set up by MDMS. To clear the jukebox name, specify /NOJUKEBOX.

This qualifier requires the right MDMS_SET_PROTECTED.

/LAST_ACCESS_DATE=date
/NOLAST_ACCESS_DATE

Specifies the date the volume was last accessed. Specify a VMS absolute date and time. This is normally set up by MDMS. To clear the last access date, specify /NOLAST_ACCESS_DATE.

This qualifier requires the right MDMS_SET_PROTECTED.

/MAGAZINE=magazine_name
/NOMAGAZINE

Specifies the magazine name if the volume resides in a magazine. This is normally set up by MDMS. To clear the magazine name, specify /NOMAGAZINE.

This qualifier requires the right MDMS_SET_PROTECTED.

/MEDIA_TYPES=(media_type[,…])
/NOMEDIA_TYPES

The media type qualifier allows you to add the media type(s) that the volume can support. Multiple media types are supported prior to the volume being initialized. After initialization, a volume can only support one media type.
The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. To specify the volume supports no media types, enter /NOMEDIA_TYPES. If a volume is created with no media types, the default media type from the domain record is used.

/MOUNT_COUNT=number

Specifies the number of times the volume has been loaded and mounted. Normally set up by MDMS. The default mount count is zero.

/OFFSITE=([LOCATION=location][, [NO]DATE[=date]])
/NOOFFSITE(D)

This qualifier specifies the date that the volume is to be taken offsite and the offsite location. The location field is required when using the /OFFSITE qualifier if no location has been previously specified. The LOCATION keyword cannot be negated and if specified must point to a valid location object. Specify a VMS absolute or delta time in the date field.

The NODATE keyword may be used to remove the date. This has the effect of disabling the schedule for the volume, while retaining the location. To clear the offsite date and location, specify /NOOFFSITE. If a volume is under magazine control, the /OFFSITE qualifier is not allowed. The volume inherits these values from the magazine object. If /MAGAZINE is used on the SET VOLUME command when an existing /OFFSITE location and date are set, the values are cleared.

/ONSITE=([LOCATION=location][, [NO]DATE=date]])
/NOONSITE (D)

This qualifier specifies the date that the volume is to be brought back onsite and the onsite location. The location field is required when using the /ONSITE qualifier if no location has been previously specified. The LOCATION keyword cannot be negated and if specified must point to a valid location object. Specify a VMS absolute or delta time in the date field. The NODATE keyword may be used to remove the date. This has the effect of disabling the schedule for the volume, while retaining the location. To clear the onsite date and location, specify /NOONSITE. If a volume is under magazine control, the /ONSITE qualifier is not allowed. The volume inherits these values from the magazine object. If /MAGAZINE is used on the SET VOLUME command when an existing /ONSITE location and date are set, the values are cleared.

/OWNER=uic
/NOOWNER

This qualifier specifies the owner of a volume. The owner field must be a UIC in the format [USER] or [group, user]. This is normally set up by MDMS on allocate volume. To clear the owner field, specify /NOOWNER.

This qualifier requires the right MDMS_SET_PROTECTED.

/PLACEMENT=keyword

This qualifier defines the current placement of the volume. This is normally managed by MDMS. The following options are available:

- DRIVE

- ONSITE

- MAGAZINE

- JUKEBOX

- OFFSITE

- MOVING

If a magazine name is specified on the /MAGAZINE qualifier, the volume placement can be in one of three states:

- MAGAZINE

- DRIVE

- MOVING

During a MOVE, LOAD or UNLOAD, a volume's placement may be set to MOVING indicating that the volume is being moved. If a volume is in a magazine, it is set to MOVING when the volume is being loaded or unloaded to/from a drive.

This qualifier requires the right MDMS_SET_PROTECTED.

/POOL=pool_name
/NOPOOL (D)

The pool in which the volume belongs. The maximum length of the pool name is 31 characters. Spaces are not allowed in the pool name. The privilege MDMS_CREATE_ALL is required if no pool name is specified on CREATE.

/PREINITIALIZED
/NOPREINITIALIZED (D)

This qualifier specifies whether the volume has been initialized before creation. If /PREINITIALIZED is specified, the volume is placed in the FREE state rather than the UNINITIALIZED state.

/PROTECTION=protection

The protection code for the volume. Use the standard OpenVMS protection code format.

/PURCHASED_DATE=date
/NOPURCHASED_DATE (D)

The date when the volume was purchased. The date should be specified as an OpenVMS absolute time. Specify /NOPURHCASED_DATE to clear the purchased date.

/RECLENGTH=number

This qualifier specifies the record length used on the volume. The default record length is zero.

/RELEASE

This qualifier puts the volume into the FREE state from the TRANSITION state. It is not valid to release an allocated volume.

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists, and removes specified attributes from them.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists, and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

/RETAIN

This qualifier puts the volume that is in the FREE state or TRANSITION state back into the ALLOCATED state with the former owner as the current owner

/SCRATCH_DATE=date
/NOSCRATCH_DATE

The /SCRATCH_DATE qualifier specifies the planned date to return the volume from the ALLOCATED state to either the TRANSITION state or the FREE state.
Specify /NOSCRATCH_DATE if the volume should not automatically transition from the allocated state.

/SLOTS=(range[,…])
/NOSLOTS

When a volume ID is specified on the create, this qualifier specifies the jukebox or magazine slot that the volume currently resides in. Specify a number in the range of the jukebox or magazine. This is normally set up by MDMS. If the volume does not currently reside in a jukebox or magazine slot, specify /NOSLOTS.
If no volume ID is specified, or if a volume range is specified, a slot range can be included, so that each volume in the range will get placed in individual slots in order. For a single volume, a single slot should be specified.

This qualifier requires the right MDMS_SET_PROTECTED.

/SPACES=(range[,…])
/NOSPACES

When a volume ID is specified on the create, this qualifier specifies the non-jukebox space in the specified location that the volume resides in. If the volume does not reside in a location space, specify /NOSPACES.
Use a space range only when creating multiple volumes - each volume will be placed in individual spaces in order. For a single volume, a single space should be specified.

/STATE=keyword

This qualifier allows you to modify the state of the volume. This is normally set up by MDMS and manual modification is not recommended.

The keyword values are:

• ALLOCATED

• FREE

• TRANSITION

• UNAVAILABLE

• UNINITIALIZED

This qualifier requires the right MDMS_SET_PROTECTED.

/TIMES_CLEANED=number
This qualifier allows you to specify the number of times the volume has been cleaned. The default is zero.

/TRANSITION_TIME=delta_time
/NOTRANSITION_TIME
The /TRANSITION_TIME qualifier specifies that the volume enters the TRANSITION state when the scratch date is reached, and is to stay in the TRANSITION state for the specified delta time. When the TRANSITION time has expired, the volume enters the FREE state.
The /NOTRANSITION_TIME qualifier specifies that the volume enters the FREE state directly at the scratch date.

/UNAVAILABLE
Puts the volume in the UNAVAILABLE state. The previous state is retained for when the volume is made AVAILABLE again.

/USER_NAME=username
/NOUSER_NAME
Specifies the user for the volume. The username can be from 1-31 characters, and must reflect an authorized VMS username. To clear the username, enter /NOUSER.

This qualifier requires the right MDMS_SET_PROTECTED.

/VISION
This qualifier specifies that volume IDs are to be read using a vision system in a suitably-equipped jukebox. No volume ID or volume range should be specified when using this qualifier. Valid only on CREATE VOLUME. Valid only for MRD jukeboxes equipped with a VISION system.

Examples

```
$ MDMS CREATE VOLUME ABC001 /MEDIA=TK85K /ONSITE=(LOCATION=SHELF2) /SPACES=1
```

This command creates a new volume definition for volume ABC001, of media type TK85K, which is stored in the location SHELF2 space 1.

```
$ MDMS CREATE VOLUME /INHERIT=DEF000 /JUKEBOX=JUKE_1 /SLOTS=(0-50) - /VISION
```

This command creates volume records for the newly imported volumes in slots 0-50 of the jukebox JUKE_1, and the volume labels are generated using the vision system, and other attributes are inherited from template volume DEF000.

```
$ MDMS CREATE VOLUME HS0001-HS0007 /INHERIT=TK85MG /MAGAZINE=TX877A -
/SLOTS=(0-6)
```

This command creates seven volume records HS0001 HS0007, which are stored in magazine TX877A in slots 0 6 respectively, and other attributes are inherited from template volume TK85MG.

MDMS DEALLOCATE DRIVE

The MDMS DEALLOCATE DRIVE command deallocates a drive.

Equivalent STORAGE Command: None

Format

MDMS DEALLOCATE DRIVE drive_name

Parameters

drive_name
Specifies the drive name to be deallocated. Specify a drive name or the logical name previously defined in the allocate. The maximum length of the drive name or logical name is 31 characters.

Description

The MDMS DEALLOCATE DRIVE command deallocates a drive. If a logical name is supplied for the drive_name parameter, the logical name will be deassigned.

Privileges

The request requires MDMS_DEALLOCATE_ALL or MDMS_DEALLOCATE_OWN.

Restrictions

Can only be issued by the process that allocated the drive. If that process terminates, the drive is automatically deallocated.

Qualifiers

None

Examples

```
$ MDMS DEALLOCATE DRIVE MYDRIVE
```

This command deallocates the drive assigned to the MYDRIVE logical and deassigns the logical name MYDRIVE.

```
$ MDMS DEALLOCATE DRIVE $1$MUA1
```

This command deallocates drive 1MUA1.

MDMS DEALLOCATE VOLUME

The MDMS DEALLOCATE VOLUME command puts an allocated volume in either the transition state or the free state, depending on volume attributes, which can be overridden in the command.

Equivalent STORAGE Command: STORAGE DEALLOCATE

Format

MDMS DEALLOCATE VOLUME [volume_id]

Parameters

volume_id
Specifies the volume ID of the volume to deallocate. The maximum length of a volume ID is 6 characters. This parameter is required except when the /SCHEDULE qualifier is given, in which case it must be omitted.

Description

The MDMS DEALLOCATE VOLUME command puts an allocated volume in either the TRANSITION state or the FREE state, depending on volume attributes, which can be overridden in the command.

In addition, this command will update the state of the volume to FREE if the freed date (deallocated date plus transition time) has expired.

Privileges

The request requires MDMS_DEALLOCATE_ALL or MDMS_DEALLOCATE_OWN.

If the user is deallocating a volume owned by him, MDMS_DEALLOCATE_OWN is sufficient. If the user is deallocating on behalf of another user with the /USER_NAME qualifier, then the request requires MDMS_DEALLOCATE_ALL.

If the /STATE or /TRANSITION_TIME qualifiers are entered, the user needs MDMS_SET_ALL if the /USER_NAME qualifier is specified, or MDMS_SET_OWN or MDMS_SET_POOL.

Restrictions

- The /SCHEDULE and volume_id parameters are incompatible.

- The /SCHEDULE and /NOVOLSET qualifiers are incompatible

Qualifiers

/SCHEDULE
The /SCHEDULE qualifier selects volumes whose scratch dates or freed dates have expired, and moves them into the TRANSITION state or FREE state respectively. No volume_id parameter is allowed when this qualifier is given.

/STATE=state
Specifies the state in which to place the deallocated volume. The valid state values are FREE and TRANSITION.

This qualifier requires the right MDMS_SET_*

/TRANSITION_TIME=delta_time
/NOTRANSITION_TIME
Modifies the amount of time, as a delta time, that a volume will remain in the TRANSITION state before moving to the FREE state. Use the standard OpenVMS delta time format to specify a delta time for the transition duration.
Specify /NOTRANSITION_TIME to put the volume immediately into the FREE state. If not specified, the existing transition time in the volume record is used.

This qualifier requires the right MDMS_SET_*

/USER_NAME=username
Deallocate a volume which is owned by the specified user. The maximum length of the user-name is 31 characters.

This qualifier requires the right MDMS_DEALLOCATE_ALL

/VOLSET (D)
/NOVOLSET
Indicates that the entire volume set which contains the volume ID is to be deallocated. The default of /VOLSET unbinds and then deallocates all volumes in the volume set.
If /NOVOLSET is specified, the specified volume is unbound from the volume set and dealloc-ated. This qualifier is ignored if the volume is not in a set. You cannot deallocate the first vol-ume in a volume set.

Examples

```
$ MDMS DEALLOCATE VOLUME VOL008 /NOVOLSET /STATE=FREE
```

This command deallocates volume VOL008 for the current user and places the volume in the FREE state.

```
$ MDMS DEALLOCATE VOLUME ACF342 /USER_NAME=SMITH
```

This command deallocates volume ACF342 which was allocated to user SMITH.

```
$ MDMS DEALLOCATE VOLUME VOL002 /VOLSET
```

This command deallocates all volumes in the set that contains volume VOL002 for the current user. The volumes are also unbound from the volume set.

```
$ MDMS DEALLOCATE VOLUME VOL3 /NOVOLSET
```

A volume set contains volumes VOL1, VOL2, VOL3, VOL4, VOL5. This command deallocates volume VOL2 for the current user and leaves two volume sets: VOL1, VOL2 and VOL4, VOL5.

```
$ MDMS DEALLOCATE VOLUME/SCHEDULE
```

Deallocates all volumes whose scratch date has expired. Also, moves volumes into the FREE state if the freed date has expired.

MDMS DELETE DRIVE

The MDMS DELETE DRIVE command deletes a specified drive definition from the MDMS configuration database. The drive must be deallocated prior to being deleted.

Equivalent STORAGE Command: None

Format

MDMS DELETE DRIVE drive_name

Parameters

drive_name
Specifies the name of the drive. The maximum length of the drive name is 31 characters.

Description

The MDMS DELETE DRIVE command deletes a specified drive definition from the MDMS configuration database.

Privileges

The request requires MDMS_DELETE_ALL.

Restrictions

None

Qualifiers

None

Examples

```
$ MDMS DELETE DRIVE $1$MUA5
```

This command deletes the drive definition for 1MUA5.

MDMS DELETE GROUP

The MDMS DELETE GROUP command deletes a specified group definition from the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS DELETE GROUP group_name

Parameters

group_name
Specifies the name of the group. The maximum length of the drive name is 31 characters.

Description

The MDMS DELETE GROUP command deletes a specified group definition from the MDMS configuration database.

Privileges

The request requires MDMS_DELETE_ALL.

Restrictions

None

Qualifiers

None

Examples

```
$ MDMS DELETE GROUP HOSER
```

This command deletes the group definition for HOSER.

MDMS DELETE JUKEBOX

The MDMS DELETE JUKEBOX command deletes a specified jukebox definition from the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS DELETE JUKEBOX jukebox_name

Parameters

jukebox_name
Specifies the name of the jukebox. The maximum length of the jukebox name is 31 characters.

Description

The MDMS DELETE JUKEBOX command deletes a specified jukebox definition from the MDMS configuration database. Before deleting a jukebox, it is highly recommended that all drives defined as being in the jukebox are also deleted (or modified), and volumes and magazines are moved out of the jukebox.

Privileges

The request requires MDMS_DELETE_ALL.

While deleting a volume that is in a pool to which the user is authorized, MDMS_DELETE_POOL is sufficient. All other volume deletes require MDMS_DELETE_ALL

Restrictions

None

Qualifiers

None

Examples

```
$ MDMS DELETE JUKEBOX JUKE_1
```

This command deletes the definition for jukebox JUKE_1.

MDMS DELETE LOCATION

The MDMS DELETE LOCATION command deletes a specified location definition from the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS DELETE LOCATION location

Parameters

location
Specifies the name of the location. The maximum length of the location is 31 characters.

Description

The MDMS DELETE LOCATION command deletes a specified location definition from the MDMS configuration database.

Privileges

The request requires MDMS_DELETE_ALL.

Restrictions

None

Qualifiers

None

Example

```
$ MDMS DELETE LOCATION ROOM_1
```

This command deletes the location definition for ROOM_1.

MDMS DELETE MAGAZINE

The MDMS DELETE MAGAZINE command deletes a specified drive magazine from the MDMS configuration database.

Equivalent STORAGE Command: STORAGE REMOVE MAGAZINE

Format

MDMS DELETE MAGAZINE magazine_name

Parameters

magazine_name
Specifies the name of the magazine. The maximum length of the magazine name is 31 characters.

Description

The MDMS DELETE MAGAZINE command deletes a specified magazine definition from the MDMS configuration database.

Privileges

The request requires MDMS_DELETE_ALL.

Restrictions

None

Qualifiers

None

Examples

```
$ MDMS DELETE MAGAZINE MAG001
```

This command deletes the magazine MAG001.

MDMS DELETE MEDIA_TYPE

The MDMS DELETE MEDIA_TYPE command deletes a specified media type definition from the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS DELETE MEDIA_TYPE media_type

Parameters

media_type
Specifies the name of the media type. The maximum length of the media type is 31 characters.

Description

The MDMS DELETE MEDIA_TYPE command deletes a specified media type definition from the MDMS configuration database.

Privileges

The request requires MDMS_DELETE_ALL.

Restrictions

None

Qualifiers

None

Example

```
$ MDMS DELETE MEDIA_TYPE TK87K
```

This command deletes the definition for media type TK87K.

MDMS DELETE NODE

The MDMS DELETE NODE command deletes a specified node definition from the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS DELETE NODE node_name

Parameters

node_name
Specifies the name of the node. The maximum length of the node name is 31 characters.

Description

The MDMS DELETE NODE command deletes a specified node definition from the MDMS configuration database.

Privileges

The request requires MDMS_DELETE_ALL.

Restrictions

None

Qualifiers

None

Example

```
$ MDMS DELETE NODE FUDGE
```

This command deletes the node name FUDGE.

MDMS DELETE POOL

The MDMS DELETE POOL command deletes a specified pool definition from the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS DELETE POOL pool_name

Parameters

pool_name
Specifies the name of the volume pool. The maximum length of the pool name is 31 characters.

Description

The MDMS DELETE POOL command deletes a specified pool definition from the MDMS configuration database.

Privileges

The request requires MDMS_DELETE_ALL.

Restrictions

None

Qualifier

None

Example

```
$ MDMS DELETE POOL SLSPOOL
```

This command deletes pool SLSPOOL.

MDMS DELETE VOLUME

The MDMS DELETE VOLUME command deletes a specified volume definition from the MDMS volume database.

Equivalent STORAGE Command: STORAGE REMOVE VOLUME

Format

MDMS DELETE VOLUME volume_id

Parameters

volume_id
Specifies the name of the volume. The maximum length of a volume ID is 6 characters. Alternatively, a volume range, separated by a dash, may be specified. A volume range is a numeric range for up to the last three characters of the volume ID. Example ranges are (ABC001-ABC250), (ABC120-ABC125).

Description

The MDMS DELETE VOLUME command deletes a specified volume definition from the MDMS volume database. Volumes must be in the UNINITIALIZED or FREE states prior to being deleted.

Privileges

The request requires MDMS_DELETE_ALL or MDMS_DELETE_POOL.

If the user is deleting a volume that is in a pool to which he is authorized, MDMS_DELETE_POOL is sufficient. All other volume deletes require MDMS_DELETE_ALL.

Restrictions

None

Qualifiers

None

Examples

```
$ MDMS DELETE VOLUME ABC001-ABC099
```

This command deletes the records for volumes ABC001 to ABC099.

MDMS INITIALIZE VOLUME

The MDMS INITIALIZE VOLUME command initializes a volume or a range of volumes by writing the volume ID to tape as the tape label.

Equivalent STORAGE Command: None

Format

MDMS INITIALIZE VOLUME [volume_id]

Parameters

volume_id
Specifies the name(s) of the volume(s) to initialize. The maximum length of a volume ID is 6 characters. Alternatively, a volume range, separated by a dash, may be specified. A volume range is a numeric range for up to the last three characters of the volume ID. Example ranges are (ABC001-ABC250), (ABC120-ABC125). There is a maximum of 1000 volumes in a range.

This parameter is required except when /JUKEBOX and /SLOTS are specified.
The /JUKEBOX and /SLOTS option is valid only for MRD-controlled jukeboxes equipped with a vision system. For all other jukeboxes, the volume_id parameter is required.

Description

The MDMS INITIALIZE VOLUME command initializes a volume or a range of volumes by writing the volume ID to tape as the tape label. The volume records must be created prior to the initialization. In addition, the volumes must be in the FREE or UNITIALIZED states in order to be initialized.

If the volume(s) are contained in a jukebox, MDMS automatically loads and unloads the volumes. Otherwise, operator assistance is required.

In order to initialize volumes, the MDMS database server allocates a free drive that can handle the volumes. All volumes in a single command must support the specified media type (or the media type already in the volume record). Do not allocate a drive or load a volume for the initialization - this must be done by MDMS.

Privileges

The request requires MDMS_INITIALIZE_ALL or MDMS_INITIALIZE_POOL.

If the user is initializing a volume that is in a pool to which he is authorized, MDMS_INITIALIZE_POOL is sufficient. All other initializations require MDMS_INITIALIZE_ALL.

MDMS_ASSIST is also needed unless /NOASSIST is specified.

Restrictions

The /JUKEBOX and /SLOTS qualifiers must be used together, and are incompatible with the volume_id parameter.

Qualifiers

/ASSIST (D)
/NOASSIST
The default /ASSIST qualifier is used to output an operator message if the volume requires operator intervention. You can use /ASSIST even if no assistance is needed - MDMS will perform the operation automatically if it can.
If you specify /NOASSIST and assistance is needed, the operation fails.

This qualifier requires the right MDMS_ASSIST

/JUKEBOX=jukebox_name
Indicates the volumes to be initialized are in the specified jukebox. A slot range should also be specified with this qualifier. Valid only for MRD jukeboxes equipped with a vision system.

/MEDIA_TYPE=media_type
Modifies the volume record to support only this media type. The volume must already support this media type, but may support others as well. After the initialization, the other media types are removed.

/OVERWRITE
/NOOVERWRITE(D)
The /OVERWRITE qualifier allows initialization if the requested volume label is different from the current label, and the volume has already been initialized and contains data. The default /NOOVERWRITE qualifier indicates that the volume should not be initialized if the label does not match and the volume contains data. Under no circumstances will the volume be initialized if the volume (according to the current label) is allocated or in the transition state.

/REPLY=symbol
Specifies the name of the symbol to receive the operator's reply when operator intervention is needed. The symbol will contain the operator reply to the DCL REPLY/TO or DCL REPLY /ABORT commands.

/SLOTS=(range[,…])
Specifies the slots containing volumes to initialize, when used with the /JUKEBOX qualifier. Valid only for MRD jukeboxes equipped with a vision system.

/WAIT (D)
/NOWAIT
The /NOWAIT qualifier returns an informational message indicating that the initialize is being queued. The /WAIT qualifier causes the MDMS INITIALIZE VOLUME command to wait until the initialization is complete.

Examples

```
$ MDMS INITIALIZE VOLUME WOR001 /MEDIA_TYPE=TK85K
```

This command loads, initializes and unloads volume WOR001 and modifies the volume records to set media type TK85K only.

```
$ MDMS INITIALIZE VOLUME/JUKEBOX=JUKE_1/SLOTS=(0-10)/OVERWRITE
```

This command loads, initializes and unloads the volumes contained in slots 0-10 of jukebox JUKE_1, and allows initialization even if the tapes have already been written.

```
$ MDMS INITIALIZE VOLUME ABC001-ABC050
```

This command loads, initializes and unloads all 50 volumes in the range ABC001 to ABC050

MDMS INVENTORY JUKEBOX

The MDMS INVENTORY JUKEBOX command verifies the contents of a jukebox. This command is used for both MRD and DCSC controlled jukeboxes.

Equivalent STORAGE Command: STORAGE INVENTORY JUKEBOX and STORAGE INVENTORY ACS

Format

MDMS INVENTORY JUKEBOX jukebox_name

Parameters

jukebox_name
Specifies the name of the jukebox. The maximum length of the jukebox name is 31 characters.

Description

The MDMS INVENTORY JUKEBOX command verifies the contents of a jukebox. This command is used for both MRD and DCSC controlled jukeboxes.

For MRD controlled jukeboxes:

- Both the volume range and slot range options are supported, but only one per command.

- If a volume range is specified, all volumes in the range will be inventoried and their slot positions verified and updated as needed. If the volume is not detected in the jukebox, the volume's placement will be according to the /MISSING qualifier (or placed in the onsite location by default). The volume range option is only available on jukeboxes supporting a VISION system, and /VISION is specified or defaulted in the command.

- If a slot range is specified, all volumes found in the specified slots are verified and the slot position updated as needed. No other volume record is modified.

- For systems with vision systems, the inventory is performed by querying the jukebox firmware as to slot/drive/port contents. Volumes detected in ports will be considered missing (not in the jukebox). It is recommended that all ports are empty during an inventory.

- For small, single-magazine jukeboxes, like the TZ877, each volume is loaded, mounted, examined and unloaded in order to read the volume label. This can be time consuming depending on the hardware involved. Inventory-ing a 7-slot TZ877 jukebox takes about 20 minutes.

- Full or partial inventories are supported.

For DCSC controlled jukeboxes:

- Only the volume range option is supported.

- The inventory simply checks to see if the specified volumes are in the jukebox. This is slightly different behavior than the inventory performed on an MRD-controlled jukebox. If a volume is not in the jukebox, the volume's placement will be according to the /MISSING qualifier (or placed in the onsite location by default).

Privileges

The request requires MDMS_INVENTORY_ALL.

Restrictions

/SLOTS and /VOLUME_RANGE are mutually exclusive.

/SLOTS is unsupported for DCSC jukeboxes - /VOLUME_RANGE is required

Qualifiers

/CREATE

Specifies that any volume that is found that is not defined is created using either the /INHERIT, and/or /MEDIA_TYPES qualifier.

/INHERIT=volume_id

When adding volumes this qualifier specifies, a volume_id from which to inherit attributes. The same attributes can be inherited as for the CREATE VOLUME command.

/MEDIA_TYPE=media_type

When adding volumes, this qualifier specifies the media type to be used for the volume records.

/MISSING=keyword

Defines the action to be taken when a volume is missing in the jukebox, when it was defined to be either in a drive or slot in the jukebox. The allowable actions are:

- DELETE – Delete the volume record (only valid if volume is in the FREE state)

- IGNORE – Do nothing

- MOVE(D) – Move the volume to the onsite location (Default)

/PREINITIALIZED
/NOPREINITIALIZED (D)

When creating volumes, the volumes are placed in the FREE state if /PREINITIALZED is specified. The default is to place them in the UNINITIALIZED state.

/SLOTS=(range[,…])

The slots or range of slots to inventory within the jukebox.

/VISION (D)
/NOVISION

Specifies whether the inventory should be performed with the vision system on jukeboxes so equipped. If /NOVISION is specified, inventory is performed by loading and mounting the volumes. Applicable to MRD jukeboxes equipped with a VISION system only.

/VOLUME_RANGE= (start_id-end_id)

Specifies the volume range to inventory. A volume range is a numeric range for up to the last three characters of the volume ID. Example ranges are (ABC001-ABC250), (ABC120-ABC125).

/WAIT (D)
/NOWAIT

The /NOWAIT qualifier returns an informational message indicating that the inventory is being queued. The /WAIT qualifier causes the MDMS INVENTORY JUKEBOX command to wait until the inventory is complete.

Examples

```
$ MDMS INVENTORY JUKEBOX TESTJUKE /CREATE /MEDIA_TYPE=TK85K -
/NOWAIT
```

This command inventories the entire jukebox TESTJUKE. Any volumes not in the MDMS volume database will be created with a media type of TK85K. The command prompt is returned after the inventory is queued.

```
$ MDMS INVENTORY JUKEBOX TESTJUKE /CREATE /MEDIA_TYPE=TK85K -
/SLOTS=(0-9)
```

This command inventories the first 10 slots of jukebox TESTJUKE. Any volumes not in the MDMS volume database will be created with a media type of TK85K.

```
$ MDMS INVENTORY JUKEBOX SILO_JUKE /VOLUME_RANGE=(SQ0800-SQ0900) -
/MISSING=MOVE /CREATE
```

This command verifies that volumes SQ0800 through SQ0900 exist in the StorageTek silo. Any volumes found in the silo, but not in the MDMS volume database will be created, with default values. Any volumes found in the MDMS database but not in the silo will be marked in the non-jukebox location defined for the volume.

MDMS LOAD DRIVE

The MDMS LOAD DRIVE command loads a volume into the specified drive.

Equivalent STORAGE Command: None

Format

MDMS LOAD DRIVE drive_name

Parameters

drive_name
Specifies the name of the drive to be loaded.
Users can specify a drive name, or a logical name. The maximum length of the drive name or logical name is 31 characters.

Description

The MDMS LOAD DRIVE command loads a volume into the specified drive. The command is used primarily for scratch loads when the volume ID is not important - only that a FREE volume is loaded into the drive. The volume may or may not already be created in the MDMS volume database. If it is not created, it may be added using the attributes using the /INHERIT or /MEDIA_TYPE qualifiers.

Privileges

The request requires MDMS_LOAD_ALL or MDMS_LOAD_SCRATCH.

MDMS_ASSIST is also required unless /NOASSIST is specified.

The /CREATE qualifier requires MDMS_CREATE_POOL if the /POOL qualifier is specified and the user is authorized to the pool. All other uses of the /CREATE qualifier require MDMS_CREATE_ALL.

Restrictions

• The /NOCHECK qualifier cannot be used with /MOUNT.

• /MOUNT and /NOWAIT are mutually exclusive

Qualifiers

/ASSIST (D)
/NOASSIST
The default /ASSIST qualifier is used to output an operator message if the volume requires operator intervention. You can use /ASSIST even if no assistance is needed - MDMS will perform the operation automatically if it can. If you specify
/NOASSIST and assistance is needed, the operation fails.

This qualifier requires the right MDMS_ASSIST

/CREATE
This qualifier specifies that a volume that is not in the MDMS volume database is added to the database. You can also use the /INHERIT or /MEDIA_TYPE qualifiers to specify the volume's attributes.

This qualifier requires the right MDMS_CREATE_*

/INHERIT=volume_id
This qualifier allows you to specify an existing volume record to inherit default attributes. The default is that MDMS supplies attribute values you do not on creation.

/MEDIA_TYPE=media_type
Specifies the media type assigned to a volume being created with the /CREATE qualifier. The media type must be supported by the drive.

/MESSAGE="message"
This qualifier allows the application to specify directions to the operator in the OPCOM message associated with the load request. By default MDMS puts out an appropriate message.

/MOUNT[="mount_qualifiers"]
Will cause MDMS to issue a DCL MOUNT command once the volume is loaded and the label verified. DCL MOUNT qualifiers can also be provided by specifying the qualifiers in a quoted string. By default, the volume is not mounted.

/POOL=pool_name
Specifies the volume pool the volume is to be placed in. This qualifier must be specified if the /CREATE command is specified and the user only has MDMS_CREATE_POOL privilege, unless a pool is specified in a volume used with /INHERIT.

/REPLY=symbol
The name of the symbol to receive the operator's reply when operator intervention is needed. The symbol will contain the operator reply to the DCL REPLY/TO or DCL REPLY/ABORT commands. The maximum length of a symbol name is 31 characters.

/WAIT (D)
/NOWAIT
The /NOWAIT qualifier returns an informational message indicating that the load is being queued. The /WAIT qualifier causes the MDMS LOAD DRIVE command to wait until a volume is loaded.

/WRITE (D)
/NOWRITE
The default /WRITE qualifier specifies that the volume must be write-enabled when loaded, otherwise a warning is issued after the load. The /NOWRITE qualifier specifies that a volume can be successfully loaded with the write protect set on or off.

Example

```
$ MDMS LOAD DRIVE $1$MUA1: /MOUNT="/NOUNLOAD/FOREIGN"
```

This command loads a volume into drive 1MUA1 and mounts the volume with "/NOUNLOAD and /FOREIGN" qualifiers.

MDMS LOAD VOLUME

The MDMS LOAD VOLUME command loads the specified volume into a drive.

Equivalent STORAGE Command: STORAGE LOAD

Format

MDMS LOAD VOLUME volume_id

Parameters

volume_id
Specifies the identifier of the volume to be loaded The maximum length of the volume ID is 6 characters. This parameter is required.

Description

The MDMS LOAD VOLUME command loads the specified volume into a drive. The volume must already be created in the MDMS database.
If a drive was allocated based on the volume ID, then that drive is chosen for the load. You can also specify a drive on this command, and the volume will be loaded into that drive. The LOAD VOLUME command does not allocate the drive to the requesting process.

Privileges

The request requires MDMS_LOAD_ALL, MDMS_LOAD_POOL or MDMS_LOAD_OWN. If the user is loading a volume for which he is the owner, MDMS_LOAD_OWN is sufficient. If the user is loading a volume in a pool to which he is authorized, MDMS_LOAD_POOL is required. For all other loads, MDMS_LOAD_ALL is required.

MDMS_ASSIST is also required unless /NOASSIST is specified.
The /MOVE qualifier requires MDMS_MOVE_OWN, MDMS_MOVE_POOL or MDMS_MOVE_ALL according to the MOVE command.

Restrictions

The /NOCHECK qualifier cannot be used with /MOUNT.
/MOUNT and /WAIT are mutually exclusive.

Qualifiers

/ASSIST (D)
/NOASSIST
The default /ASSIST qualifier is used to output an operator message if the volume requires operator intervention. You can use /ASSIST even if no assistance is needed - MDMS will perform the operation automatically if it can.
If you specify /NOASSIST and assistance is needed, the operation fails.

This qualifier requires the right MDMS_ASSIST

/CHECK (D)
/NOCHECK
Compares the physical ANSI label on the tape against the label for the volume ID. If the physical ANSI label does not match the label for the volume ID, operator intervention is required to resolve the conflict. The default is /CHECK.

/DRIVE=drive_name

This qualifier specifies the name of the drive in which to load the volume. This qualifier is required unless a drive has been allocated for this volume (i.e. ALLOCATE DRIVE/VOLUME=volume_id.

/MESSAGE="message"

This qualifier allows the application to specify directions to the operator in the OPCOM message associated with the load request.

/MOUNT[="mount_qualifiers"]

Will cause MDMS to issue a DCL MOUNT command once the volume is loaded and the label verified. DCL MOUNT qualifiers can also be provided by specifying the qualifiers in a quoted string. By default, the volume is not mounted.

/MOVE(D)
/[NO]MOVE

The default /MOVE qualifier, used with /ASSIST, allows the load request to generate a move request to move a volume from a remote location to the drive or associated jukebox. The move will generate an OPCOM move request which that must be satisfied before the load request can continue. If /NOMOVE is specified and a move is required, the load request fails with an error.

/REPLY=symbol

The name of the symbol to receive the operator's reply when operator intervention is needed. The symbol will contain the operator reply to the DCL REPLY/TO or DCL REPLY/ABORT commands. The maximum length of a symbol name is 31 characters. Used with /ASSIST only.

/WAIT (D)
/NOWAIT

The /NOWAIT qualifier returns an informational message indicating that the load is being queued. The /WAIT qualifier causes the MDMS LOAD VOLUME command to wait until the volume is loaded.

/WRITE (D)
/NOWRITE

The default /WRITE qualifier specifies that the volume must be write-enabled when loaded, otherwise a warning is issued after the load. The /NOWRITE qualifier specifies that a volume can be successfully loaded with the write protect set on or off.

Examples

```
$ MDMS LOAD VOLUME ABC010 /MOUNT="/NOUNLOAD"
```

This command loads volume ABC010 into a drive and mounts the volume with "/NOUNLOAD" qualifier and verifies the volume label.

```
$ MDMS LOAD VOLUME ABC020 /NOCHECK /DRIVE=$1$MUA1:
```

This command loads volume ABC020 into drive1MUA1: and does not check the on-tape volume label.

```
$ MDMS LOAD VOLUME ABC020 /NOWAIT
```

This command loads volume ABC020 into an allocated drive, checks the on-tape volume label, but does not wait for the load to complete before returning the command prompt.

MDMS MOVE MAGAZINE

The MDMS MOVE MAGAZINE command moves a magazine from one location to another. The magazine must be created prior to the move.

Equivalent STORAGE Commands: STORAGE EXPORT MAGAZINE, STORAGE IMPORT MAGAZINE

Format

MDMS MOVE MAGAZINE magazine_name [destination]

Parameters

magazine_name
Defines the name of the magazine to move. Only one magazine may be moved per command. If the /SCHEDULE qualifier is specified, the magazine_name may be the wildcard *, which means all scheduled magazines.

destination
Specifies the name of the destination object. The destination object can be a location or a jukebox. The destination is optional when the /SCHEDULE is entered, but required for commands when /SCHEDULE is not entered.   The default destination is the appropriate offsite or onsite location specified in the volume or magazine object

Description

The MDMS MOVE MAGAZINE moves a magazine from one location to another. Magazines can be moved between outside locations, and from an outside location to and from a jukebox. When /ASSIST is specified, a series of OPCOM messages may be displayed asking the operator to move magazines between locations, or in and out of the jukebox. No slots or spaces are displayed in the OPCOM message, but the operator should issue SHOW MAGAZINE/FULL for the associated magazine(s) to determine slots, spaces or positions involved in the move. These are shown in the placement field.

Privileges

The request requires MDMS_MOVE_ALL.

MDMS_ASSIST is also required unless /NOASSIST is specified.

Restrictions

The /POSITION and /START_SLOT qualifiers are mutually exclusive.

Qualifiers

/ASSIST (D)
/NOASSIST
The default /ASSIST qualifier is used when the magazine has not been physically moved, and an operator needs to physically move the magazine. Use /NOASSIST if the magazine has already been physically moved, or if you plan to move it yourself.

This qualifier requires the right MDMS_ASSIST.

/OFFSITE

When moving to a location that is not already specified in the magazine record, this qualifier specifies that the location is an offsite location, and the magazine placement is offsite following the move. By default, an unspecified location is onsite.

POSITION=(position)

The /POSITION qualifier specifies that the magazine is being moved into a jukebox, and specifying the jukebox position that the magazine is being moved to. The /POSITION qualifier or /START_SLOT qualifier must be specified when moving a magazine into a multi-magazine jukebox. In addition, the /POSITION qualifier can be used to transfer a magazine between positions inside a jukebox (if physically possible). The position parameter is in the format (tower, face, level).

The '*tower, face* and *level'* specification represents the relative number of the tower, face and level, starting from 0. So for the absolute jukebox slot of zero, the corresponding position is (0,0,0). The next position in the jukebox would be (0,0,1) and so on, according to the topology defined for the jukebox.

/REPLY=symbol

The name of the symbol to receive the operator's reply when operator intervention is needed. The symbol will contain the operator reply to the DCL REPLY/TO or DCL REPLY/ABORT commands. The maximum length of a symbol name is 31 characters. This qualifier is only applicable when /ASSIST is specified.

/SCHEDULE[=keyword]

The /SCHEDULE qualifier selects magazines whose offsite or onsite date has "expired" and the magazine is not in the new location. If both dates have expired, the later of the two dates is used. The optional keywords on the /SCHEDULE qualifier may be:

- OFFSITE

- ONSITE

If the OFFSITE keyword is used, then only those magazines scheduled to be moved offsite are selected. If the ONSITE keyword is used, then only those magazines scheduled to be moved onsite are selected. If the keyword is omitted, then the magazines scheduled to be moved onsite and offsite are selected.

/START_SLOT=number

This qualifier specifies the starting jukebox slot when the magazine is placed in a jukebox. The default is zero.

/SPACES=(range[,…]

The /SPACES qualifier specifies the space(s) in a non-jukebox location to move the magazine to. Users should specify a single space while moving a single magazine. If /SCHEDULE is used, each magazine will be moved to the next space in the range, in order.

/WAIT (D)
/NOWAIT

The /NOWAIT qualifier returns an informational message indicating that the move is being queued. The /WAIT qualifier causes the MDMS MOVE MAGAZINE command to wait until the magazine is moved.

Examples

```
$ MDMS MOVE MAGAZINE MYMAG01 JUKE_1
```

This command moves magazine MYMAG01 from its current location into jukebox JUKE_1 at start slot of zero.

```
MDMS MOVE MAGAZINE MYMAG01 JUKE_2 /POSITION=(2, 0, 1)
```

This command moves magazine MYMAG01 from its current location into jukebox JUKE_2 in position (2, 0, 1) i.e. Tower 2, face 0, level 1).

```
$ MDMS MOVE MAGAZINE MYMAG02 ROOM_100 /SPACES=23
```

This command moves magazine MYMAG02 from its current position out of the jukebox to location ROOM_100 in space 23.

```
$ MDMS MOVE MAGAZINE MAG002 JUKE_1 /SLOTS=13
```

This command moves magazine MAG002 from its current location into jukebox JUKE_1 in start slot of 13.

```
$ MDMS MOVE MAGAZINE /SCHEDULE=OFFSITE *
```

This command moves all magazines whose offsite date has expired to the magazine's offsite location.

This command moves all magazines whose offsite and onsite dates have expired to the magazine's offsite and onsite locations.

```
$ MDMS MOVE MAGAZINE /SCHEDULE *
```

MDMS MOVE VOLUME

The MDMS MOVE VOLUME command moves a volume or volumes) from one location to another. The volume(s) must be created prior to the move.

Equivalent STORAGE Commands: STORAGE BIND, STORAGE EXPORT ACS, STORAGE EXPORT VOLUME, STORAGE IMPORT ACS, STORAGE IMPORT VOLUME

Format

MDMS MOVE VOLUME volume_id [destination]

Parameters

volume_id
Defines the name of the volume to move. A volume_id may be a single volume, a list of volumes, a volume range, separated by a dash, or a list of volume ranges. A volume range is a numeric range for up to the last three characters of the volume ID. Example ranges are (ABC001-ABC250), (ABC120-ABC125). A volume_id may also be a wildcard *, which means all scheduled volumes. The wildcard is only valid when the /SCHEDULE qualifier is specified. This parameter is required.

destination
Specifies the name of the destination object. The destination object can be a location, magazine or a jukebox. The destination is optional when /SCHEDULE is entered, but required for commands when /SCHEDULE is not entered. The default destination is the appropriate offsite or onsite location specified in the volume object.

Description

The MDMS MOVE VOLUME command moves a volume or volumes from one location to another. The volume(s) must be created prior to the move. Multiple volumes can be moved, where appropriate, in a single command.   When /ASSIST is specified, a series of OPCOM messages may be displayed asking the operator to move volumes between locations, or in and out of a jukebox or magazine. No slots or spaces are displayed in the OPCOM message, but the operator should issue SHOW VOLUME/FULL for the associated volumes to determine slots or spaces involved in the move. These are shown in the placement field.

This command is not used to load volumes into or out of drives.

In either case, the level of information can be as specific or general as you want – MDMS will select specific locations if detailed information is not supplied.

Privileges

The request requires MDMS_MOVE_ALL, MDMS_MOVE_POOL or MDMS_MOVE_OWN.

If the user is moving a volume for which he is the owner, MDMS_MOVE_OWN is sufficient. If the user is moving a volume in a pool to which he is authorized, MDMS_MOVE_POOL is required. All other moves require MDMS_MOVE_ALL.

MDMS_ASSIST is also required unless /NOASSIST is specified.

The /DESCRIPTION qualifier requires MDMS_SET_ALL, MDMS_SET_POOL or MDMS_SET_OWN.

Restrictions

None

Qualifiers

/ASSIST (D)
/NOASSIST

The default /ASSIST qualifier is used to output an operator message if the volume requires operator intervention. You can use /ASSIST even if no assistance is needed - MDMS will perform the operation automatically if it can. If you specify /NOASSIST and assistance is needed, the operation fails.

This qualifier requires the right MDMS_ASSIST

/CAP=cap_id

If moving to a volume to/from a silo, this qualifier specifies the Cartridge Access Port identifier into which the volume(s) are being physically injected or ejected. Required while moving a volume into or out of a silo. Valid for DCSC-controlled jukeboxes only.

/DESCRIPTION="text"

Modifies comments about the object in the volume record. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the existing description, specify "".

This qualifier requires the right MDMS_SET_*

/NOPHYSICAL

This qualifier requests that no internal jukebox calls (through DCSC or MRD) are made to implement the move. When used with /NOASSIST, the effect of the MOVE VOLUME command is to simply update the database to the new location. When used with the default of /ASSIST, a single OPCOM message is displayed to move the volumes, but when the message expires, the database is automatically updated.

/OFFSITE

When moving to a location that is not already specified in the volume record, this qualifier specifies that the location is an offsite location, and the volume placement is offsite following the move. By default, an unspecified location is onsite.

/REPLY=symbol

The name of the symbol to receive the operator's reply when operator intervention is needed. The symbol will contain the operator reply to the DCL REPLY/TO or DCL REPLY/ABORT commands. The maximum length of a symbol name is 31 characters. This qualifier is only applicable when /ASSIST is specified.

/SCHEDULE[=keyword]

The /SCHEDULE qualifier selects volumes whose offsite or onsite date has "expired" and the volumes are not in the new location. If both dates have expired, the later of the two dates is used. The optional keywords on the schedule qualifier may be:

• OFFSITE

• ONSITE

If the OFFSITE keyword is used, then only those volumes scheduled to be moved offsite are selected. If the ONSITE keyword is used, then only those volumes scheduled to be moved onsite are selected. If the keyword is omitted, then volumes scheduled to be moved onsite and offsite are selected.

/SLOTS=(range[,…])

The /SLOTS qualifier specifies that the volume is being moved into a jukebox or magazine and specifying the slot range, or slot list, that the volumes are being moved to. If not specified, MDMS selects free slot locations for the volume(s).

In addition, the /SLOTS qualifier can be used to transfer volumes between slot locations inside a jukebox or magazine. If moving a single volume, specify a single slot. If moving multiple volumes, the slots in the range are assigned in order. If any of the specified slots is full, MDMS selects alternate slots.

Valid for MRD-controlled jukeboxes only.

/SPACES=(range[,…])
The SPACES qualifier specifies the space(s) in a non-jukebox location to move the volume(s) to.

/WAIT (D)
/NOWAIT
The /NOWAIT qualifier returns an informational message indicating that the move is being queued. The /WAIT qualifier causes the MDMS MOVE VOLUME command to wait until the command is complete.

Examples

```
$ MDMS MOVE VOLUME ABC001 JUKE_2 /SLOTS=20
```

This command moves volume ABC001 from its current location to jukebox JUKE_2 at slot 20.

```
$ MDMS MOVE VOLUME AGW081 SHELF /SPACES=42
```

This command moves the volume AGW081 to location SHELF at space 42.

```
$ MDMS MOVE VOLUME FLI050-FLI056 MAG001 /SLOTS=(0-6)
```

This command moves volumes FLI050 to FLI056 into magazine MAG001 in slots (0–6).

```
$ MDMS MOVE VOLUME /SCHEDULE=OFFSITE *
```

This command moves all volumes whose offsite date has expired to the volumes' offsite location.

```
$ MDMS MOVE VOLUME /SCHEDULE=OFFSITE ABC001-ABC100 ARGUS_VAULT
```

This command moves all volumes in the range ABC001-ABC100 whose offsite date has expired to the location ARGUS_VAULT.

```
$ MDMS MOVE VOLUME/SCHEDULE *
```

This command moves all volumes whose offsite and onsite dates have expired to the volumes' offsite and onsite locations.

```
$ MDMS MOVE VOLUME ALS100-ALS150 WOLFCREEK /CAP=1
```

 This command moves volumes ALS100-ALS150 into a DCSC-controlled silo using CAP 1.

MDMS REPORT VOLUME

The MDMS REPORT VOLUME command reports on volume objects.

Equivalent STORAGE Command: None

Format

MDMS REPORT VOLUME field[=value] [,…]

Parameters

field

The field parameter selects attributes to display for the object. Table 2–1 comprises the list of attributes for this object. At least one field must be defined for a report to be generated.

Table 2–1 Report Volume Field - Attributes

Field	Meaning	Value Format	Example Output
ACCOUNT	Owner's account name	String	ENGINEERING
ALLOCATION_DATE	Last allocation date	Date DD-MMM-YYY	18-FEB-1999
AVAILABLE_STATE	State the volume will be put in when it becomes available	Keyword	ALLOCATED
BLOCK_FACTOR	Number of records in one block	Numeric	20
BRAND	Brand name of a volume	String	Compaq
CLEANED_DATE	Last date the volume was cleaned	Date DD-MMM-YYY	18-FEB-1999
CREATION_DATE	Date volume was entered in the database	Date DD-MMM-YYY	18-FEB-1999
DEALLOCATION_DATE	Date volume was last deallocated	Date DD-MMM-YYY	18-FEB-1999
DESCRIPTION	Description	String	DRA2 BACKUP
DRIVE	Name of tape drive	String	1MUA560
ERROR_COUNT	Number of I/O errors since a volume was last cleaned	Numeric	20
FORMAT	Recording format	Keyword	BACKUP
FREED_DATE	Date volume was last freed	Date DD-MMM-YYY	18-FEB-1999
INITIALIZED_DATE	Date volume was initialized	Date DD-MMM-YYY	18-FEB-1999

Table 2–1 Report Volume Field - Attributes

Field	Meaning	Value Format	Example Output
JOB	Name of the job that wrote the volume	String	ABS
JUKEBOX	Name of the jukebox	String	TL812_JUKE
LAST_ACCESS_DATE	Date volume was last accessed	Date DD-MMM-YYY	18-FEB-1999
MAGAZINE	Name of magazine	String	ENG_MAG
MEDIA_TYPE	Type of media	String	TK89
MOUNT_COUNT	Number of times a volume has been mounted	Numeric	20
NEXT_VOLUME	Next volume in a set	String	AGW200
OFFSITE_DATE	Date a volume is to be taken offsite	Date DD-MMM-YYY	18-FEB-1999
OFFSITE_LOCATION	Location where volume resides when it is offsite	String	VAULT
ONSITE_DATE	Date a volume is to be returned on site	Date DD-MMM-YYY	18-FEB-1999
ONSITE_LOCATION	Location where the volume resides when it is onsite	String	ROOM_256
OWNER_UIC	Owner's user identification code	Standard Open-VMS UIC format	[311,311][ABS]
PLACEMENT	Current placement of the volume	Keyword	JUKEBOX
POOL	Volume's pool name	String	ENGINEERING
PREVIOUS_VOLUME	Previous volume in a volume set	String	AGW201
PROTECTION	Access protection code	Standard Open-VMS protection codes	"S:ED, O:ED, G:WED, W:RWED"
PURCHASED_DATE	Volume's purchase date	Date DD-MMM-YYY	18-FEB-1999
SCRATCH_DATE	Date volume is to be freed	Date DD-MMM-YYY	18-FEB-1999
SLOT	Number of the slot in a jukebox where the volume resides in	Numeric	20
SPACE	A non-jukebox space in the specified location that the volume resides in	String	A120
STATE	The state of the volume	Keyword	ALLOCATED

Table 2–1 Report Volume Field - Attributes

Field	Meaning	Value Format	Example Output
TIMES_CLEANED	Number of times the volume has been cleaned	Date DD-MMM-YYY	18-FEB-1999
TRANSITION_TIME	The time a volume stays in the transition state before going to the free state	Time DDDD-HH:MM:SS	15-00:00:00
USER	Owner's user name	String	SMITH
VOLUME	Volume ID	String	AGW200

——————————————Note——————————————

For any string value, you can use a wild card characters. The * character provides a wild card for any number/length of characters. The % character is a wild card character for one character. At least one field must be defined for a report to be generated, except when /FORECAST or /SUMMARY is entered.

Description

The MDMS REPORT VOLUME command generates a report on the selected volumes. The contents of the report contain fields as specified in the field parameters. Each selected field is displayed unless the /NOPRINT field qualifier is specified. The report can be sorted on the field by using the /SORT qualifier on a single field (only one sort key supported per command). In addition, the width of each field can be specified with the /WIDTH qualifier – the default width is specific for each field size.

Privileges

The request requires MDMS_SHOW_ALL, MDMS_SHOW_POOL or MDMS_SHOW_OWN. If the user only has MDMS_SHOW_OWN, only those allocated volumes owned by the user will be included in the report. If the user has MDMS_SHOW_POOL, only those volumes in pool(s) for which the user is authorized will be displayed. If the user has MDMS_SHOW_ALL, all potential volumes matching the selection criteria will be displayed.

Restrictions

The /USER_NAME qualifier can only be used with the /FORECAST and /SUMMARY qualifiers. For all other type of reports use the selection value of the USER field.
Fields cannot be used with the /FORECAST and /SUMMARY qualifiers. The /FORECAST and /SUMMARY qualifiers are mutually exclusive Fields must be specified with the /SCHEDULE qualifier.

Qualifiers

/FORECAST
Displays all allocated volumes sorted by their scratch date. If the /USER_NAME qualifier is not specified, only those volumes allocated to the user are displayed. Do not specify any fields.

/OUTPUT=file_spec
Directs the report output to the specified file instead of SYS$OUTPUT, which is usually the command screen.

/NOPRINT

The /NOPRINT field qualifier specifies that a field defined as a selection criteria is not included in the report.

SCHEDULE[=keyword]

The /SCHEDULE qualifier selects volumes whose offsite or onsite date has "expired" and the volumes are not in the new location. If both dates have expired, the later of the two dates is used. The optional keyword on the schedule qualifier may be:

• OFFSITE

• ONSITE

If The OFFSITE keyword is used, then only those volumes scheduled to be moved offsite are selected. If the ONSITE keyword is used, then only those volumes scheduled to be moved onsite are selected. If the keyword is omitted, then volumes scheduled to be moved onsite and offsite are selected

/SORT

This is a field qualifier, and is used as a sort key. Only one field can be used as a sort key, and no value may be specified.

/SUMMARY

Displays all volumes allocated to a user and sorted by volume ID. If the /USER_NAME qualifier is not specified, only those volumes allocated to the present user are displayed. Do not specify any fields.

/TITLE=text

Specifies the title of the report. If the text contains spaces, it must be enclosed in quotation marks. The maximum length of the title is 80 characters. If not supplied, a default title based on the volume ID and selection criteria is generated.

/USER_NAME=username

Selects volumes owned by this user. This qualifier can only be used with the /FORECAST and /SUMMARY qualifiers. If /USER_NAME is not specified, only those volumes for the present user are selected.

/WIDTH=number

A field qualifier, this specifies the number of characters to display for a field. If not specified, a default width is applied to each field type, and excess characters may be truncated.

Example

```
$ MDMS REPORT VOLUME VOLUME, POOL=ABS_POOL, STATE, SCRATCH_DATE
```

This command prints a report for all volumes in pool ABS_POOL, and prints out the volume_id, pool name, allocation state and scratch date.

```
$ MDMS REPORT VOLUME VOLUME, STATE=ALLOCATED/NOPRINT, SCRATCH_DATE
```

This command prints a report for all allocated volumes, and prints out the volume id and scratch date.

```
$ MDMS REPORT VOLUME VOLUME, STATE=ALLOCATED, OWNER/SORT/WIDTH=10
```

This command prints a report for all allocated volumes, and prints out the volume id, allocation state and owner (maximum of 10 characters), and the report is sorted by owner.

```
$ MDMS REPORT VOLUME /FORECAST /USER_NAME=SMITH
```

MDMS REPORT VOLUME

This command prints a report for all volumes allocated to user smith, and prints out the volume id, allocation date, scratch date, format and description fields, sorted by scratch date.

MDMS SET DOMAIN

The MDMS SET DOMAIN command modifies the MDMS Domain object. The MDMS domain contains attributes affecting all nodes, devices and locations that comprise an MDMS domain.

Equivalent STORAGE Command: None

Format

MDMS SET DOMAIN

Parameters

None.

Description

The MDMS SET DOMAIN command modifies the MDMS domain. The MDMS domain contains attributes affecting all nodes, devices and locations that comprise an MDMS domain.

Privileges

The request requires MDMS_SET_ALL.

The qualifiers associated with setting of privilege rights also require MDMS_SET_RIGHTS.

Restrictions

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If none are specified, attributes are added to list attributes by default.

Qualifiers

/ABS_RIGHTS
/NOABS_RIGHTS (D)
The /ABS_RIGHTS qualifier enables a certain set of MDMS rights when users have an ABS right set in the UAF record. The /NOABS_RIGHTS qualifier does not give users with ABS rights any additional MDMS rights.

This qualifier requires the right MDMS_SET_RIGHTS

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default while specifying list attributes.

/[NO]APPLICATION_RIGHTS[=(right[,...]]
The /APPLICATION_RIGHTS qualifier sets the low-level rights associated with the high-level right MDMS_APPLICATION. If the qualifier is specified with no value, a default set of rights is set. The /REMOVE or /REPLACE qualifiers can be used to remove or replace rights in the list, rather than adding them by default.
Use /NOAPPLICATION_RIGHTS to remove all rights.

This qualifier requires the right MDMS_SET_RIGHTS

Refer to the Appendix - MDMS Rights and Privileges for details.

./DEALLOCATE_STATE=state
This attribute stores a text string stating the deallocation state of volumes. Allowable values are free and transition.

/[NO]DEFAULT_RIGHTS[=(right[,...])]
The /DEFAULT_RIGHTS qualifier sets the low-level rights associated with users with no MDMS rights in their UAF record. If the qualifier is specified with no value, a default set of rights is set. The /REMOVE or /REPLACE qualifiers can be used to remove or replace rights in the list, rather than adding them by default. Use /NODEFAULT_RIGHTS to remove all rights.

This qualifier requires the right MDMS_SET_RIGHTS.

Refer to the Appendix - MDMS Rights and Privileges for details.

/MAIL_USERS=(user[,...])
/NOMAIL (D)
This attribute is a list of OpenVMS system users who should receive notification when volumes are deallocated.

/MAXIMUM_SCRATCH_TIME=delta_time
The maximum scratch time is an OpenVMS delta time that specifies the greatest allocation time allowed.

/MEDIA_TYPE=media_type
This qualifier specifies the default MDMS media type, which is applied to drives and volumes if they are created without a media type definition.

/NETWORK_TIMEOUT=delta_time
Set the value of this attribute to the longest time you could expect normal network traffic to delay interprocess communication between MDMS clients and servers. Requests that go unanswered up to the amount of time specified by this attribute will not cause an error.

/OFFSITE_LOCATION=location
/NOOFFSITE_LOCATION (D)
This attribute stores a text string identifying the name of the Location object representing your offsite storage location. This location is applied to all volumes and magazines that do not have an explicit offsite location specified

/ONSITE_LOCATION=location
/NOONSITE_LOCATION (D)
This attribute stores a text string identifying the name of the Location object representing your onsite storage location. This location is applied to all volumes and magazines that do not have an explicit onsite location specified.

/OPCOM_CLASSES=(class[,...])
Use this attribute to list the OpenVMS OPCOM classes to which MDMS OPCOM messages are directed. These OPCOM classes are applied to all nodes that do not have explicit OPCOM classes specified. The /REMOVE or /REPLACE qualifiers can be used to remove or replace classes in the list, rather than adding them by default.

/[NO]OPERATOR_RIGHTS[=(right[,...])]
The /OPERATOR_RIGHTS qualifier sets the low-level rights associated with the high-level right MDMS_OPERATOR. If the qualifier is specified with no value, a default set of rights is set. The /REMOVE or /REPLACE qualifiers can be used to remove or replace rights in the list, rather than adding them by default.
Use /NOOPERATOR_RIGHTS to remove all rights.

This qualifier requires the right MDMS_SET_RIGHTS.

Refer to the Appendix - MDMS Rights and Privileges for details.

/PROTECTION=protection

Assign the default volume protection for all volumes with this attribute. Use the standard Open-VMS protection format. This protection is applied to all volumes that do not have an explicit protection specified.

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes from them.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

/REQUEST_ID=number

Changes the request identifier for the next MDMS request in the domain.

/SCRATCH_TIME=delta_time

Assign the default scratch date to volumes by applying the delta time specified with attribute to the allocation date of the volume. This scratch time is applied to all volumes that do not have an explicit scratch date defined.

/SYSPRV(D)
/NOSYSPRV

The default /SYSPRV qualifier enables users with VMS privilege SYSPRV the low-level right MDMS_ALL_RIGHTS, which allows all operations. The /NOSYSPRV qualifier does not give users with SYSPRV any additional MDMS rights.

This qualifier requires the right MDMS_SET_RIGHTS

/TRANSITION_TIME=delta_time

Defines the default transition time to be applied to volumes that do not have an explicit transition time defined.

/[NO]USER_RIGHTS[=(right[,...])]

The /USER_RIGHTS qualifier sets the low-level rights associated with the high-level right MDMS_USER. If the qualifier is specified with no value, a default set of rights is set.
The /REMOVE or /REPLACE qualifiers can be used to remove or replace rights in the list, rather than adding them by default.
Use /NOUSER_RIGHTS to remove all rights.

This qualifier requires the right MDMS_SET_RIGHTS

Refer to the Appendix - MDMS Rights and Privileges for details.

Examples

```
$ MDMS SET DOMAIN /OFFSITE_LOCATION=XCYX
```

This command sets the name of the domain offsite location to XCYX.

```
$ MDMS SET DOMAIN /MAIL_USERS=(NORDER,CRANDLE)/ADD
```

This command adds OpenVMS Cluster users Norder and Crandle to the mail distribution. They will be notified when volumes are deallocated.

```
$ MDMS SET DOMAIN /OPCOM_CLASSES=(OPER4) /REMOVE
```

This command prevents the further display of OPCOM messages on terminals enabled for the OPER4 OPCOM class.

MDMS SET DOMAIN

```
$ MDMS SET DOMAIN /OPERATOR_RIGHTS=(MDMS_SET_ALL, MDMS_SET_PROTECTED)/ADD
```

This command adds the low-level rights MDMS_SET_ALL and MDMS_SET_PROTECTED to the high-level right MDMS_OPERATOR.

MDMS SET DRIVE

The MDMS SET DRIVE command modifies a drive definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SET DRIVE drive_name

Parameters

drive_name
Specifies the name of the drive. Specify a drive name or a logical name. The maximum length of the drive name or logical name is 31 characters.

Description

The MDMS SET DRIVE command modifies a drive definition in the MDMS configuration database.

Privileges

The request requires MDMS_SET_ALL.

Restrictions

The /NODES and /GROUPS qualifiers are mutually exclusive. The MDMS server will refuse this command if both qualifiers are used in the affirmative forms.

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If none are specified, attributes are added to list attributes by default

Qualifiers

/ACCESS=keyword (ALL)
This qualifier defines the type of access to the drive, which can be one of the following keywords:

- ALL – supports local node/cluster access and remote (RDF) access (default)

- LOCAL – supports local node/cluster access only

- REMOTE – supports remote (RDF) access only

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default when specifying list attributes.

/AUTOMATIC_REPLY
/NOAUTOMATIC_REPLY (D)
Specifies that MDMS automatically replies to all OPCOM messages that can be polled for completion on requests for this particular drive.

/DESCRIPTION="text"

Comments about the drive. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the description, specify "".

/DEVICE=vms_device_name

Modifies the OpenVMS device name of the drive. Do not include a node specification (NODE::drive) in the drive name - instead, use the /NODES or /GROUPS qualifier.

/DISABLED

Places the drive in the disabled state. This prevents the drive from being selected and allocated for use. This takes effect immediately. However, if the drive is already in use, operations on that drive will continue until the drive is deallocated.

/DRIVE_NUMBER=number

This qualifier defines the drive number for robot commands if the drive is in a jukebox. The default is zero.

/ENABLED (D)

Places the drive in the enabled state. This allows the drive to be selected and allocated for use. This takes effect immediately. This is the default.

/GROUPS=(group_name[,])
/NOGROUPS

Specifies the names of groups of nodes that share common access to this device.

/JUKEBOX=jukebox_name

If the drive is in a jukebox, this qualifier specifies the jukebox name.

/MEDIA_TYPE=(media_type[,…])
/NOMEDIA_TYPE

Specifies one or more distinct media types that the drive can support for read-write access. The /REMOVE or /REPLACE qualifiers can remove or replace objects in the list, rather than adding them by default. The /NOMEDIA_TYPES qualifier removes all media types.

/NODES=(node_name[,…])
/NONODES

Specifies one or more distinct nodes that have direct access to the drive. The /REMOVE or /REPLACE qualifiers can remove or replace objects in the list, rather than adding them by default. The /NONODE qualifier removes all nodes.

/READONLY=(media_type[,…])
/NOREADONLY

Specifies one or more distinct media types that the drive can support for read-only access. The /REMOVE or /REPLACE qualifiers can remove or replace objects in the list, rather than adding them by default. The /NOREADONLY qualifier removes all read-only media types.

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes from them.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

/SHARED
/NOSHARED (D)
The /SHARED qualifier defines that the drive may be used by non-MDMS clients and that the drive is only partially managed. The default, /NOSHARED, indicates that all access to the drive is through MDMS.

/STACKER
/NOSTACKER (D)
The /STACKER qualifier indicates that the drive is to be treated as a stacker gravity loader. The default /NOSTACKER indicates that the drive is to be treated as a standalone drive, or a robotically-controlled jukebox, as appropriate.

Example

```
$ MDMS SET DRIVE FRED /NODE=(JOHN, PAUL)
```

This command adds nodes JOHN and PAUL for direct access to the drive with drive name or logical name of FRED.

MDMS SET GROUP

The MDMS SET GROUP command modifies a group definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SET GROUP group_name

Parameters

group_name
Specifies the name of the group. The maximum length of the drive name is 31 characters.

Description

The MDMS SET GROUP command modifies a group definition in the MDMS configuration database.

Privileges

The request requires MDMS_SET_ALL.

Restrictions

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If no qualifier is specified, attributes are added to list attributes by default.

Qualifiers

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists, and adds specified attributes. This is the default while specifying list attributes.

/DESCRIPTION="text"
Comments about the group. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the description, specify "".

/NODES=(node_name[,...])
/NONODES
Specifies one or more distinct nodes that have direct access to the drive. The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. The /NONODES qualifier removes all nodes.

/REMOVE
The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes from them.

/REPLACE
The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

Examples

```
$ MDMS SET GROUP HOSER /NODE=TOOKUS /REMOVE
```

This command removes node TOOKUS from the group HOSER

MDMS SET JUKEBOX

The MDMS SET JUKEBOX command modifies a jukebox definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SET JUKEBOX jukebox_name

Parameters

jukebox_name
Specifies the name of the jukebox, which can be up to 31 characters in length.

Description

The MDMS SET JUKEBOX command modifies a jukebox definition in the MDMS configuration database.

Privileges

The request requires MDMS_SET_ALL.

Restrictions

The /NODES and /GROUPS qualifiers are mutually exclusive. The MDMS server will refuse this command if both qualifiers are used in the affirmative forms.

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If none are specified, attributes are added to list attributes by default.

Qualifiers

/ACCESS=keyword (ALL)
This qualifier defines the type of access to the jukebox, which can be one of the following keywords:

* ALL – supports local node/access and remote access - default

* LOCAL – supports local node/cluster access only

* REMOTE – supports remote access only

/ACS=acs_id
This qualifier specifies the Automated Cartridge System (ACS) Identifier for the jukebox. The default value is zero. Each MDMS jukebox maps to one Library Storage Module (LSM), and requires specification of the library, ACS and LSM identifiers. Valid for DCSC-controlled jukeboxes only.

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default while specifying list attributes.

/AUTOMATIC_REPLY
/NOAUTOMATIC_REPLY (D)
Specifies that MDMS automatically replies to all OPCOM messages that can be polled for completion on requests for this particular jukebox.

/CAP_SIZE=(number[,…])
For DCSC jukeboxes equipped with Cartridge Access Points (CAPS), this attribute specifies the number of cells for each CAP. The first number is the size for CAP 0, the next for CAP 1 etc. If a size is not specified for a CAP, a default value of 40 is used. Specifying the CAP size optimizes the movement of volumes to and from the jukebox by filling the CAP to capacity for each move operation. When specifying CAP sizes, the specified numbers always replace any previous sizes in the database. Valid for DCSC-controlled jukeboxes only.

/CONTROL=keyword
This qualifier specifies the robot control facility used to control the jukebox's robot. The valid keywords are:

- MRD (D) – The robot is controlled with the MRD facility

- DCSC – The jukebox is a silo controlled by the DCSC facility

/DESCRIPTION="text"
Defines comments about the object in the record. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the existing description, specify "".

/DISABLED
Places the jukebox in the disabled state. This prevents all drives in the jukebox from being selected and allocated for use. This takes effect immediately. However, any drives in use will continue to be used until they are deselected.

/ENABLED (D)
Places the drive in the enabled state. This allows drives in the jukebox to be selected and allocated for use. This takes effect immediately. This is the default.

/GROUPS=(group_name[,...])
/NOGROUPS
Specifies the names of groups of nodes that share common access to this device. The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. The /NOGROUPS qualifier removes all groups.

/LIBRARY=library_id
This qualifier specifies the library identifier for a silo. Valid values are 1, 2, 3, 4, and the default is 1 when the jukebox is controlled by DCSC and 0 (not applicable) when controlled by MRD. Each MDMS jukebox maps to one Library Storage Module (LSM), and requires specification of the library, ACS and LSM identifiers.

/LSM=lsm_id
This qualifier specifies the Library Storage Module (LSM) Identifier for the jukebox. The default value is zero. Each MDMS jukebox maps to one LSM, and requires specification of the library, ACS and LSM identifiers. Valid for DCSC-controlled jukeboxes only.

/NODES=(node_name[,…])
/NONODES
Specifies one or more nodes that can directly access the jukebox. The /REMOVE or /REPLACE qualifiers can be used to remove or replace objects in the list, rather than adding them by default. The /NONODES qualifier removes all nodes.

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

/ROBOT=robot_name
/NOROBOT

The /ROBOT qualifier defines the OpenVMS device name of the robot. Applicable to MRD-controlled jukeboxes only.

/SHARED
/NOSHARED (D)

The /SHARED qualifier defines that the jukebox may be used by non-MDMS clients and that the jukebox is only partially managed. The default, /NOSHARED, indicates that all access to the jukebox is through MDMS.

/SLOT_COUNT=number

The /SLOTS qualifier specifies the total number of slots in the entire jukebox. For any jukebox, either the slot count or topology must be specified. Valid for MRD jukeboxes only.

/STATE=keyword

The /STATE qualifier specifies the usgae state of the jukebox. This is normally set up by MDMS. The keyword values are:

*   **Available** - The jukebox is available for use

*   **In_use** - The jukebox is in use

*   **Unavailable** - The jukebox is not available for use.

This qualifier requires the right MDMS_SET_PROTECTED.

/TOPOLOGY=(TOWERS=(number[,...]), FACES=(number[,...]), -
LEVELS=(number[,...]), SLOTS=(number[,...]))

Specifies topology of jukebox, when a TL820-class jukebox is being used as a magazine. The topology specification allows OPCOM messages to move magazines to be specified with TOWER, FACE, LEVEL rather than slot range. The specification of topology is optional. For each tower in the configuration, a corresponding entry must also be placed in FACES LEVELS and SLOTS that reflects the configuration of that tower. The tower numbers start at zero. Other specifications are absolute counts. See example. Valid for MRD jukeboxes only.

/USAGE=[NO]MAGAZINE

The /USAGE=MAGAZINE qualifier specifies that the jukebox is configured for magazines, and that the movement of volumes is performed using magazines. The /USAGE=NOMAGAZINE qualifier does not support magazine use. The default is NOMAGAZINE. Valid for MRD jukeboxes only

Examples

```
$ MDMS SET JUKEBOX JUKE_1  /DESCRIPTION="PC Design Data Jukebox – Backup"
```

This command modifies the description for jukebox JUKE_1.

```
$ MDMS SET JUKEBOX JUKE_2  /USAGE=MAGAZINE /SLOTS=(0- 100)
```

This command modifies the jukebox JUKE_2 to support magazines, and slots 0-100.

MDMS SET LOCATION

The MDMS SET LOCATION command modifies a location definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SET LOCATION location

Parameters

location
Specifies the name of the location. The maximum length of the location is 31 characters.

Description

The MDMS SET LOCATION command modifies a location definition in the MDMS configuration database.

Privileges

The request requires MDMS_SET_ALL.

Restrictions

None

Qualifiers

/DESCRIPTION="text"
Defines comments about the object in the record. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the existing description, specify "".

/LOCATION=location
/NOLOCATION
The /LOCATION qualifier allows you to specify a higher level location, thus creating a location hierarchy. If there is no higher location, specify /NOLOCATION.

/SPACES=(range[,…])
/NOSPACES
The /SPACES qualifier defines individual spaces for volumes or magazines at the location. Spaces are alphanumeric strings of up to 8 characters. The spaces can be specified as a range - only a single range is supported. The /NOSPACES qualifier removes all spaces.

Examples

```
$ MDMS SET LOCATION SHELF_100 /SPACES=(300-500)
```

This command modifies the location called SHELF_100 and supports spaces 300 – 500.

MDMS SET MAGAZINE

The MDMS SET MAGAZINE command modifies a magazine definition in the MDMS configuration database.

Equivalent STORAGE Command: None.

Format

MDMS SET MAGAZINE magazine_name

Parameters

magazine_name
Specifies the name of the magazine. The maximum length of the magazine name is 31 characters.

Description

The MDMS SET MAGAZINE command modifies a magazine definition in the MDMS configuration database.

Privileges

The request requires MDMS_SET_ALL.

The /JUKEBOX, /PLACEMENT, /POSITION and /START_SLOT qualifiers also require MDMS_SET_PROTECTED.

Restrictions

None

Qualifiers

/DESCRIPTION="text"
Defines comments about the object in the record. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. To clear the existing description, specify "".

/JUKEBOX=jukebox_name
The name of the jukebox from which the magazine will be selected. The maximum length of the jukebox name is 31 characters.

/OFFSITE=([LOCATION=location][,[NO]DATE[=date]])
/NOOFFSITE(D)
This qualifier specifies the date that the magazine is to be taken offsite and the offsite location. The location field is required when using the /OFFSITE qualifier if no location has been previously specified. The LOCATION keyword cannot be negated and if specified must point to a valid location object. Specify a VMS absolute or delta time in the date field. The NODATE keyword may be used to remove the date. This has the effect of disabling the schedule for the magazine, while retaining the location. To clear the offsite date and location, specify /NOOFFSITE.

/ONSITE=([LOCATION=location][,[NO]DATE[=date]])
/NOONSITE(D)

This qualifier specifies the date that the magazine is to be brought back onsite and the onsite location. The location field is required when using the /ONSITE qualifier if no location has been previously specified. The LOCATION keyword cannot be negated and if specified must point to a valid location object. Specify a VMS absolute or delta time in the date field. The NODATE keyword may be used to remove the date. This has the effect of disabling the schedule for the magazine, while retaining the location. To clear the onsite date and location, specify /NOON-SITE.

/PLACEMENT=keyword

This qualifier defines the current placement of the magazine. This is normally managed by MDMS. The following options are available:

• JUKEBOX

• OFFSITE

• ONSITE

• MOVING

/POSITION

The /POSITION qualifier specifies that the magazine is being created in a jukebox, and specifying the jukebox position that the magazine is being created. If not specified, MDMS selects a free position for the magazine. In addition, the /POSITION qualifier can be used to transfer a magazine between positions inside a jukebox (if physically possible). The position parameter is in the format (tower, face, level).

/SLOT_COUNT=number

The /SLOT_COUNT qualifier specifies the number of slots in a magazine to store volumes.

/SPACES=(range)
/NOSPACES

This qualifier specifies the space(s) in a location in which the magazine is stored when not in a jukebox. Spaces are alphanumeric strings of up to 8 characters. The /NOSPACES qualifier removes all spaces.

/START_SLOT=number

This qualifier specifies the starting jukebox slot when the magazine is placed in a jukebox. This is normally set up by MDMS.

This qualifier requires the right MDMS_SET_PROTECTED.

Example

```
$ MDMS SET MAGAZINE MYMAG01 /ONSITE=(LOCATION=SHELF_20) /SPACES=S4
```

This command modifies the non-jukebox location of magazine MYMAG01 to "space S4 in. shelf_20".

MDMS SET MEDIA_TYPE

The MDMS SET MEDIA_TYPE command modifies a media type definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SET MEDIA_TYPE media_type

Parameters

media_type
Specifies the name of the media type. The maximum length of the media type name is 31 characters.

Description

The MDMS SET MEDIA_TYPE command modifies a media type definition in the MDMS configuration database. A media type definition consists of a density, compaction option and capacity, if applicable.

Privileges

The request requires MDMS_SET_ALL.

Restrictions

None

Qualifiers

/CAPACITY=number
The /CAPACITY qualifier specifies the capacity in megabytes of the tape. This is used by some MDMS clients to estimate end-of-tape conditions. By default, capacity is set to zero.

/COMPACTION (D)
/NOCOMPACTION
The /COMPACTION qualifier specifies that the media type should use compaction when writing to tape. This is the default. If you do not wish to use compaction, then specify /NOCOMPACTION.

/DENSITY=density
Specifies a freeform density keyword between 1 and 31 characters in length that the media type supports.

/DESCRIPTION="text"
Defines comments about the media type. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description is can range from 0 to 255 characters. Specify to clear the description.

/LENGTH=length
The /LENGTH qualifier specifies the length of a 9-track magnetic tape, and is expressed in feet. By default, length is set to zero.

Examples

```
$ MDMS SET MEDIA_TYPE TAPE_9T /DENSITY=1600 /LENGTH=3600
```

This command modifies a media type called TAPE_9T to use density of 1600 and length of 3600.

MDMS SET NODE

The MDMS SET NODE command modifies a node definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SET NODE node_name

Parameters

node_name
Specifies the name of the node. The maximum length of the node name is 31 characters.

Description

The MDMS SET NODE command modifies a node definition in the MDMS configuration database.

Privileges

The request requires MDMS_SET_ALL.

Restrictions

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If none are specified, attributes are added to list attributes by default.

Qualifiers

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default while specifying list attributes.

/DATABASE_SERVER (D)
/NODATABASE_SERVER
The /DATABASE_SERVER qualifier means the node can be a database server, supporting failover operations. To be a database server, the node must have direct access to the MDMS database files.

/DECNET_PLUS_FULLNAME=node_fullname
This qualifier allows you to specify a full name (for example, a DECnet-Plus (Phase V) full name) for a node. The full name may be up to 255 characters. If not specified, the node name is used as the full name.

/DESCRIPTION="text"
Defines comments about the node. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. Specify "" to clear the description.

/DISABLED
Places the node in the disabled state. This prevents the node from participating in the MDMS domain as either a server or a client. This takes effect immediately.

/ENABLED (D)

Places the node in the enabled state. This allows the node to participate in MDMS operations. This takes effect immediately. This is the default.

/LOCATION=location
/NOLOCATION

The /LOCATION qualifier specifies the onsite location of the node. If there is no location, specify /NOLOCATION. By default, a node acquires the default location from the domain record.

/OPCOM=(class[,…])
/NOOPCOM

The /OPCOM qualifier adds the specified classes used for notifying operators. All OPCOM for devices on the node are sent to all specified classes on the node. The /REMOVE or /REPLACE qualifiers can be used to remove or replace classes in the list, rather than adding them by default. Specify /NOOPCOM to disable OPCOM notification. By default, the node acquires OPCOM classes from the domain record. The following classes are valid:

CARDS	NETWORK	OPER6	OPER12
CENTRAL	OPER1	OPER7	PRINTER
CLUSTER	OPER2	OPER8	SECURITY
DEVICES	OPER3	OPER9	TAPES
DISKS	OPER4	OPER10	
LICENSE	OPER5	OPER11	

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and removes specified attributes.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replaces the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

/TCPIP_FULLNAME=node_fullname

This qualifier allows you to specify a TCP-IP full name for a node. The full name may be up to 255 characters. If not specified, the node name is used as the full name.

/TRANSPORT=(keyword[,…])

Specifies the transport protocol(s) to be used when communicating with other MDMS facilities on other nodes, as a prioritized ordered list. The /ADD or /REMOVE qualifier can be used to add or remove objects from the list, rather than setting to the specified values. Enter one or more of:

- DECNET - listen to incoming requests from other MDMS servers on DECnet (Phase IV) or DECnet-Plus (Phase V)

- TCPIP - listen to incoming requests from other MDMS servers on TCP/IP

Examples

```
$ MDMS SET NODE COOKIE /OPCOM=(TAPES, OPER1)
```

This command modifies a node definition named "COOKIE", by adding OPCOM classes TAPES and OPER1 to the current list of OPCOM classes.

MDMS SET POOL

The MDMS SET POOL command modifies a pool definition in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SET POOL pool_name

Parameters

pool_name
Specifies the name of the pool. The maximum length of the pool name is 31 characters.

Description

The MDMS SET POOL command modifies a pool definition in the MDMS configuration database.

Privileges

The request requires MDMS_SET_ALL.

Restrictions

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If no qualifier is specified, attributes are added to list attributes by default.

Qualifiers

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default while specifying list attributes.

/AUTHORIZED_USERS =(node/group_name::username[,...])
/NOAUTHORIZED_USERS
Specifies one or more distinct users to the pool specified by node or group name and user name. Only authorized or default users can allocate volumes belonging to the pool.
The /REMOVE or /REPLACE qualifier can be used to remove or replace users in the list, rather than adding them by default.

/DEFAULT_USERS=(node/group_name::username[,...])
/NODEFAULT_USERS
Specifies one or more distinct users to the pool as the users default pool. Only authorized or default users can allocate volumes belonging to the pool. The /REMOVE or /REPLACE qualifier can be used to remove or replace users in the list, rather than adding them by default. A particular node/group::user combination can only be defined with the /DEFAULT qualifier for one pool.

/DESCRIPTION="text"
Defines comments about the pool. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. Specify "" to clear the description.

/REMOVE

The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and remove specified attributes from them.

/REPLACE

The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and replace the existing attributes list with the specified attributes list. By default, list attributes are added to the existing list.

Examples

```
$ MDMS SET POOL TEST_POOL/AUTHORIZE==(SYS001::ABS, SYS001::HSM)
```

This command modifies a pool called TEST_POOL by adding two authorized users for the pool.

MDMS SET SERVER

The MDMS SET SERVER command resets server conditions. Currently it only supports resetting the MDMS logging file.

Equivalent STORAGE Command: None

Format

MDMS SET SERVER /RESET_LOG

Parameters

None.

Description

The MDMS SET SERVER command resets server conditions. Currently it only supports resetting the MDMS logging file.

Privileges

The request requires MDMS_SET_ALL.

Qualifier

/RESET_LOG

This qualifier closes the current log file and opens a new one. This qualifier is required.

Example

```
$  MDMS SET SERVER /RESET_LOG
```

This command closes the current logging file and opens a new version. New files will be opened at the location designated by the logical name MDMS$LOGFILE_LOCATION on the database server node.

MDMS SET VOLUME

The MDMS SET VOLUME command modifies a volume definition in the MDMS volume database.

Equivalent STORAGE Command: STORAGE SET VOLUME

Format

MDMS SET VOLUME volume_id

Parameters

volume_id
Specifies the volume ID of the volume to be added. The volume ID is the external label for the volume. The maximum length of the volume ID is 6 characters. Alternatively, a volume range, separated by a dash, may be specified. A volume range is a numeric range for up to the last three characters of the volume ID. Example ranges are (ABC001-ABC250), (ABC120-ABC125).

Description

The MDMS SET VOLUME command modifies a volume definition in the MDMS volume database.

Privileges

The request requires MDMS_SET_ALL, MDMS_SET_POOL or MDMS_SET_OWN.

If the user is modifying a volume that is allocated to him, MDMS_SET_OWN is sufficient. If the user is modifying a volume that belongs to a pool to which he is authorized, MDMS_SET_POOL is required. For any other volume, MDMS_SET_ALL is required.

Several of the qualifiers are designated protected, and require the right MDMS_SET_PROTECTED. These fields are normally set up by MDMS, and modification is not recommended since that could put the database into an inconsistent state.

Restrictions

The /ADD, /REMOVE and /REPLACE qualifiers are mutually exclusive. If none are specified, attributes are added to list attributes by default.

Qualifiers

/ACCOUNT="text"
Defines the account name of the volume. The account name may be up to 31 characters. If it contains spaces, it must be enclosed in quotation marks. Specify " " to clear the account name.

This qualifier requires the right MDMS_SET_PROTECTED.

/ADD
The /ADD qualifier works in conjunction with certain qualifiers that accept lists and adds specified attributes. This is the default when specifying list attributes.

/ALLOCATED_DATE=date
/NOALLOCATED_DATE
Specifies the date the volume was allocated. Normally this is set by MDMS. Specify a VMS absolute date and time. Specify /NOALLOCATED_DATE to clear the allocated date.

This qualifier requires the right MDMS_SET_PROTECTED.

/AVAILABLE

The /AVAILABLE qualifier moves a volume from the unavailable state to the state it was previously in prior to the unavailable state. The volume may then be moved into the transition or free state if the scratch date and/or transition time have expired.

/BLOCK_FACTOR=number

Specifies the block factor the volume. This qualifier only applies to volumes with the format attribute set to EBCDIC. The default is a block factor of zero.

/BRAND="text"

The media manufacturer. The maximum length of the brand name is 31 characters. If it contains spaces it must be contained in quotation marks. Specify "" to clear the

/CLEANED_DATE=date
/NOCLEANED_DATE (D)

This qualifier specifies the date the volume was last cleaned and is entered as a VMS absolute time. Specify /NOCLEANED_DATE to clear the cleaned date.

/CREATION_DATE=date
/NOCREATION_DATE (D)

The date the volume is created. This attribute is set by MDMS, but may be overridden if necessary.

This qualifier requires the right MDMS_SET_PROTECTED.

/DEALLOCATED_DATE=date
/NODEALLOCATED_DATE

This qualifier specifies the actual deallocation date for the volume. Specify a VMS absolute time. This date is normally set by MDMS.

This qualifier requires the right MDMS_SET_PROTECTED

/DESCRIPTION="text"

Comments about the volume. If the text contains spaces, then it must be enclosed within quotation marks. The length of the description can range from 0 to 255 characters. Specify "" to clear the description.

/DRIVE=drive_name
/NODRIVE

Specifies the drive that the volume currently resides in or last resided in. This is normally set up by MDMS. To clear the drive, specify /NODRIVE.

This qualifier requires the right MDMS_SET_PROTECTED.

/FORMAT=keyword

Specifies the format of the tape. Possible values are:

• ASCII

• BACKUP (D)

• EBCDIC

• RMUBACKUP

/FREED_DATE=date
/NOFREED_DATE

Specifies the date the volume was last freed (in the free state). Specify a VMS absolute date and time. This is normally set up by MDMS. To clear the freed date, specify /NOFREED_DATE.

This qualifier requires the right MDMS_SET_PROTECTED.

/INITALIZED_DATE=date
/NOINITIALIZED_DATE
Specifies the date the volume was last initialized. Specify a VMS absolute date and time. This is normally set up by MDMS. To clear the initialized date,
specify /NOINITIALIZED_DATE.

This qualifier requires the right MDMS_SET_PROTECTED.

/IO_ERROR_COUNT=number
This qualifier allows you to set the number of I/O errors on the volume. The default value is zero.

This qualifier requires the right MDMS_SET_PROTECTED.

/JOB_NAME="text"
This qualifier allows you to specify the last job that accessed the volume. The job name can be from 0 to 31 characters. If it contains spaces, it must enclosed in quotation marks. Specify "" to clear the job name.

This qualifier requires the right MDMS_SET_PROTECTED.

/JUKEBOX=jukebox_name
/NOJUKEBOX
This qualifier allows you to specify that the volume is currently residing or last resided in the specified jukebox. The maximum length of a jukebox name is 31 characters. This is normally set up by MDMS. To clear the jukebox name,
specify /NOJUKEBOX.

This qualifier requires the right MDMS_SET_PROTECTED.

/LAST_ACCESS_DATE=date
/NOLAST_ACCESS_DATE
Specifies the date the volume was last accessed. Specify a VMS absolute date and time. This is normally set up by MDMS. To clear the last access date,
specify /NOLAST_ACCESS_DATE.

This qualifier requires the right MDMS_SET_PROTECTED.

/MAGAZINE=magazine_name
/NOMAGAZINE
Specifies the magazine name if the volume resides in a magazine.

This qualifier requires the right MDMS_SET_PROTECTED.

/MEDIA_TYPES=(media_type[,…])
/NOMEDIA_TYPES
The media type qualifier allows you to add the media type(s) that the volume can support. Multiple media types are supported prior to the volume being initialized. After initialization, a volume can only support one media type. The /REMOVE or /REPLACE qualifier can be used to remove or replace objects in the list, rather than adding them by default. To specify the volume supports no media types, enter /NOMEDIA_TYPES.

/MOUNT_COUNT=number
Specifies the number of times the volume has been loaded and mounted. Normally set up by MDMS. The default mount count is zero.

/OFFSITE=([LOCATION=location][, [NO]DATE[=date]])
/NOOFFSITE(D)
This qualifier specifies the date that the volume is to be taken offsite and the offsite location. The location field is required when using the /OFFSITE qualifier if no location has been previously specified. The LOCATION keyword cannot be negated and if specified must point to a

valid location object. Specify a VMS absolute or delta time in the date field. The NODATE keyword may be used to remove the date. This has the effect of disabling the schedule for the volume, while retaining the location. To clear the offsite date and location, specify /NOOFF-SITE. If a volume is under magazine control, the /OFFSITE qualifier is not allowed. The volume inherits these values from the magazine object. If /MAGAZINE is used on the SET VOLUME command when an existing /OFFSITE location and date are set, the values are cleared.

/ONSITE=([LOCATION=location][, [NO]DATE=date]])
/NOONSITE (D)

This qualifier specifies the date that the volume is to be brought back onsite and the onsite location. The location field is required when using the /ONSITE qualifier if no location has been previously specified. The LOCATION keyword cannot be negated and if specified must point to a valid location object.   Specify a VMS absolute or delta time in the date field. The NODATE keyword may be used to remove the date. This has the effect of disabling the schedule for the volume, while retaining the location. To clear the onsite date and location, specify /NOONSITE. If a volume is under magazine control, the /ONSITE qualifier is not allowed. The volume inherits these values from the magazine object. If /MAGAZINE is used on the SET VOLUME command when an existing /ONSITE location and date are set, the values are cleared.

/OWNER=uic
/NOOWNER

This qualifier specifies the owner of a volume. The owner field must be a UIC in the format [USER] or [group, user]. This is normally set up by MDMS on allocate volume. To clear the owner field, specify /NOOWNER.

This qualifier requires the right MDMS_SET_PROTECTED.

/PLACEMENT=keyword

This qualifier defines the current placement of the volume. This is normally managed by MDMS. The following options are available:

- DRIVE
- ONSITE
- MAGAZINE
- JUKEBOX
- OFFSITE
- MOVING

If a magazine name is specified on the /MAGAZINE qualifier, the volume placement can be in one of three states:

- MAGAZINE
- DRIVE
- MOVING

During a MOVE, LOAD or UNLOAD, a volume's placement may be set to MOVING indicating that the volume is being moved. If a volume is in a magazine, it is set to MOVING when the volume is being loaded or unloaded to/from a drive.

This qualifier requires the right MDMS_SET_PROTECTED.

/POOL=pool_name
/NOPOOL (D)

The pool in which the volume belongs. The maximum length of the pool name is 31 characters. Spaces are not allowed in the pool name.

.

/PREINITIALIZED
/NOPREINITIALIZED (D)
This qualifier specifies whether the volume has been initialized before creation. If /PREINI-
TIALIZED is specified, the volume is placed in the FREE state rather than the UNINITIAL-
IZED state.

/PROTECTION=protection
The protection code for the volume. Use the standard OpenVMS protection code format.

/PURCHASED_DATE=date
/NOPURCHASED_DATE (D)
The date when the volume was purchased. The date should be specified as an OpenVMS abso-
lute time. Specify /NOPURHCASED_DATE to clear the purchased date.

/RECLENGTH=number
This qualifier specifies the record length used on the volume. The default record length is zero.

/RELEASE
This qualifier puts the volume into the free state from the TRANSITION state. It is not valid to
release an allocated volume.

/REMOVE
The /REMOVE qualifier works in conjunction with certain qualifiers that accept lists and
removes specified attributes from them.

/REPLACE
The /REPLACE qualifier works in conjunction with certain qualifiers that accept lists and
replaces the existing attributes list with the specified attributes list. By default, list attributes are
added to the existing list.

/RETAIN
This qualifier puts the volume that is in the FREE state or TRANSITION state back into the allo-
cated state with the former owner as the current owner

/SCRATCH_DATE=date
/NOSCRATCH_DATE
The /SCRATCH_DATE qualifier specifies the planned date to return the volume from the
ALLOCATED state to either the TRANSITION state or the FREE state.
Specify /NOSCRATCH_DATE if the volume should not automatically transition from the allo-
cated state.

/SLOTS=(range[,…])
/NOSLOTS
When a volume ID is specified on the create, this qualifier specifies the jukebox or magazine slot
that the volume currently resides in. Specify a number in the range of the jukebox or magazine.
This is normally set up by MDMS. If the volume does not currently reside in a jukebox or maga-
zine slot, specify /NOSLOTS. If no volume ID is specified, or a volume range is specified, you
can specify a slot list.

This qualifier requires the right MDMS_SET_PROTECTED.

/SPACES=(range[,…])
/NOSPACES
When a volume ID is specified on the create, this qualifier specifies the non-jukebox space in the
specified location that the volume resides in. If the volume does not reside in a location space,
specify /NOSPACES.

/STATE=keyword
This qualifier allows you to modify the state of the volume. This is normally set up by MDMS
and is not recommended. The keyword values are:

- ALLOCATED
- FREE
- TRANSITION
- UNAVAILABLE
- UNINITIALIZED

This qualifier requires the right MDMS_SET_PROTECTED.

/TIMES_CLEANED=number
This qualifier allows you to specify the number of times the volume has been cleaned. The default is zero.

/TRANSITION_TIME=delta_time
/NOTRANSITION_TIME
The /TRANSITION_TIME qualifier specifies that the volume enters the transition state when the scratch date is reached, and is to stay in the transition state for the specified delta time. When the transition time has expired, the volume enters the free state. The /NOTRANSITION_TIME qualifier specifies that the volume enters the free state directly at the scratch/deallocated date.

/UNAVAILABLE
Puts the volume in the unavailable state. The previous state is retained for when the volume is made available again.

/USER_NAME=username
/NOUSER
Specifies the user for the volume. The username can be from 1-32 characters, and must reflect an authorized VMS username. To clear the username, enter /NOUSER.

This qualifier requires the right MDMS_SET_PROTECTED.

/VISION
This qualifier specifies that volume IDs are to be read using a vision system in a suitably-equipped jukebox. No volume ID or volume range should be specified when using this qualifier. Valid only on CREATE VOLUME.

/VOLSET
/NOVOLSET
This qualifier specifies that all changes apply to the entire volume set. By default, attributes apply to a single volume or volume range specified. Valid only on SET VOLUME.

Examples

```
$ MDMS SET VOLUME ABC001 /ONSITE=(LOCATION=SHELF2) /SPACES=AA4
```

This command modifies the onsite location of volume ABC001.

```
$ MDMS SET VOLUME SFR024 /SLOTS=24
```

This command modifies the jukebox slot location for volume SFR024 to slot 24.

```
$ MDMS SET VOLUME HS0001-HS0007 /MAGAZINE=TX877B  /SLOTS=(0-6)
```

This command modifies the magazine and slot definition for the seven volume records HS0001 – HS0007.

MDMS SHOW DOMAIN

The MDMS SHOW DOMAIN command displays information about the MDMS domain.

Equivalent STORAGE Command: None

Format

MDMS SHOW DOMAIN

Parameters

None.

Description

The MDMS SHOW DOMAIN command displays information about the MDMS domain.

Privileges

The request requires MDMS_SHOW_ALL.

If the /FULL qualifier is specified, MDMS_SHOW_RIGHTS is also required.

Restrictions

None.

Qualifiers

/FULL
Shows the rights assignments in the display.

This qualifier requires the right MDMS_SHOW_RIGHTS

/OUTPUT=file_spec
Specifies the output file in which to send the domain information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW DOMAIN
```

This command displays a full listing of the MDMS domain.

```
       Description: SYSTEM MDMS Domain
              Mail: SYSTEM
   Offsite Location: ARCUS
    Onsite Location: Houston
    Def. Media Type: TK85K
   Deallocate State: FREE
        Opcom Class: TAPES
         Request ID: 460532
         Protection: S:RW,O:RW,G:R,W
     DB Server Node: NABSCO
     DB Server Date: 31-AUG-1999 13:16:53
    Max Scratch Time: NONE
        Scratch Time:  365 00:00:00
     Transition Time: NONE
```

MDMS SHOW DOMAIN

```
$ MDMS SHOW DOMAIN /OUTPUT=DOMAIN.DAT
```

This command outputs a full listing of the MDMS domain to file DOMAIN.DAT.

MDMS SHOW DRIVE

The MDMS SHOW DRIVE command displays information about specified drive(s) or all drives defined in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SHOW DRIVE [drive_name [,…]]

Parameters

drive_name
Specifies the name(s) of the drive(s). Specify a drive name or a logical name. The maximum length of the drive name or logical name is 31 characters. All drives are displayed if the drive_name parameter is omitted.
Wildcard characters are allowed in the drive_name, where * represents a variable-length wild-card, and % represents a single character wildcard.

Description

The MDMS SHOW DRIVE command displays information about specified drive(s) or all drives defined in the MDMS configuration database.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF
Display drive information in the brief 1-line format. This is the default display when a drive name is not specified.

/CHECK
/NOCHECK (D)
When the /CHECK qualifier is specified, the drive is physically accessed to determine its availability and its state. If the state varies from what is stored in the database, the state is updated (and associated volume records are also updated) and the new values are displayed. If the check cannot be performed, the original database settings are displayed with a warning message. With the default /NOCHECK, no physical checking is performed, and the current database contents are displayed.

This qualifier requires the right MDMS_SET_OWN

/FULL
Display drive information in the full multi-line format. All attributes and status fields are displayed. This is the default display when a drive name is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the drive information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW DRIVE $1$MUA5.
```

In addition, if /CHECK is specified, the option requires MDMS_SET_OWN.

This command displays a full listing of drive information for drive 1MUA5 to SYS$OUTPUT.

```
$ MDMS SHOW DRIVE /FULL $1$MUA5 /OUTPUT=DRIVES.DAT
```

This command displays a full listing of drive information for drive 1MUA5 and puts the output into file DRIVE.DAT.

```
$ MDMS SHOW DRIVE / FULL $1$MUA110:
```

This command displays the following full listing of drive information for 1MUA110:.

```
            Drive: $1$MUA110
      Description:
           Device: $1$MUA110
            Nodes:
           Groups: SYSGRP
           Volume: BTY014
         Disabled: NO
           Shared: NO
        Available: YES
            State: FULL
          Stacker: NO
  Automatic Reply: YES
   RW Media Types: DLT_IV
   RO Media Types:
           Access: ALL
          Jukebox: TL810_1
     Drive Number: 0
        Allocated: NO
```

MDMS SHOW GROUP

The MDMS SHOW GROUP command displays information about selected groups or all groups defined in the MDMS configuration database.
Equivalent STORAGE Command: None

Format

MDMS SHOW GROUP [group_name [,...]]

Parameters

group_name
Specify the group names. The maximum length of the drive name or logical name is 31 characters. All groups are displayed if the group_name parameter is omitted.
Wildcard characters are allowed in the drive_name, where * represents a variable-length wildcard, and % represents a single character wildcard.

Description

The MDMS SHOW GROUP command displays information about specified groups in the MDMS configuration database.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF
Display drive information in the brief 1-line format. This is the default display when a group is not specified.

/FULL
Display drive information in the full multi-line format. All attributes and status fields are displayed. This is the default display when a group name is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the drive information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW GROUP HOSER /FULL
```

This command displays a full listing of nodes in the group HOSER.

```
$ MDMS SHOW GROUP /OUTPUT GROUPS.DAT /FULL
```

This command displays a full listing of all group information and sends the output into file HOSER.DAT.

```
$ MDMS SHOW GROUP HOSER /FULL
```

This command displays a full listing of nodes in the group HOSER.

MDMS SHOW GROUP

The following is an example of this display.

```
      Group: HOSER
Description: SPP Engineering system
      Nodes: TOOKUS,GREAT,NORTH
```

MDMS SHOW JUKEBOX

The MDMS SHOW JUKEBOX command displays information about specified jukebox(es) or all jukeboxes defined in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SHOW JUKEBOX [jukebox_name [,…]]

Parameters

jukebox_name
Specifies the name(s) of the jukebox(es). The maximum length of the jukebox name is 31 characters. All jukeboxes are displayed if the jukebox_name parameter is omitted.
Wildcard characters are allowed in the drive_name, where * represents a variable-length wildcard, and % represents a single character wildcard.

Description

The MDMS SHOW JUKEBOX command displays information about specified jukebox(es) or all jukeboxes defined in the MDMS configuration database.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF
Display jukebox information in the brief 1-line format. This is the default display when a jukebox name is not specified.

/FULL
Display jukebox information in the full multi-line format. All attributes and status fields are displayed. This is the default display when a jukebox name is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the jukebox information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW JUKEBOX JUKE_1
```

This command displays a full listing of jukebox information for jukebox JUKE_1.

MDMS SHOW JUKEBOX

```
$ MDMS SHOW JUKEBOX /FULL /OUTPUT=JUKE_LIST.DAT
```

This command displays a full listing for all jukeboxes, which is stored in file JUKE_LIST.DAT instead of SYS$OUTPUT.

```
$ MDMS SHOW JUKEBOX TL810_1/FULL
```

This command displays a full listing for MRD-controlled jukebox TL810_1, as follows:

```
    Jukebox: TL810_1
 Description: TL810 for ABS incrementals and HSM
      Nodes:
     Groups: SYSGRP
   Location: CXN
   Disabled: NO
     Shared: NO
 Auto Reply: YES
     Access: ALL
      State: AVAILABLE
    Control: MRD
      Robot: $1$DUA810
 Slot Count: 48
      Usage: NOMAGAZINE
```

```
$ MDMS SHOW JUKEBOX DCSC_JUKE_1/FULL
```

This command displays a full listing for DCSC-controlled jukebox DCSC_JUKE_1, as follows:

```
    Jukebox: DCSC_JUKE_1
 Description:
      Nodes: FUMBLE, MUMBLE
     Groups:
   Location: Colorado Springs
   Disabled: NO
     Shared: NO
 Auto Reply: YES
     Access: ALL
      State: AVAILABLE
    Control: DCSC
    Library: 1
        ACS: 0
        LSM: 0
  Cap Sizes: 20
```

MDMS SHOW LOCATION

The MDMS SHOW LOCATION command displays information about specified location(s) or all locations defined in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SHOW LOCATION [location [,…]]

Parameters

location
Specifies the name of the location. The maximum length of the location name is 31 characters. All locations are displayed if the location parameter is omitted.
Wildcard characters are allowed in the drive_name, where * represents a variable-length wildcard, and % represents a single character wildcard.

Description

The MDMS SHOW LOCATION command displays information about specified location(s) or all locations defined in the MDMS configuration database.

If the location parameter is supplied, only information on the specified location(s) is displayed, which are subject to further selection based on the qualifiers.

If no location parameter is specified, the qualifiers are used for selection; if no qualifiers are specified, all locations are displayed.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF
Display location information in the brief 1-line format. This is the default display when a location name is not specified.

/FULL
Display location information in the full multi-line format. All attributes and status fields are displayed. This is the default display when a location name is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the location information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW LOCATION
```

MDMS SHOW LOCATION

This command displays a brief listing of all locations.

```
$ MDMS SHOW LOCATION SHELF1, SHELF2, SHELF3, SHELF4 /FULL
```

This command displays a full listing of location information for locations SHELF1 to SHELF4.

```
$ MDMS SHOW LOCATION /FULL /OUTPUT=LOC_LIST.DAT
```

This command displays a full listing of all location information in file LOC_LIST.DAT.

```
$ MDMS SHOW LOCATION /FULL ARGUS
```

This command displays location information for ARGUS. See the following example:

```
   Location: ARGUS
Description: Top level DB
     Spaces: 20:S101-20:S200
```

MDMS SHOW MAGAZINE

The MDMS SHOW MAGAZINE command displays information about specified magazine(s), selected magazines, or all magazines defined in the MDMS configuration database.

Equivalent STORAGE Command: STORAGE SHOW MAGAZINE

Format

MDMS SHOW MAGAZINE [magazine_name [,…]]

Parameters

magazine_name
Specifies the name(s) of the magazine(s). The maximum length of the magazine name is 31 characters. All magazines are displayed if the magazine_name parameter is omitted. Wildcard characters are allowed in the drive_name, where * represents a variable-length wildcard, and % represents a single character wildcard.

Description

The MDMS SHOW MAGAZINE command displays information about specified magazine(s), selected magazines, or all magazines defined in the MDMS configuration database.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF
Display magazine information in the brief 1-line format. This is the default display when a magazine name is not specified.

/FULL
Display magazine information in the full multi-line format. All attributes and status fields are displayed. This is the default display when a magazine name is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the magazine information. The default is SYS$OUTPUT.

/SCHEDULE[=keyword]
The /SCHEDULE qualifier selects magazines whose offsite or onsite date has "expired" and the magazine is not in the new location. If both dates have expired, the later of the two dates is used. The optional keywords on the /SCHEDULE qualifier may be:

- OFFSITE

- ONSITE

If the OFFSITE keyword is used, then only those magazines scheduled to be moved offsite are selected. If the ONSITE keyword is used, then only those magazines scheduled to be moved

onsite are selected. If the keyword is omitted, then the magazines scheduled to be moved onsite and offsite are selected.

Examples

```
$ MDMS SHOW MAGAZINE
```

This command displays a brief listing of all magazines.

```
$ MDMS SHOW MAGAZINE PDMAG1 /OUTPUT=PDMAG1.DAT
```

This command outputs a full listing of magazine information for magazine PDMAG1 to file PDMAG1.DAT.

```
$ MDMS SHOW MAGAZINE /SCHEDULE
```

This command outputs a brief listing of all magazines scheduled to be moved onsite or offsite. The following example shows the magazine display:

```
$ MDMS SHOW MAG MAG_1

      Magazine: MAG_1
   Description:
     Placement: JUKEBOX JUKE_1, START SLOT 0
   Slot Count: 7
       Jukebox: JUKE_1
      Position:
    Start Slot: 0
    Onsite Loc: CXO
        Spaces:
   Onsite Date: NONE
   Offsite Loc: VAULT
  Offsite Date: NONE
```

MDMS SHOW MEDIA_TYPE

The MDMS SHOW MEDIA_TYPE command displays information about specified media types or all media types defined in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SHOW MEDIA_TYPE [media_type [,…]]

Parameters

media_type
Specifies the name(s) of the media_type(s). The maximum length of the media_type name is 31characters. All media types are displayed if the media_type parameter is omitted.
Wildcard characters are allowed in the drive_name, where * represents a variable-length wild-card, and % represents a single character wildcard.

Description

The MDMS SHOW MEDIA_TYPE command displays information about specified media type(s), selected media types, or all media types defined in the MDMS configuration database.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF (D)
Display media type information in the brief 1-line format. This is the default display when a media type is not specified.

/FULL
Display media type information in the full multi-line format. All attributes and status fields are displayed. This is the default display when a media type is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the media type information.
The default is SYS$OUTPUT.

Examples

```
$MDMS SHOW MEDIA_TYPE TK88K_COMP /FULL
```

This command displays a full listing of media_type information for media_type TK88K_COMP.

```
$ MDMS SHOW MEDIA_TYPE /FULL /OUTPUT=MEDIA.DAT
```

This command outputs a full listing of media type information for all media types to file MEDIA.DAT.

```
$ MDMS SHOW MEDIA_TYPE TK88K_COMP /FULL
```

This command displays a full listing of media_type information for media_type TK88K_COMP.
See the following example:

```
 Media type: TK85K_COMP
Description: Used for financial reports
    Density: TK85
 Compaction: YES
   Capacity: 10000
     Length: 0
```

MDMS SHOW NODE

The MDMS SHOW NODE command displays information about specified node(s), selected nodes, or all nodes defined in the MDMS configuration database.

Equivalent STORAGE Command: None

Format

MDMS SHOW NODE [node_name [,…]]

Parameters

node_name
Specifies the name(s) of the node(s). The maximum length of the node name is 31 characters. All nodes are displayed if the node_name parameter is omitted.
Wildcard characters are allowed in the drive_name, where * represents a variable-length wildcard, and % represents a single character wildcard.

Description

The MDMS SHOW NODE command displays information about specified node(s) or all nodes defined in the MDMS configuration database.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF (D)
Display node information in the brief 1-line format. This is the default display when a node name is not specified.

/FULL
Display node information in the full multi-line format. All attributes and status fields are displayed. This is the default display when a node name is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the node information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW NODE /FULL /OUTPUT=NODES.DAT
```

This command outputs a full listing of node information for all nodes to file NODES.DAT.

```
$ MDMS SHOW NODE DSORDS
```

This command displays a full listing of node information for node DSORDS.

```
$ MDMS SHOW NODE /LOCAL
```

MDMS SHOW NODE

This command displays a listing of local node information from the startup file. Database access is not performed with this command.

```
$ MDMS SHOW NODE SILAGE/FULL
```

This command displays a full listing of node information for node SILAGE. See the following example:

```
                Node: SILAGE
         Description: Used DB Documentation
DECnet-Plus Fullname: COMPA:.SITE.SILAGE
     TCP/IP Fullname: SILAGE.SITE.COMPA.COM:2501-2510
            Disabled: NO
     Database Server: NO
            Location: CXO
       Opcom Classes: TAPES
          Transports: TCPIP,DECNET
```

MDMS SHOW POOL

The MDMS SHOW POOL command displays information about specified pool(s), selected pools, or all pools defined in the MDMS configuration database.
Equivalent STORAGE Command: None

Format

MDMS SHOW POOL [pool_name [,…]]

Parameters

pool_name
Specifies the name of the pool. The maximum length of the pool name is 31 characters. All pools are displayed if the pool_name parameter is omitted.
Wildcard characters are allowed in the drive_name, where * represents a variable-length wildcard, and % represents a single character wildcard.

Description

The MDMS SHOW POOL command displays information about specified pool(s) or all pools defined in the MDMS configuration database.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF
Display pool information in the brief 1-line format. This is the default display when a pool name is not specified.

/FULL
Display pool information in the full multi-line format. All attributes and status fields are displayed. This is the default display when a pool name is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the pool information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW POOL ABS_POOL /FULL
```

This command displays a full listing of pool information for pool ABS_POOL.

MDMS SHOW POOL

```
$ MDMS SHOW POOL TEST_POOL /FULL
```

This command displays a full listing of pool information for pool TEST_POOL. See the following example:

```
            Pool: TEST_POOL
     Description: Test_system
Authorized Users: CROPS::MAJORS,CROPS::ANDERSON
   Default Users: GREAT::FRANKLIN
```

MDMS SHOW REQUEST

The MDMS SHOW REQUEST command displays information about all requests currently active on the current node. It can also display certain completed requests.

Equivalent STORAGE Command: None

Format

MDMS SHOW REQUEST [request_id]

Parameters

request_id
Specifies an identifier to show a specific request. You can obtain a list of request IDs by issuing a SHOW REQUEST command without a request ID.

Description

The MDMS SHOW REQUEST command displays information about all requests currently active in the domain. In addition it can also display certain completed requests. Requests can be shown with a wildcard which displays all requests subject to privilege (see below). In addition, requests for a specific user can be shown.

Privileges

The request requires MDMS_SHOW_ALL, MDMS_SHOW_POOL, or MDMS_SHOW_OWN.

If the user has only MDMS_SHOW_OWN or MDMS_SHOW_POOL, only requests issued by the user are shown. To see requests of other users MDMS_SHOW_ALL is required.

Qualifiers

/BRIEF
Displays requests information in the brief 1-line format. This is the default display if no request_id is specified.

/DEBUG
Displays addresses of certain objects for debugging purposes.

/FULL
Displays request information in the full multi-line format. This is the default display if a request_id is specified.

/OUTPUT=file_spec
Specifies the output file in which to send the requests information. The default is SYS$OUTPUT.

/USER_NAME=username
Restricts the request list to those issued by the specified user.

Restrictions

None.

Examples

```
$ MDMS SHOW REQUESTS
```

This command displays a brief listing of all requests active on the current node.

```
MDMS SHOW REQUEST/FULL
```

This command displays a full listing of all requests active in the domain.

```
MDMS SHOW REQUEST 45
```

This command displays a full listing of request identifier 45

```
MDMS SHOW REQUEST/USER_NAME=FROEHLIN
```

This command displays a brief listing of all requests issued by user FROEHLIN.
The following is an example of a request display:

```
    $ MDMS SHOW REQUEST 461418/FULL

 Request ID: 461418
       User: HSM$SERVER
       Node: SYS001.SITE.COMP.COM
    Process: 28015D17
    Started: 31-AUG-1999 15:42:44
  Completed: 31-AUG-1999 15:42:44
      State: Completed
  Wait Node:
State Duration:    0 00:00:36
   Function: SHOW MEDIA TYPE TL810_HSM
 Ext Status: %MDMS-S-SUCCESS, success
```

MDMS SHOW SERVER

The MDMS SHOW SERVER command displays information about the local configuration of the MDMS server on the specified node(s).

Equivalent STORAGE Command: None

Format

MDMS SHOW SERVER

Parameters

None.

Description

The MDMS SHOW SERVER command displays information about the local configuration of the MDMS server on the specified node(s). The information is derived from the specified nodes local startup configuration files rather then the MDMS database.

Privileges

The request requires MDMS_SHOW_ALL, MDMS_SHOW_POOL or MDMS_SHOW_OWN.

Qualifiers

/NODES
/NODES=(node_name[,...])
Displays information about the server on the specified node(s). The node name is either a DEC-net (Phase IV) node name, a DECnet-Plus (Phase V) node name, or a TCP/IP node name. A TCP/IP node name can include a port number range. If no port number range is specified the default is 2501-2510.

/OUTPUT
/OUTPUT=file_spec
Specifies the output file in which to send the version information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW SERVER
```

This command displays MDMS version information on the current node.

```
$ MDMS SHOW SERVER /NODES=(COOKIE, DSORDS)
```

This command displays local MDMS server information for nodes COOKIE and DSORDS.

```
MDMS SHOW SERVER -
/NODES=(SENILE,CORP:.DOM.PARANOID,DISORDERS.DOM.CORP:3001-3010)
```

This command displays information about servers on DECnet (Phase IV) node SENILE, DEC-net-Plus (Phase V) node PARANOID and TCP/IP node DISORDERS.

```
$ MDMS SHOW SERVER /NODE=SYS001

          Server node name:  SYS001
```

MDMS SHOW SERVER

```
            TCP/IP Fullname:  SYS001.DOM.CORP.COM:2501-2510
       DECnet-Plus Fullname:
                 Transports:  TCPIP,DECNET
             Server Version:  T3.0-10(222)
                    Logfile:  MDMS$ROOT:[LOGFILE]MDMS$LOGFILE_SYS001.LOG;8
          Database location:  DISK$UTIL_2:[MDMS.DATABASE]
      DB server search list:  SYS001, SYS002, SYS003
            Database access:  via remote node
        DB server node name:  SYS003
     DB node TCP/IP Fullname:  SYS003.DOM.CORP.COM:2501-2510
  DB node DECnet-Plus Fullname:
```

This shows the server on node SYS001 is only using transport DECnet via its DECnet node name of SYS001. The node has TCP/IP running but it is not used by the MDMS server.

MDMS SHOW VERSION

The MDMS SHOW VERSION command displays information about the version of various
MDMS components on the specified node(s).
Equivalent STORAGE Command: None

Format

MDMS SHOW VERSION

Parameters

None.

Description

The MDMS SHOW VERSION command displays information about the version of various
MDMS components on the specified node(s).

Privileges

The request requires MDMS_SHOW_ALL, MDMS_SHOW_POOL or MDMS_SHOW_OWN.

Restrictions

None.

Qualifiers

/NODES=(node_name[,…])
Displays information about this server. The node name is either a DECnet (Phase IV) node
name, a DECnet-Plus (Phase V) node name, or a TCP/IP node name. A TCP/IP node name can
include a port number range. If no port number range is specified the default is 2501-2510.

/OUTPUT=file_spec
Specifies the output file in which to send the version information. The default is SYS$OUTPUT.

Examples

```
$ MDMS SHOW VERSION
```

This command displays MDMS version information on the current node.

```
$ MDMS SHOW VERSION /NODE=(COOKIE::, DSORDS)
```

This command displays MDMS version information for nodes COOKIE and DSORDS.

```
$ MDMS SHOW VERSION -
/NODES=(SENILE,CORP:.DOM.PARANOID,DISORDERS.COM.CORP:3001-3010)
```

This command displays the version of the servers on DECnet node SENILE, DECnet-Plus node
PARANOID and TCP/IP node DISORDERS.

```
$ MDMS SHOW VERSION
     Command Line Version: V3.0-0(230)
  Shareable Image Version: V3.0-0(230)
            Server Version: V3.0-0(230)
```

MDMS SHOW VOLUME

The MDMS SHOW VOLUME command displays information about specified volume(s), selected volumes, or all volumes defined in the MDMS configuration database.

Equivalent STORAGE Commands: STORAGE SHOW VOLUME

Format

MDMS SHOW VOLUME [volume_id[,…]]

Parameters

volume_id
Specifies the identifier(s) of the volume(s). The maximum length of the volume ID is 6 characters. Alternatively, a volume range, separated by a dash, may be specified. A volume range is a numeric range for up to the last three characters of the volume ID. Example ranges are (ABC001-ABC250), (ABC120-ABC125). Wildcard characters are allowed in the drive_name, where * represents a variable-length wildcard, and % represents a single character wildcard.

All volumes are displayed if the volume_id parameter is omitted, subject to qualifier selection.

Description

The MDMS SHOW VOLUME command displays information about specified volume(s), selected volumes, or all volumes defined in the MDMS configuration database.

If the volume_id parameter is supplied, only information on the specified volume(s) is displayed, which are subject to further selection based on the qualifiers.

If no volume_id parameter is specified, the qualifiers are used for selection; if no qualifiers are specified, all volumes are displayed.

Privileges

The request requires MDMS_SHOW_ALL, MDMS_SHOW_POOL or MDMS_SHOW_OWN.

If the user has only MDMS_SHOW_OWN, only volumes allocated and owned by the user are displayed. If the user has MDMS_SHOW_POOL, then volumes in pools authorized to the user are displayed. To display any other volumes requires MDMS_SHOW_ALL.

Restrictions

/SYMBOLS can only be specified on a show of a single volume.

/ALLOCATED, /NOALLOCATED, /FORECAST, /SYMBOLS are mutually exclusive.

Qualifiers

/ABS_VOLSET
This qualifier displays the ABS volset records, those beginning with "&+". By default, these pseudo volume records are not displayed.

/ALLOCATED
/NOALLOCATED
Displays only volumes that are currently either allocated or not allocated.

/BRIEF

Display volume information in the brief 1-line format. This is the default if no volume_id parameter is specified.

/FULL

Display volume information in the full multi-line format. All attributes and status fields are displayed. This is the default when a volume_id parameter is
specified.

/OUTPUT=file_spec

Specifies the output file in which to send the volume information. The default is SYS$OUTPUT.

/SCHEDULE[=keyword]

The /SCHEDULE qualifier selects volumes whose offsite or onsite date has "expired" and the volumes are not in the new location. If both dates have expired, the later of the two dates is used. The optional keyword on the schedule qualifier may be:

•   OFFSITE

•   ONSITE

If the OFFSITE keyword is used, then only those volumes schedule to be moved offsite are selected. If the ONSITE keyword is used, then only those volumes scheduled to be moved onsite are selected. If the keyword is omitted, the volumes scheduled to be moved onsite and offsite are selected.

/SYMBOLS

Stores selected volume information in process symbols. The symbols created are:

•   MDMS_INQ_ACCOUNT

•   MDMS_INQ_ALLOCATED_DATE

•   MDMS_INQ_BLOCK_FACTOR

•   MDMS_INQ_BRAND

•   MDMS_INQ_CLEANED_DATE

•   MDMS_INQ_CREATION_DATE

•   MDMS_INQ_DEALLOCATION_DATE

•   MDMS_INQ_DESCRIPTION

•   MDMS_INQ_DRIVE

•   MDMS_INQ_FORMAT

•   MDMS_INQ_FREED_DATE

•   MDMS_INQ_INITIALIZED_DATE

•   MDMS_INQ_IO_ERROR_COUNT

•   MDMS_INQ_JOB_NAME

•   MDMS_INQ_JUKEBOX_NAME

•   MDMS_INQ_LAST_ACCESS_DATE

•   MDMS_INQ_MAGAZINE_NAME

•   MDMS_INQ_MEDIA_TYPE

•   MDMS_INQ_MOUNT_COUNT

- MDMS_INQ_NEXT_VOLUME
- MDMS_INQ_OFFSITE_DATE
- MDMS_INQ_OFFSITE_LOCATION
- MDMS_INQ_ONSITE_DATE
- MDMS_INQ_ONSITE_LOCATION
- MDMS_INQ_OWNER_UIC
- MDMS_INQ_PLACEMENT
- MDMS_INQ_POOL_NAME
- MDMS_INQ_PREVIOUS_VOLUME
- MDMS_INQ_PROTECTION
- MDMS_INQ_PURCHASED_DATE
- MDMS_INQ_RECORD_LENGTH
- MDMS_INQ_SCRATCH_DATE
- MDMS_INQ_SLOTS
- MDMS_INQ_SPACES
- MDMS_INQ_STATE
- MDMS_INQ_TIMES_CLEANED
- MDMS_INQ_TRANSITION_TIME
- MDMS_INQ_USER_NAME
- MDMS_INQ_VOLUME_ID

/USER_NAME=username
Selects volumes owned by this user.

/VOLSET
/NOVOLSET
This qualifier specifies that the show applies to all volumes of the volume set. By default, the show command only applies to specified volume(s).

Examples

```
$ MDMS SHOW VOLUME FRM001 /SYMBOLS
```

This command displays a full listing of volume information for volume FRM001, and stores selected information in DCL symbols.

```
$ MDMS SHOW VOLUME /ALLOCATED /USER_NAME=HSM$SERVER /FULL
```

This command displays a full listing of volume information for all volumes allocated to user HSM$SERVER.

```
$ MDMS SHOW VOLUME /NOALLOCATED
```

This command displays a brief listing of volume information for the all volumes that are not allocated, i.e. those that are in the UNINITIALIZED, FREE or TRANSITION states.

```
$ MDMS SHOW VOLUME BDJ530/FULL
```

This command displays a full listing of the volume BDJ530. See the following example:

```
Volume: BDJ530
 Description: COOKIE INCREMENTAL BACKUPS
   Placement: JUKEBOX JUKE_1
 Media Types: TK85K                        Username: ABS
        Pool: INCREMENTAL               Owner UIC: [ABS]
 Error Count:        0                     Account: SYSTEM
 Mount Count:       12                    Job Name:
       State: ALLOCATED                   Magazine:
 Avail State: ALLOCATED                    Jukebox: JUKE_1
Previous Vol: BDJ516                          Slot: 127
    Next Vol: BDJ541                         Drive: $1$MUA600
      Format: BACKUP                   Offsite Loc: VAULT
  Protection: S:RW,O:RW,G:R,W:R        Offsite Date: NONE
    Purchase: 15-AUG-1997 08:38:18      Onsite Loc: CXN
    Creation: 16-DEC-1998 05:59:03           Space: Space 123
        Init: 10-OCT-1998 02:00:08     Onsite Date: NONE
  Allocation: 16-FEB-1999 05:59:03           Brand: COMPAQ
     Scratch: 20-JAN-2000 05:59:03    Last Cleaned: 15-AUG-199708:38:18
Deallocation: NONE                   Times Cleaned: 1
  Trans Time: NONE                      Rec Length: 0
       Freed: 21-JAN-1999 06:21:29    Block Factor: 0
 Last Access: 16-FEB-1999 07:13:54
```

MDMS – Start An MDMS Session

The MDMS command starts an MDMS session.

Equivalent STORAGE Command: None.

Format

MDMS

Parameter

None.

Description

The MDMS starts an MDMS session. The default session is a DCL session, from which you may enter multiple MDMS commands without the MDMS verb. Your prompt is MDMS>. If you enter the /INTERFACE=GUI qualifier, you will instead initiate a GUI session on the system.

The following lines need to be appended to the file SYS$STARTUP:JAVA$SETUP.COM before activating the GUI on OpenVMS:

```
$ DEFINE JAVA$CLASSPATH -
MDMS$ROOT:[GUI.VMS]MDMS.ZIP, -
MDMS$ROOT:[GUI.VMS]SYMANTEC.ZIP, -
MDMS$ROOT:[GUI.VMS]SWINGALL.JAR, -
SYS$COMMON:[JAVA.LIB]JDK118_CLASSES.ZIP
```

Before initiating the MDMS command, the following commands should be issued:

```
$ @SYS$STARTUP:JAVA$SETUP.COM
$ SET DISPLAY/CREATE/NODE=monitor_node_name/TRANSPORT=transport
```

where:

monitor_node_name:
Is the name of the node on which the monitor resides. Depending on the transport you select, you may need to enter the TCP/IP fullname, or the DECnet-Plus fullname, rather than the DECnet Phase IV node name.

transport:
Is one of the following:

• DECnet - if you are using DECnet between the OpenVMS node running the GUI and the node whose monitor you are displaying the GUI.

• TCPIP - if you are using TCP/IP between the OpenVMS node running the GUI and the node whose monitor you are displaying the GUI.

• LOCAL - if the monitor is on the same node as the one running the GUI.

Qualifier

/INTERFACE=GUI
This qualifier is required to start the Graphical User Interface on an OpenVMS system.
Note that native GUIs are also provided that execute directly on Windows NT systems (Intel and Alpha) and Windows 95/98 systems. To activate these GUIs, do the following:

1. My computer - double-click on Winnt (C:) or (C:)

2. Double-click on folder Mdms_Gui

3. Double-click on file MDMS_GUI.BAT

After activating the GUI, you may log into any OpenVMS system in the MDMS domain to manipulate MDMS. Both the Windows system and the OpenVMS system must support the TCP/IP protocol for the GUI to access MDMS.

While using the GUI (from any system), you cannot set the SYSPRV privilege to grant all rights from the GUI. As such, the account you are logging into should have SYSPRV defined as an authorized privilege to support the SYSPRV privilege. If this is not desired, then the appropriate MDMS rights must be defined in the account.

Examples

```
$ MDMS
 MDMS>
```

This command initiates an MDMS DCL session.

```
$ @SYS$STARTUP:JAVA$SETUP.COM

$ SET DISPLAY/NODE=NOD001.XYZ.COM/TRANSPORT=TCPIP
$ MDMS/INTERFACE=GUI
```

This command initiates an MDMS GUI session on the current system (running OpenVMS V7.1 or later), on the monitor connected to node NOD001 (which can be running any OpenVMS version supporting X-windows, a UNIX operating system or a Windows NT operating system), using the TCP/IP protocol.

MDMS UNBIND VOLUME

The MDMS UNBIND VOLUME command unbinds a volume from a volume set.

Equivalent STORAGE Command: STORAGE SPLIT

Format

MDMS UNBIND VOLUME volume_id

Parameters

volume_id
Specifies the volume ID of the volume to unbind. The maximum length of a volume ID is 6 characters.

Description

The MDMS UNBIND VOLUME command unbinds a volume from a volume set. By default, when a volume is unbound from a volume set, all volumes in the volume set are unbound. To cause the volume set to be split into separate volumes, use the /VOLSET qualifier. Be aware that unbinding a volume from a volume set could cause data loss if the volume set contains valid data on every volume. Unbound volumes will remain in the ALLOCATED state.

Privileges

The request requires MDMS_UNBIND_ALL or MDMS_UNBIND_OWN.

If the user has only MDMS_UNBIND_OWN, he can unbind only those volumes allocated to him. Unbinding any other volume requires MDMS_UNBIND_ALL.

Restrictions

None

Qualifiers

/USER_NAME=username
The user that owns the volume set. This qualifier is used to unbind a volume from a volume set on behalf of the user. The maximum length of the username is 31 characters.

This qualifier requires the right MDMS_UNBIND_ALL

/VOLSET (D)
/NOVOLSET
By default, the entire volume set containing the volume will be splits into single volumes. Use the /NOVOLSET qualifier to split the volume set into two volume sets, with the second set beginning with the specified volume. Note that it is not possible to unbind the first volume of a volume set using the /NOVOLSET qualifier.

Examples

```
$ MDMS UNBIND VOLUME VOL002
```

Volume set contains VOL001, VOL002, VOL003, VOL004. This command unbinds all the volumes in the volume set, leaving VOL001, VOL002, VOL003 and VOL004 all as single volumes. The volumes remain allocated.

```
$ MDMS UNBIND VOLUME VOL003 /USER_NAME=SMITH /NOVOLSET
```

Volume set contains VOL001, VOL002, VOL003, VOL004 owned by user SMITH. This command unbinds the volume set starting at VOL003 from the volume set. The remaining volume sets contain volumes VOL001 and VOL002 and the second set contains VOL003 and VOL004.

MDMS UNLOAD DRIVE

The MDMS UNLOAD DRIVE command unloads the volume contained in the specified drive.

Equivalent STORAGE Command: STORAGE UNLOAD DRIVE

Format

MDMS UNLOAD DRIVE drive_name

Parameters

drive_name
Specifies the name of the drive to unload. Specify a drive name or a logical name. The maximum length of the drive name or logical name is 31 characters.

Description

The MDMS UNLOAD DRIVE command unloads the volume currently contained in the specified drive.

Privileges

The request requires MDMS_UNLOAD_ALL.

MDMS_ASSIST is also required unless /NOASSIST is specified.

Restriction

None

Qualifiers

/ASSIST (D)
/NOASSIST
The default /ASSIST qualifier requests operator assistance and prompts the operator to unload the volume from the drive. If /NOASSIST is specified, the operator is not notified.
This qualifier requires the right MDMS_ASSIST

/REPLY=symbol
The name of the symbol to receive the operator's reply when operator intervention is needed. The symbol will contain the operator reply to the DCL REPLY/TO or DCL REPLY/ABORT commands. The maximum length of a symbol name is 31 characters. This qualifier is only applicable when /ASSIST is specified.

/WAIT (D)
/NOWAIT
The /NOWAIT qualifier returns an informational message indicating that the unload is being queued. The /WAIT qualifier causes the MDMS UNLOAD DRIVE command to wait until a drive is unloaded.

Example

```
$ MDMS UNLOAD DRIVE $1$MUA151:
```

This command unloads the volume in drive 1MUA151:. There is no timeout value, and no operator assistance is requested.

MDMS UNLOAD VOLUME

The MDMS UNLOAD VOLUME command unloads the specified volume from a drive.

Equivalent STORAGE Command: STORAGE UNLOAD VOLUME

Format

MDMS UNLOAD VOLUME volume_id

Parameters

volume_id
Specifies the volume ID of the volume to unload. The maximum length of the volume ID is 6 characters.

Description

The MDMS UNLOAD VOLUME command will unload a volume from a drive. If the volume resides in a jukebox, it will be returned to its jukebox slot.

Privileges

The request requires MDMS_UNLOAD_ALL, MDMS_UNLOAD_POOL or MDMS_UNLOAD_OWN.

If the user only has MDMS_UNLOAD_OWN, only those volumes allocated to the user can be unloaded. With MDMS_UNLOAD_POOL, the user can unload a volume in a pool to which he is authorized. Unloading any other volume requires MDMS_UNLOAD_ALL.

MDMS_ASSIST is also required unless /NOASSIST is specified.

Restrictions

The volume cannot be unloaded if it is currently mounted.

Qualifiers

/ASSIST (D)
/NOASSIST
The default /ASSIST qualifier requests operator assistance and prompts the operator to unload the volume from the drive. If /NOASSIST is specified, the operator is not specified.

Requests operator assistance to prompt the operator to unload the volume from the drive.

This qualifier requires the right MDMS_ASSIST

/REPLY=symbol
The name of the symbol to receive the operator's reply when operator intervention is needed. The symbol will contain the operator reply to the DCL REPLY/TO or DCL REPLY/ABORT commands. The maximum length of a symbol name is 31 characters. This qualifier is only applicable when /ASSIST is specified.

/WAIT (D)
/NOWAIT
The /NOWAIT qualifier returns an informational message indicating that the unload is being queued. The /WAIT qualifier causes the MDMS UNLOAD VOLUME command to wait until a volume is unloaded.

Example

```
$ MDMS UNLOAD VOLUME VOL003 /NOWAIT
```

This command unloads volume VOL003 from the drive on which it is loaded and the command does not wait until the unload is complete.

MDMS UNLOAD VOLUME

E

MDMS Files and Logical Names

The HSM/MDMS installation procedure installs files and defines logical names on your system. This appendix lists the names of the files installed and logical names that are added to the system logical name -table. Section E.1 lists names of the files installed and Section E.2 lists the logical names that are added to the system logical names table.

—————————————————— Note ——————————————————

They are automatically entered into these logical name tables whenever the system reboots or whenever the software is invoked. The LNM$JOB table also contains logical names that are defined when a user logs in to a system running MDMS software.

——

E.1 MDMS File Names

Table E–1 contains the names of all MDMS files created on the system after MDMS V3.0 is successfully installed.

—————————————————— Note ——————————————————

Some files may not be installed depending on the options you select.

——

Table E–1 MDMS Installed Files

File Name	File Name
SYS$HELP	
MDMS.HLP	MDMSV30.RELEASE_NOTES
MDMSV30.RELEASE_NOTES.PS	
SYS$LIBRARY	
MDMS$SHR.EXE	
SYS$MESSAGE	
MDMS$MSG.EXE	RDF$MSG.EXE
SYS$MANAGER	
MDMS$SYSTARTUP.COM	MDMS$SYSTARTUP.TEMPLATE
SYS$SHARE	
MDMS$SHR.EXE	MRD$RTL.EXE

Table E–1 MDMS Installed Files

File Name	File Name
SYS$STARTUP	
MDMS$SHUTDOWN.COM	MDMS$STARTUP.COM
MDMS$UNINSTALL.COM	
SYS$SYSTEM	
MDMS$SERVER.EXE,	MDMS$DCL.EXE
MDMS$CONVERT_V3_TO_V2.EXE,	MDMS$SERVER.EXE
MDMS$CONVERT_V2_TO_V3.EXE	
SYS$TEST	
MDMS$IVP.COM	
MDMS$ROOT:[DATABASE]	
MDMS$DOMAIN_DB.DAT	MDMS$DRIVE_DB.DAT
MDMS$GROUP_DB.DAT	MDMS$JUKEBOX_DB.DAT
MDMS$LOCATION_DB.DAT	MDMS$MAGAZINE_DB.DAT
MDMS$MEDIA_DB.DAT	MDMS$NODE_DB.DAT
MDMS$POOL_DB.DAT	MDMS$VOLUME_DB.DAT
MDMS$ROOT:[GUI.VMS]	
ALPDCL01_071.A-DCX_AXPEXE	ALPBASE02_071.A-DCX_AXPEXE
ALPACRT08_071.A-DCX_AXPEXE	ALPSYSA02_071.A-DCX_AXPEXE
ALPSYSB02_071.A-DCX_AXPEXE	ALPTHREADS_03071.A-DCX_AXPEXE
DEC-AXPVMS-JAVA-V0101-6-1.PCSI_DCX_AXPEXE	DEC-AXPVMS-VMS712_PTHREADS-V0100--4.PCSI-DCX_AXPEXE
MDMS.INI	MDMS.ZIP
MDMS_GUI_HELP.HTML	SYMANTEC.ZIP
MDMS$ROOT:[GUI.VMS.GRAPHICS]	
CONFWIZ4.GIF	CONFWIZ5.GIF
DOMAIN2.GIF	DRIVE.GIF
GROUP.GIF	JUKEBOX.GIF
LOCATION.GIF	MAGAZINE.GIF
MEDIATYPE.GIF	NODE.GIF
POOL.GIF	REQUESTS.GIF
SERVJUKE.GIF	SPLASH.GIF
VOLROT.GIF	VOLUME.GIF
MDMS$ROOT:[GUI.ALPHA_NT]	
JRE116ALPHANT.EXE	SETUP_ALPHA_NT.EXE
MDMS$ROOT:[GUI.WINTEL]	
JRE117WINTEL.EXE	SETUP_INTEL.EXE
MDMS$ROOT:[PATCHES.ALPHA]	
ALPY2K02_062.A	ALPY2K02_062.CVRLET_TXT
MDMS$ROOT:[PATCHES.VAX]	

Table E–1 MDMS Installed Files

File Name	File Name
VAXLIBR06_070.A	VAXLIBR06_070.B
VAXLIBR06_070.C	VAXLIBR06_070.CVRLET_TXT
VAXLIBR06_070.D	VAXLIBR06_070.E
VAXLIBR06_070.F	VAXLIBR06_070.G

MDMS$ROOT:[SYSTEM]

MDMS$ALL_OTHER_DB.FDL	MDMS$CONVERT_V3_TO_V2.COM
MDMS$CONVERT_V2_TO_V3.COM	MDMS$COPY_DB_FILES.COM
MDMS$CREATE_DB_FILES.COM	MDMS$REPLACE_SLS_LOADER.COM
MDMS$START_GUI.COM	MDMS$VOLUME_DB.FDL

MDMS$ROOT:[TTI_RDEV.ALPHA]

CONFIG_EXAMPLE.DAT	RDALLOCATE.COM
RDCDRIVER_AXP.OPT	RDCDRIVER_AXP61.OPT
RDCDRIVER_AXP70.OPT	RDCLIENT_SHUTDOWN.COM
RDCLIENT_STARTUP.COM	RDCTL_EXE.OPT
RDEV_AXP70.OLB	RDEV_AXP61.OLB
RDDEALLOCATE.COM	RDEV_BUILD.COM
RDEV_CHECK_STATE.COM	RDEV_CLIENT.COM
RDEV_CONFIGURE.COM	RDEV_COPYRIGHT.COM
RDEV_GATHER.COM	RDEV_LOGICALS.COM
RDEV_RMT_SHUTDOWN.COM	RDEV_RMT_STARTUP.COM
RDEV_SERVER.COM	RDEV_UCXSTUB_AXP61.OLB
RDEV_UCXSTUB_AXP70.OLB	RDFREE.COM
RDF_UCX_RSHD_STARTUP.COM	RDLOG.COM
RDRMT_STARTUP.COM	RDSERVER_SHUTDOWN.COM
RDSERVER_STARTUP.COM	RDSHOW.COM
RLINK_AXP.OPT	RMTSRV_AXP.OPT
SHRLINK_AXP.OPT	

MDMS$ROOT:[TTI_RDEV.VAX]

CONFIG_EXAMPLE.DAT	DRVRDEFS_V62.STB
DRVRDEFS_V62.STB	DRVRDEFS_V62.STB
DRVRDEFS_V62.STB	DRVRDEFS_V62.STB
DRVRDEFS_V62.STB	DRVRDEFS_V62.STB
RDALLOCATE.COM	RDCDRIVER_V62.EXE
RDCDRIVER_V62.STB	RDCDRIVER_V62.STB
RDCDRIVER_V62.STB	RDCDRIVER_V62.STB
RDCDRIVER_V62.STB	RDCDRIVER_V62.STB
RDCDRIVER_V62.STB	RDCDRIVER_VAX.OPT
RDCLIENT_SHUTDOWN.COM	RDCLIENT_STARTUP.COM
RDCLIENT_V62.EXE	RDCONTROL_V62.EXE
RDCTL_EXE.OPT	RDDEALLOCATE.COM
RDEV_BUILD.COM	RDEV_CHECK_STATE.COM
RDEV_CLIENT.COM	RDEV_CONFIGURE.COM
RDEV_CONTROL_SHR_V62.EXE	RDEV_COPYRIGHT.COM
RDEV_GATHER.COM	RDEV_LOGICALS.COM
RDEV_RMT_SHUTDOWN.COM	RDEV_RMT_STARTUP.COM
RDEV_SERVER.COM	RDEV_UCXSTUB_VAX.OLB
RDEV_VAX.OLB	SHRLINK_VAX.OPT
RDF_UCX_RSHD_STARTUP.COM	RDFREE.COM
RDLOG.COM	RDLOG.COM
RDRMT_STARTUP.COM	RDSERVER_SHUTDOWN.COM
RDSERVER_STARTUP.COM	RDSERVER_V62.EXE
RDSHOW.COM	RLINK_VAX.OPT
RMTSRV_V62.EXE	RMTSRV_VAX.OPT

E.2 MDMS Logical Names

When the MDMS installation procedure is complete, logical names are entered into the system logical name table and stored in the startup file, SYS$STARTUP:MDMS$SYSTARTUP.COM. They are automatically entered into the system logical name table whenever the system reboots or whenever MDMS is started with this command:

```
SYS$STARTUP:MDMS$STARTUP.COM.
```

Table E–2describes the logical names in the system table

Table E–2 MDMS Logical Names

Logical Name	Definition and Description
MDMS$DATABASE_LOCATION	This logical points to the location of the MDMS database files.
MDMS$DATABASE_SERVERS	This logical name is a comma separated list of full node names of potential database servers. When a server starts up, it uses this logical to see if it may be a database server. If the server finds its node name in the list, it tries to become the database server. If the server does not find itself in the list, it then knows that it is not a database server but it then tries to communicate with the node in the list to find the database server. The name of the node defines how the two server communicate with each other. This list of names must be DECnet, DECnet-Plus, or TCP/IP node names. They can be a mix of different protocols or the same. For example the node list could look like this:
	`NODE1,NODE2.SITE.INC.COM,INC:.SITE.NOD E3`
	The above example shows that to communicate with:
	• NODE1 use DECnet
	• NODE2 use DECnet-Plus
	• NODE3 use TCP/IP
MDMS$LOGFILE_LOCATION	This logical name points to the location of the MDMS log files.
MDMS$ROOT	This logical name points to the device and directory of the root for the MDMS files.
MDMS$SUPPORT_PRE_V3	This logical name enables or disables support of SLS/MDMS V2.9x remote servers. When this logical is TRUE, a SLS/MDMS V2.9x client can communicate with a MDMS V3.0 server. If you do not have any SLS/MDMS V2.9x clients, define this logical as FALSE.

Table E–2 MDMS Logical Names

Logical Name	Definition and Description
MDMS$SCHEDULED_ACTIVITIES_START_HOUR	This logical name is the start hour (0-23) for the following scheduled activities: • Deallocate volumes that have passed their scratch date • Free volumes that have passed their freed date • Scheduled magazine rotation • Scheduled volume rotation If this logical is not defined, these activities are scheduled for 1 AM.
MDMS$SYSTEM	This logical name points to the location of MDMS utilities.
MDMS$TCPIP_SND_PORTS	This logical name is the range of port numbers for outgoing TCP/IP connections. The defaults are ports 601 to 1023.
MDMS$VERSION3	This logical name is TRUE when ABS and HSM should use MDMS V3.0. If ABS and HSM is not suppose to use MDMS V3.0 this logical will not be defined. The MDMS server should not be running if ABS and HSM is not suppose to use MDMS V3.

F

MDMS V3.0 Rights and Privileges

This appendix has explanation for MDMS user rights and privileges.
Every MDMS user/potential user will be assigned zero or more rights in their SYSUAF file.
These rights will be examined on a per-command basis to determine whether a user has sufficient privilege to issue a command. The command is accepted for processing only if the user has sufficient privilege. In case the user has no rights the **entire command** is rejected.
Each right has a name in the following format:

```
MDMS_rightname.
```

Rights are looked-up on the *client OpenVMS node* that receives the request, as such each user must have an account on the *client node*.

- in the case of DCL commands and applications, this would be the node at which the request is issued.

- from the GUI, it is the node whose MDMS$SERVER process receives the request.
  The rights are translated into a bitmap and passed to the database server for validation.

F.1 MDMS Rights - Types

MDMS has the following rights:

- High-level rights

- Low level rights

- ABS rights

F.1.1 High Level Rights

These rights are designed for a specific kind of user, to support a typical MDMS installation, and make the assignments of rights to users easy. The **three** high-level MDMS rights, the default right, administrator right and the additional right are described in Table F–1

Table F–1   High Level Rights

High level right	Allows Privileges for...
MDMS_USER	A non-privileged MDMS user who wants to use MDMS to manage tape volumes for BACKUP, ABS or HSM purposes
MDMS_APPLICATION	Main applications that MDMS supports - ABS and HSM server processes
MDMS_OPERATOR	The user responsible for day-to-day operations in the MDMS environment.
Default Right A *hidden* high-level right	The low level rights contained in it, for users with no MDMS rights. They are additional to any specific rights a user may have been granted. It is the ***default right***. By default, there are no low-level rights assigned to the *default* right. If rights are assigned to the default right, they apply to all users in the system, since every user is effectively granted the default right. The default right can be disabled with the MDMS_NO_DEFAULT identifier in a user's UAF file.
MDMS_ALL_RIGHTS Administrator Right	A system administrator to perform any operation. MDMS_ALL_RIGHTS can be enabled with the OpenVMS SYSPRV privilege.
Additional Right	All operations.
MDMS_USER	A non-privileged MDMS user who wants to use MDMS to manage tape volumes for BACKUP, ABS or HSM purposes
MDMS_APPLICATION	Main applications MDMS supports - ABS and HSM server processes
MDMS_OPERATOR	User responsible for day-to-day operations in the MDMS environment.
Default Right A *hidden* high-level right	The low level rights contained in it, for users with no MDMS rights. They are additional to any specific rights a user may have been granted. It is the ***default right***. By default, there are no low-level rights assigned to the *default* right. If rights are assigned to the default right, they apply to all users in the system, since every user is effectively granted the default right. The default right can be disabled with the MDMS_NO_DEFAULT identifier in a user's UAF file.
MDMS_ALL_RIGHTS Administrator Right	A system administrator to perform any operation. MDMS_ALL_RIGHTS can be enabled with the OpenVMS SYSPRV privilege.
Additional Right	All operations.

You can disable the mapping of SYSPRV to MDMS_ALL_RIGHTS using a SET DOMAIN command

F.1.2   *Low-level rights*

Each command or command option will be tagged with one or more low-level rights that are needed to perform the operation. Where more than one right is specified, the command indicates the appropriate combination of rights needed. The MDMS administrator can assign a set of ***low-level rights*** to each high-level right. The administrator can then simply assign the high-level right to the user.

MDMS translates the high-level right to respective low-level rights while processing a com-

mand. For additional flexibility, the user can be assigned a combination of high-level and low-level rights. The result will be a sum of all rights defined.

The default set of mapping of high-level to low-level rights will be assigned at installation (by default) and stored in the domain record. However, the MDMS administrator can change these assignments by using the **SET DOMAIN** command.

───────────────**Note**───────────────

> **By default a user has no rights and cannot use MDMS. The system administrator can change the 'rightless' user's rights using a SET DOMAIN command. These rights can again be disabled on a per-user basis as needed.**

The low-level rights are designed to be applied to operations. A given command, with a given set of qualifiers or options, requires the sum of the rights needed for the command **and all supplied options.** In many cases some options require more privilege than the command, and that higher privilege will be applied to the entire command if those options are specified.

The following are usable low level rights:

Table F–2 Low Level Rights

Low Level Right Name	Allows Privilege to:
MDMS_ALL_RIGHTS	Enable all operations (This right is for the system administrator,)
MDMS_ALLOCATE_ALL	Allocate volumes or drives for any user
MDMS_ALLOCATE_OWN	Allocate a drive and become "owner"
MDMS_ALLOCATE_POOL	Allocate a volume from an authorized pool
MDMS_ASSIST	Request operator assistance on calls
MDMS_BIND_ALL	Bind any volumes together in a volume set
MDMS_BIND_OWN	Bind owned volumes together in a volume set
MDMS_CANCEL_ALL	Cancel any request
MDMS_CANCEL_OWN	Cancel one's own requests
MDMS_CANCEL_POOL	Cancel a request of a member of the same pool
MDMS_CREATE_ALL	Create any database object
MDMS_CREATE_POOL	Create volumes in a pool authorized to user
MDMS_DEALLOCATE_ALL	Deallocate volumes for any user
MDMS_DEALLOCATE_OWN	Deallocate an owned volume or drive
MDMS_DELETE_ALL	Delete any database object
MDMS_DELETE_POOL	Delete volumes in pool authorized to user
MDMS_INITIALIZE_ALL	Initialize any volume
MDMS_INITIALIZE_POOL	Initialize a volume in pool authorized to user
MDMS_INVENTORY_ALL	Perform inventory on any jukebox

Table F–2 Low Level Rights

Low Level Right Name	Allows Privilege to:
MDMS_LOAD_ALL	Load any volumes including scratch volumes
MDMS_LOAD_OWN	Load owned volumes into drives
MDMS_LOAD_POOL	Load volumes in pool authorized to user
MDMS_LOAD_SCRATCH	Load scratch volumes
MDMS_MOVE_ALL	Move any volume
MDMS_MOVE_OWN	Move owned volumes
MDMS_MOVE_POOL	Move volumes in pool authorized to user
MDMS_SET_ALL	SET (modify) any database object
MDMS_SET_PROTECTED	SET internal MDMS attributes in an object
MDMS_SET_OWN	SET (modify) volumes allocated to user
MDMS_SET_POOL	SET (modify) volumes in pool authorized to user
MDMS_SET_RIGHTS	SET (modify) rights in the domain
MDMS_SHOW_ALL	SHOW or REPORT any database object
MDMS_SHOW_OWN	SHOW or REPORT volumes allocated to user
MDMS_SHOW_POOL	SHOW or REPORT volumes in pool authorized to user
MDMS_SHOW_RIGHTS	Show rights with a SHOW DOMAIN/FULL
MDMS_UNBIND_ALL	Unbind any volumes
MDMS_UNBIND_OWN	Unbind owned objects from a volume set
MDMS_UNLOAD_ALL	Unload any volumes or drives
MDMS_UNLOAD_OWN	Unload volumes allocated to user from a drive
MDMS_UNLOAD_POOL	Unload volumes in pool authorized to user

F.1.3 ABS Rights

MDMS can be defined to recognize ABS rights and map them to MDMS rights. This capability is disabled by default and can be enabled with a SET DOMAIN command. The exact mapping for ABS rights is as in Table F–3:

Table F–3 ABS Rights

ABS RIGHTS	MDMS RIGHTS
ABS_BACKUP_JOB	MDMS_USER
ABS_BYPASS	MDMS_ALL_RIGHTS
ABS_CREATE_EXECUTION_ENV	MDMS_CREATE_ALL MDMS_SET_ALL MDMS_SHOW_ALL

Table F–3 ABS Rights

ABS RIGHTS	MDMS RIGHTS
ABS_CREATE_REMOTE_JOB	None
ABS_CREATE_STORAGE_CLASS	MDMS_CREATE_ALL MDMS_SET_ALL MDMS_SHOW_ALL
ABS_LOOKUP_ALL	None
ABS_SHOW_ALL	MDMS_SHOW_ALL

F.2 Default High-Level to Low-Level Mapping

This section defines the default high to low-level mapping for each high-level right.

F.2.1 MDMS_USER:

Table F–4 MDMS_USER Rights

MDMS User...	Allows privilege to...
MDMS_ALLOCATE_OWN	Allocate a drive and become "owner"
MDMS_ALLOCATE_POOL	Allocate a volume from a pool authorized to user
MDMS_ASSIST	Request operator assistance on calls
MDMS_BIND_OWN	Bind owned volumes together in a volume set
MDMS_CANCEL_OWN	Cancel one's own requests
MDMS_DEALLOCATE_OWN	Deallocate an owned volume or drive
MDMS_LOAD_OWN	Load owned volumes into drives
MDMS_SHOW_OWN	SHOW or REPORT volumes allocated to user
MDMS_SHOW_POOL	SHOW or REPORT volumes in pool authorized to user
MDMS_UNBIND_OWN	Unbind owned objects from a volume set
MDMS_UNLOAD_OWN	Unload volumes allocated to user from a drive

F.2.2 MDMS_OPERATOR Rights:

Table F–5 Operator Rights

MDMS Operator...	Allows privilege to...
MDMS_ALLOCATE_ALL	Allocate volumes or drives for any user
MDMS_ASSIST	Request operator assistance on calls
MDMS_BIND_ALL	Bind any volumes together in a volume set
MDMS_CANCEL_ALL	Cancel any request
MDMS_CREATE_POOL	Create volumes in a pool authorized to user
MDMS_DEALLOCATE_ALL	Deallocate volumes for any user
MDMS_DELETE_POOL	Delete volumes in pool authorized to user
MDMS_INITIALIZE_ALL	Initialize any volume
MDMS_INVENTORY_ALL	Perform inventory on any jukebox
MDMS_LOAD_ALL	Load any volumes including scratch volumes
MDMS_MOVE_ALL	Move any volume
MDMS_SET_OWN	SET (modify) volumes allocated to user
MDMS_SET_POOL	SET (modify) volumes in pool authorized to user
MDMS_SHOW_ALL	SHOW or REPORT any database object
MDMS_SHOW_RIGHTS	Show rights with SHOW DOMAIN/FULL
MDMS_UNBIND_ALL	Unbind any volumes
MDMS_UNLOAD_ALL	Unload any volumes or drives

F.2.2.1 Domain Commands for Mapping Privileges

```
SET DOMAIN
/[NO]ABS_RIGHTS
/ADD
/[NO]APPLICATION_RIGHTS[=(right[,…])]
/[NO]DEFAULT_RIGHTS[=(right[,…])]
/[NO]OPERATOR_RIGHTS[=(right[,…])]
/REMOVE
/[NO]SYSPRV
/[NO]USER_RIGHTS[=(right[,…])]
```

Example F–1

```
SET DOMAIN /OPERATOR_RIGHTS=MDMS_SET_PROTECTED /ADD
```

This command adds the MDMS_SET_PROTECTED right to the operator rights list.

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